# CHILD DEATH & SERIOUS INJURY REVIEW COMMITTEE

# ANNUAL REPORT 2011–12

Government of South Australia

# LETTER OF TRANSMISSION

Hon Grace Portolesi MP
Minister for Education and Child Development

Dear Minister

I submit to you for presentation to Parliament the 2011–12 Annual Report of the South Australian Child Death and Serious Injury Review Committee which has been prepared pursuant to Part 7C of the *Children's Protection Act 1993*.

This report highlights the Committee's activities in fulfilling its statutory obligations.

In compliance with the *Public Sector Act 2009* and the *Public Finance and Audit Act 1987* a further report concerning the management of human resources and financial issues of the Committee has been submitted as part of the Annual Report of the Department for Education and Child Development 2011–12.

Yours faithfully

**Dymphna Eszenyi**
Chair
Child Death and Serious Injury Review Committee

31 October 2012

# CHAIR'S FOREWORD

This is the seventh Annual Report to be presented to Parliament under Part 7C of the *Children's Protection Act 1993*. In this report the Committee provides a picture of the deaths of children that have occurred in 2011 together with a summary of all deaths of children that have occurred since 2005.

The Committee holds a unique role to monitor and report on the deaths of children in South Australia and to contribute, by its reviews and recommendations, to the prevention of child deaths. In this report you will see that:

- The number of deaths and the death rate in 2011 is the lowest since 2005.
- In 2011 there were many fewer deaths of children and young people in transport crashes – almost half the number of any previous year. I hope that we continue to see fewer children and young people dying on our roads and I congratulate all of those who have contributed to improving the safety of our children and young people in this area.
- On average, four children drown each year. The danger of drowning is seen most consistently in one to four year old children. Drowning occurred mainly in the family swimming pool. With the onset of summer, I urge all pool owners to ensure that their pool fencing complies with the appropriate standards, that they never prop open the pool gate, that they have age-appropriate rules for supervising children in the pool and that their knowledge of CPR is up-to date. Swimming pool drownings are preventable and we should all take some responsibility in this regard.

The in-depth reviews the Committee completed in 2011–12 raised some familiar issues about the ways in which organisations such as Families SA seek to strengthen the confidence and competence of their workforce. The focus of the Committee's recommendations is on the systems and structures that support these practitioners. Our State needs frontline practitioners who are supported by systems that enable them to operate at their best.

In the latter part of this financial year, the Committee has been required to devote the majority of its small resources to a review of six seriously injured children, and these efforts will continue on into the 2012–13 year. These children were referred to the Committee for review in 2008 by the then Minister for Families and Communities, the Honorable Jay Weatherill. Committee members' time is largely given on a voluntary basis. All Committee members remain deeply committed to working to improve outcomes for children, especially those who are most vulnerable, but I am aware that a review of this magnitude places considerable demands on the members and the Secretariat. I wish to thank all involved for their ongoing commitment to the outcomes of this review.

I am also aware, in the process of this and all the Committee's reviews, of the demands placed on individuals within Government and non-Government organisations who respond to the Committee's requests for their records. I note the diligence and professionalism of these individuals and thank them for their efforts.

I am hopeful that the Committee's work continues to contribute to community understanding about the best ways to care for our children.

The death of a child is a rare event, but when it does happen the impact is profound, not just for the immediate family, but for all those who knew, loved and cared for that child. As we do every year, the Committee members and the Secretariat extend sympathy to the families and friends who have experienced such a loss.

**Dymphna Eszenyi**
Chair
Child Death and Serious Injury Review Committee

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# GLOSSARY

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| ACCC | Australian Competition and Consumer Commission |
| Act | *Children's Protection Act 1993* |
| ARIA+ | Index of Remoteness and Accessibility, Australia |
| CDSIRC | Child Death and Serious Injury Review Committee |
| Children | In this report 'children' includes infants, children and young people from birth to 17 years |
| Coroner | State Coroner SA |
| C3MS | Connected Client Case Management System (Families SA's electronic case file program) |
| DECD | Department of Education and Child Development, until October 2011 the Department for Education and Children's Services |
| ICD-10 | International Classification of Disease (Version 10) |
| IMR | Infant Mortality Rate |
| Infant | A child less than one year of age |
| IRSD | Index of Relative Socio-economic Disadvantage |
| Registrar | Registrar, Births Deaths and Marriages SA |
| SEIFA IRSD | Socio-Economic Indexes for Areas, Index of Relative Socio-economic Disadvantage (IRSD) |
| SIDS | Sudden Infant Death Syndrome |
| SUDI | Sudden Unexpected Death in Infancy |
| UCV | Universal Contact Visit |
| WHO | World Health Organization |

# ACKNOWLEDGEMENTS

The Committee wishes to thank the following individuals and organisations for making themselves available to support the Committee's work:

- Epidemiology Branch, SA Health, especially Ms Meg Clarke, Senior Project Officer
- Kidsafe SA
- Maternal, Perinatal and Infant Mortality Committee, SA Health
- National Centre for Health Information Research and Training, Brisbane, especially Ms Sue Walker, Director
- Department for Communities and Social Inclusion, who continue to provide statistical advice, library services, and technical advice and support for the Committee's database, records management and information and communication requirements
- Queensland Commission for Children and Young People and Child Guardian who hosted the meetings of the Australian and New Zealand Child Death Review and Prevention Group, and the representatives attending the Group's meetings for sharing insights gained from their own jurisdictions
- Registrar, Births Deaths and Marriages, and staff
- SA Health Safe Sleeping Advisory Committee
- SIDS and Kids South Australia
- State Coroner, Mr Mark Johns and staff
- Women's and Children's Hospital Records Management team
- Chief Executives and Senior Officers from the Department of Education and Child Development, the Department for Communities and Social Inclusion and SA Health for contributing to the Committee's understanding of service delivery in their departments.

# COMMITTEE MEMBERS

## Chair

Ms Dymphna (Deej) Eszenyi

## Membership 2011–12

| | |
|---|---|
| Professor Roger Byard | |
| Mr Daniel Cox | *until 30 June 2012* |
| Ms Angela Davis | |
| Ms Dianne Gursansky | |
| Ms Janine Harvey | |
| Dr Diana Hetzel | |
| Mr Barry Jennings | |
| Ms Sandra Miller | *until 6 March 2012* |
| Mr Tom Osborn | |
| Ms Michelle Hasani | |
| Ms Dana Shen | |
| Dr Nigel Stewart | |
| Ms Barbara Tiffin | *from 4 August 2011* |

## Executive Officer

Dr Sharyn Watts

## Senior Project Officer

Ms Rosemary Byron-Scott

## Administration and Information Officer

Ms Melanie Kydd

# EXECUTIVE SUMMARY

This is the seventh annual report of the Child Death and Serious Injury Review Committee to be tabled in Parliament.

## Purpose and Establishment

The Child Death and Serious Injury Review Committee contributes to efforts to prevent death or serious injury to South Australia's children. It was established by the *Children's Protection Act 1993 (the Act)* in February 2006.

The Committee reviews the circumstances and causes of deaths and serious injuries to children and makes recommendations to Government for changes to legislation, policies and procedures that may help prevent similar deaths or serious injuries.

## Activities

Throughout 2011–12 the Committee continued to analyse information about the circumstances and causes of child deaths in South Australia and to monitor, promote and support systemic changes to improve outcomes for children and young people.

This Annual Report contains information about the deaths of children in South Australia from 1 January 2011 – 31 December 2011. In addition this report also sets out summaries of information now available for the seven year period from 2005 until 2011.

The Committee completed five in-depth reviews in the 2011–12 reporting period. These were reviews of situations where children had died. However, the Committee notes that improvements in systems and practices are likely to reduce the burden of serious injuries as well as the incidence of death. These reviews focused on issues about young people at risk, children with disabilities and children and young people with asthma. The sudden and unexpected deaths of infants and the universal contact visit was the focus of another review.

## Highlights from the 2011–12 Annual Report

The death rate for South Australian children for the seven year period between 2005 and 2011 was 34.9 deaths per 100 000 children. In this seven year period the death rate has fluctuated, with the highest rate occurring in 2005 (38.7 deaths per 100 000 children) and the lowest rate, 30.4 deaths per 100 000 children, occurring in 2011.

The Committee is now monitoring trends in deaths across time. In the seven year reporting period there has been a 2% decrease on average per year in the number of children dying in South Australia.

Across the 2005 to 2011 reporting period, infants younger than one year had the highest death rate of all age groups and most of these deaths were attributed to conditions that began during pregnancy or occurred at or around birth.

In this seven year period, Aboriginal children were three times more likely to die than non-Aboriginal children, with a death rate of 97.1 deaths per 100 000 Aboriginal children compared to a death rate for non-Aboriginal children of 32.6 per 100 000. Aboriginal children were also over-represented in the deaths of children whose families had had contact with Families SA in the three year period prior to death, which reflects the over-representation of these children in the child protection system.

The impact of socioeconomic disadvantage on the health and wellbeing of children can be seen in the higher death rate for children living in the most disadvantaged areas of the State (44 deaths per 100 000 children) compared to the death rate for children in the State's least disadvantaged areas (23.4 deaths per 100 000 children), and in the death rate for children living in remote and very remote areas of the State compared to the rate for children in major city areas.

After setting aside deaths from illness or disease, more children died in transport crashes than in any other circumstances in the seven year period (84 deaths). Fifty-nine infants under one year of age died from SIDS or undetermined causes.

Over this seven year period there has been a decrease in the number of deaths attributed to external causes with the highest rate recorded in 2005 (11.7 deaths per 100 000 children), and the lowest rate in 2011 (5.7 deaths per 100 000 children). These causes encompass deaths in transport crashes, from accidents of various kinds, from fatal assault and neglect and deaths attributed to suicide.

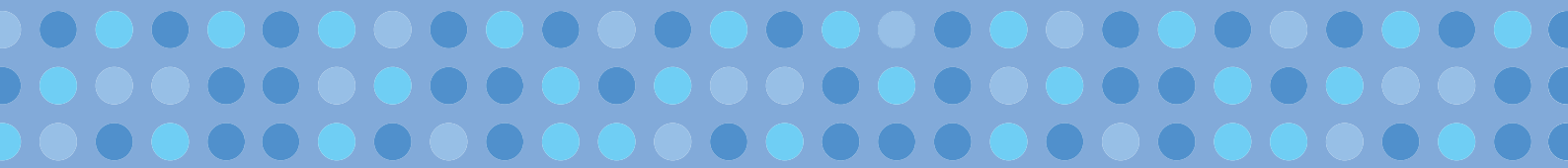
In 2011 alone, the majority of the 107 deaths were from illness and disease, primarily occurring in infants under one year of age (49 deaths). Seven infants died from SIDS or an undetermined cause. Exposure to cigarette smoke, co-sleeping, and the presence of pillows or doonas were amongst the risk factors identified in the circumstances of these sudden and unexplained infant deaths. Twenty deaths were attributed to external causes with less than half the number of transport deaths in 2011 than in most other years.

The Committee's in-depth reviews in this reporting period raised issues that have been identified in previous reviews such as case management practices, and introduced some new issues such as the importance of the child's voice and views. A review of asthma deaths is intended as one of a number of ongoing reviews which will focus on deaths from illness or disease.

The Committee has sought to monitor, promote and support systemic changes to improve outcomes for children and young people based on its recommendations from reviews in previous years and those made in the current reporting period.

- SA Health has responded to the Committee's recommendations about antenatal and postnatal services for vulnerable infants and their families, including the universal contact visit. It has also released the SA Suicide Prevention Strategy 2012–16.
- Families SA has updated the Committee about the progress it is making to improve the competence and confidence of its workforce and has provided advice about its reunification policies and monitoring the wellbeing of children under the Guardianship of the Minister.
- The Department for Education and Child Development has commented on chronic truancy, the role of school counsellors and the retention of counsellors' notes.
- Disability Services has outlined the ways in which it is seeking to improve outcomes for children with disabilities.

The Committee is committed to improving the ways in which it promotes and monitors systemic change both through its reviews and continuing to build collaborative relationships with Government and non-Government stakeholders.



# SECTION 1
# CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

***S52T – Database***

*The Committee will maintain a database of child deaths and serious injury cases and their circumstances.*

***S52S – Functions of the Committee***

*a) to review cases in which children die or suffer serious injury with a view to identifying legislative or administrative means of preventing similar cases of death or serious injury in the future.*

Children's Protection Act, 1993

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.1 Child Deaths South Australia 2005–11

In the seven years between 2005 and 2011, 856 children died in South Australia.

*Table 1: Rates of child deaths, South Australia 2005–11**

| Year | All children | | Resident children | |
|---|---|---|---|---|
| | Number | Rate[1] per 100 000 | Number | Rate[1] per 100 000 |
| 2005 | 135 | **38.7** | 122 | **34.9** |
| 2006 | 120 | **34.3** | 111 | **31.7** |
| 2007 | 125 | **35.7** | 118 | **33.7** |
| 2008 | 120 | **34.1** | 111 | **31.6** |
| 2009 | 130 | **37.0** | 125 | **35.5** |
| 2010 | 119 | **33.8** | 117 | **33.2** |
| 2011 | 107 | **30.4** | 102 | **29.0** |
| **2005–11** | **856** | **34.9** | **806** | **32.8** |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

*Source: Child Death and Serious Injury Review Committee database*

The death rate for all children who died in South Australia in the seven years between 2005 and 2011 was 34.9 deaths per 100 000 children. The death rate for resident children was 32.8 deaths per 100 000 children (Table 1).[1]

In 2011, 107 children died in South Australia; for five children South Australia was not their usual residence. The death rate for all children in 2011 was 30.4 deaths per 100 000 children and for resident children the death rate was 29.0 deaths per 100 000 children.

Further demographic information about the deaths of children in South Australia between 2005 and 2011 can be found in Table 2. Comparison of death rates across the seven year period can be found in Table 25 (Section 4.14).

1 The Committee's information is based on all deaths of children up to 18 years of age recorded by the Office of Births, Deaths and Marriages, regardless of the weight or length of gestation of the infant.

## *Table 2: Demographics of child deaths, South Australia 2005–11**

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2005–11 | Rate[1] per 100 000 2005–11 |
|---|---|---|---|---|---|---|---|---|---|
| **TOTAL** | **135** | **120** | **125** | **120** | **130** | **119** | **107** | **856** | **34.9** |
| **Sex** | | | | | | | | | |
| Female | 58 | 70 | 42 | 47 | 58 | 42 | 49 | 366 | 30.5 |
| Male | 77 | 50 | 83 | 73 | 72 | 77 | 58 | 490 | 39.0 |
| **Age Group** | | | | | | | | | |
| Infants (<1 year) | 84 | 64 | 81 | 71 | 72 | 73 | 59 | 504 | 370.6 |
| 1–4 years | 17 | 19 | 15 | 12 | 17 | 14 | 17 | 111 | 21.3 |
| 5–9 years | 6 | 12 | 4 | 12 | 4 | 7 | 11 | 56 | 8.5 |
| 10–14 years | 12 | 6 | 8 | 5 | 13 | 8 | 6 | 58 | 8.3 |
| 15–17 years | 16 | 19 | 17 | 20 | 24 | 17 | 14 | 127 | 28.9 |
| **Cultural Background** | | | | | | | | | |
| Aboriginal | 17 | 11 | 13 | 11 | 11 | 8 | 12 | 83 | 97.1 |
| **Contact with Families SA** | | | | | | | | | |
| Families SA | 31 | 31 | 29 | 26 | 34 | 31 | 34 | 216 | |
| **Usual Residence** | | | | | | | | | |
| Outside SA | 13 | 9 | 7 | 9 | 5 | 2 | 5 | 50 | |
| **Socioeconomic Background (SEIFA IRSD)[3]** | | | | | | | | | |
| Most disadvantaged SEIFA 5 | 28 | 25 | 36 | 35 | 33 | 35 | 32 | 224 | 44.0 |
| SEIFA 4 | 30 | 26 | 27 | 16 | 32 | 28 | 21 | 180 | 37.2 |
| SEIFA 3 | 29 | 22 | 20 | 26 | 22 | 24 | 16 | 159 | 35.0 |
| SEIFA 2 | 14 | 21 | 17 | 18 | 20 | 20 | 22 | 132 | 28.5 |
| Least disadvantaged SEIFA 1 | 21 | 17 | 18 | 16 | 18 | 10 | 11 | 111 | 23.4 |
| **Remoteness (ARIA+)[3]** | | | | | | | | | |
| Major City | 70 | 71 | 81 | 78 | 80 | 77 | 65 | 522 | 30.9 |
| Inner Regional | 20 | 14 | 13 | 14 | 27 | 21 | 13 | 122 | 40.6 |
| Outer Regional | 16 | 18 | 14 | 12 | 14 | 16 | 21 | 111 | 37.0 |
| Remote and Very Remote | 16 | 8 | 10 | 7 | 4 | 3 | 3 | 51 | 53.0 |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

2 The infant mortality rate is calculated per 100 000 live births. See Section 4.11.

3 South Australian residents only included.

** Source: Child Death and Serious Injury Review Committee database*

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## FINDINGS – *Child Deaths South Australia 2005–11*

- For the period between 2005 and 2011, the death rate for all children who died in South Australia shows a 2% decrease on average per year (p=0.17).
- Children younger than one year and young people 15–17 years had a higher rate of death in comparison to those children aged between 1–14 years. Male children had a higher death rate than female children.
- Aboriginal children were 3.0 times more likely to die than non-Aboriginal children (97.1 deaths per 100 000 Aboriginal children, 32.6 per 100 000 non-Aboriginal children).
- In the period 2005 to 2011, 216 (25%) children who died, or their families had had contact with Families SA.
- Children who lived in areas of greatest disadvantage (SEIFA 5) had a higher rate of death than those who lived in areas of least disadvantage (SEIFA 1): 44.0 deaths per 100 000 in areas of greatest disadvantage, 23.4 deaths per 100 000 children in areas of least disadvantage.
- Living in a remote area was associated with a higher death rate in comparison to living in a metropolitan area, 53.0 deaths per 100 000 children in remote and very remote areas, 30.9 deaths per 100 000 children in major city areas.

### 1.1.1 Infant Mortality Rates

The infant mortality rate[2] for the seven year period between 2005 and 2011 was 3.7 deaths per 1000 live births. There has been a 3% decrease on average per year in infant deaths (p=0.14).

In 2011 in South Australia there were 59 deaths of children aged younger than one year; the infant mortality rate was 2.9 deaths per 1000 live births.

Information about infant mortality in South Australia is recorded in a number of different statistical collections including the Australian Bureau of Statistics, the South Australian Maternal, Perinatal and Infant Mortality Committee and this Committee. Each collection has different ways of registering and recording the deaths of infants, consequently the infant numbers for infant mortality rates will differ slightly, although the overall trends are consistent.

2 The Infant Mortality Rate (IMR) is calculated according to the deaths of children younger than one year old per 1000 live births in the same year (See section 4.11).

### *Sudden Unexpected Death in Infancy (SUDI)*

In this seven year period, the deaths of 120 infants were classified as sudden and unexpected (SUDI – see Section 4.5.7 for the definition of SUDI). Fifty-nine deaths were unexpected and unexplained at post-mortem; less than five of these deaths were attributed to Sudden Infant Death Syndrome (SIDS). Thirty-two of the 120 deaths were the result of an acute illness or arose from a condition like congenital heart problems that had not been previously recognised. Some deaths were a combination of a previously unrecognised condition and an acute illness such as cytomegalovirus.

The remaining 29 deaths resulted from some form of accident, trauma or poisoning: five deaths were attributed to fatal assault and five to transport incidents. Fifteen of these 29 deaths resulted from suffocation or asphyxiation in an unsafe sleeping environment. These 15 deaths share many unsafe sleeping risk factors with the majority of the 59 deaths that were unexpected and unexplained.

## 1.2 Cause of Death and Age

Over the period 2005 to 2011, 571 of the 856 deaths (66.7%) were attributed to illness or disease. The death rate for illness or disease was 23.2 deaths per 100 000 children, compared to 8.8 deaths per 100 000 for deaths attributed to external causes or 2.8 deaths per 100 000 children for deaths attributed to Sudden Infant Death Syndrome (SIDS) and undetermined causes.

*Table 3: Causes of child deaths by age group, South Australia 2005–11**

| Cause of death | Infants < 1 year | 1–17 years | Total | Rate[1] per 100 000 |
|---|---|---|---|---|
| **2011** | | | | |
| Illness or Disease | 49 | 28 | 77 | 21.9 |
| SIDS and Undetermined Causes | 7 | 1 | 8 | 2.3 |
| External Causes | 1 | 19 | 20 | 5.7 |
| Pending | 2 | 0 | 2 | |
| **TOTAL** | **59** | **48** | **107** | **30.4** |
| | | | | |
| **2005–2011** | | | | |
| Illness or Disease | 406 | 165 | 571 | 23.2 |
| SIDS and Undetermined Causes | 59 | 9 | 68 | 2.8 |
| External Causes | 37 | 178 | 215 | 8.8 |
| Pending | 2 | 0 | 2 | |
| **TOTAL** | **504** | **352** | **856** | **34.9** |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

**Source: Child Death and Serious Injury Review Committee database*

During this seven year period infants younger than one year most commonly died from causes attributed to illness or disease. Most deaths attributed to SIDS or undetermined causes were in infants younger than one year.[3] In contrast, children older than one year most commonly died from external causes. These causes include deaths in transport crashes, from fatal assault, suicide and drowning.

The death rates for 2011 follow the same pattern as the death rates for the 2005 to 2011 reporting period; children were more likely to die from illness or disease than from external causes or from an undetermined cause (including SIDS).

3 See Section 4.5.7 for an explanation of 'SIDS' and 'undetermined causes'.

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.3 Deaths Due to Illness or Disease

In the seven year period 2005 to 2011, 571 deaths were attributed to illness and disease, with a death rate of 23.2 deaths per 100 000 children. The majority of these deaths were infants younger than one year of age.

Causes of death from illness or disease include infections, cancer, nervous system diseases such as epilepsy, and diseases of the respiratory system such as asthma. Also included are deaths arising from conditions associated with pregnancy, labour and birth and from congenital conditions such as heart malformations or chromosomal abnormalities. Some of these conditions are associated with chronic ill health which increases vulnerability to infections such as pneumonia or are associated with medical or surgical interventions that increase vulnerability to secondary illnesses such as sepsis.

Table 4 provides further demographic details about deaths from illness and disease for 2011 and for comparison the period between 2005 and 2011. Comparison of death rates across the seven year period can be found in Table 25 (Section 4.14).

*Table 4: Demographics of child deaths attributed to illness or disease, South Australia 2005–11**

| | 2011 | 2005–11 | Rate[1] per 100 000 2005–11 |
|---|---|---|---|
| **TOTAL** | **77** | **571** | **23.2** |
| **Sex** | | | |
| Female | 39 | 253 | 21.1 |
| Male | 38 | 318 | 25.3 |
| **Age Group** | | | |
| Infants (<1 year) | 49 | 406 | 298.5[2] |
| 1–4 years | 9 | 55 | 10.6 |
| 5–9 years | 8 | 36 | 5.4 |
| 10–14 years | 6 | 36 | 5.1 |
| 15–17 years | 5 | 38 | 8.7 |
| **Cultural Background** | | | |
| Aboriginal | 8 | 48 | 56.2 |
| **Contact with Families SA** | | | |
| Families SA | 19 | 112 | |
| **Usual Residence** | | | |
| Outside SA | 5 | 37 | |
| **Socioeconomic Background (SEIFA IRSD)[3]** | | | |
| Most disadvantaged SEIFA 5 | 26 | 144 | 28.3 |
| SEIFA 4 | 14 | 125 | 25.9 |
| SEIFA 3 | 11 | 103 | 22.6 |
| SEIFA 2 | 13 | 86 | 18.6 |
| Least disadvantaged SEIFA 1 | 8 | 76 | 16.0 |
| **Remoteness (ARIA+)[3]** | | | |
| Major City | 47 | 365 | 21.6 |
| Inner Regional | 10 | 79 | 26.3 |
| Outer Regional | 13 | 65 | 21.7 |
| Remote and Very Remote | 2 | 25 | 26.0 |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

2 The infant mortality rate is calculated per 100 000 live births. See Section 4.11.

3 South Australian residents only included.

**Source: Child Death and Serious Injury Review Committee database*

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## FINDINGS – *Deaths Due to Illness or Disease*

- The death rate due to illness and disease was 23.2 deaths per 100 000 children for the seven year period between 2005 and 2011. Although the death rate has fluctuated over the individual years recorded by the Committee no trend was found (p=0.93).
- Over the seven year period, male children had a higher rate of death from illness and disease than female children.
- Infants younger than one year had a high rate of death from illness and disease in comparison to older children and comprised 71% of all deaths from illness and disease.
- In the period between 2005 and 2011, of the children who died from illness or disease, 112 (19.6%) of these children or their families had had contact with Families SA.
- Aboriginal children were 2.7 times more likely to die from illness and disease than non-Aboriginal children, 56.2 deaths per 100 000 for Aboriginal children, 22.1 per 100 000 for non-Aboriginal children.
- Children who lived in areas of greatest disadvantage (SEIFA 5) had a higher rate of death due to illness and disease than those who lived in areas of least disadvantage (SEIFA 1), 28.3 deaths per 100 000 children in areas of greatest disadvantage, 16.0 deaths per 100 000 children in areas of least disadvantage.
- Living in a remote area was associated with a higher death rate from illness or disease in comparison to living in a metropolitan area, 26.0 deaths per 100 000 in remote and very remote areas, 21.6 deaths per 100 000 children in metropolitan areas.

### 1.3.1 Causes of death from illness or disease

In the seven year period between 2005 and 2011, the most frequent cause of death from illness and disease was related to conditions originating in the perinatal period; (9.6 deaths per 100 000 children). Deaths due to congenital malformations, deformations and chromosomal abnormalities (6.0 deaths per 100 000 children) were the second most frequent cause. These conditions occurred during, or became apparent in, the late stages of pregnancy or the early weeks of life. Prematurity and its complications were often involved in the deaths of children with conditions originating in the perinatal period and congenital malformations (Table 5).

*Table 5: Causes of child deaths attributed to illness or disease, South Australia 2005–11**

| Cause of death | 2011 | 2005–11 | Rate[1] per 100 000 2005–11 |
|---|---|---|---|
| Certain conditions originating in the perinatal period | 30 | 237 | 9.6 |
| Congenital malformations, deformations and chromosomal abnormalities | 18 | 147 | 6.0 |
| Disease of the nervous system | 6 | 56 | 2.3 |
| Cancer | 10 | 57 | 2.3 |
| All other causes of illness and disease and cause not yet known | 13 | 74 | 3.0 |
| **TOTAL** | **77** | **571** | **23.2** |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

**Source: Child Death and Serious Injury Review Committee database*

Irrespective of the age of death, conditions originating in the perinatal period and congenital malformations have their origin prior to or around the time of birth. In the period 2005 to 2011, the rate of death for males who died from either of these conditions was 17.7 deaths per 100 000 male children, and for females was 15.3 deaths per 100 000 female children.

Seventy-nine percent of deaths from these conditions occurred in infants younger than 28 days. The death rate associated with these conditions for Aboriginal children was 33.9 deaths per 100 000 children which is 2.2 times higher than for non-Aboriginal children.

The South Australian Birth Defects Register publishes a comprehensive annual report of the epidemiology of birth defects in South Australia.[4]

## Deaths attributed to nervous system diseases

In the seven year period between 2005 and 2011, there were 56 children who had an underlying cause of death involving the nervous system: 5 deaths (2005), 10 (2006), 8 (2007), 4 (2008), 11 (2009), 12 (2010) and 6 (2011). Thirty-seven of the 56 deaths were in children aged 1–17 years with conditions including cerebral palsy, neurodegenerative disorders and severe epilepsy.

Eighteen of the 56 children lived in regional or remote locations. The rate of death in Aboriginal children was 3.3 times higher than in non-Aboriginal children: 7.0 deaths per 100 000 Aboriginal children compared to 2.1 deaths per 100 000 non-Aboriginal children.

4 www.wch.sa.gov.au/services/az/other/phru/documents/2007_sabdr_annual_report.pdf
SA Health *South Australian Birth Defects Register Annual Report* Last accessed September 2012.

# **SECTION 1:** CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## *Deaths attributed to overwhelming infections*

The Committee has noted that a small number of infants younger than one year of age continue to die from overwhelming infections: 5 deaths (2005), 1 (2006), 1 (2007), 1 (2008), 4 (2009), 5 (2010) and 2 (2011). Male infants were 1.6 times more likely to die from overwhelming infections than females (12 male and 7 female infants). Aboriginal infants were 11.0 times more likely to die than non-Aboriginal (5 deaths of Aboriginal infants). Infants living in areas of greatest disadvantage were 3.1 times as likely as those living in areas of less disadvantage to die from an overwhelming infection. Similarly infants living in regional or remote areas were 2.4 times more likely to die from an overwhelming infection than those living in the metropolitan area.

Fourteen of the 19 deaths were sudden and unexpected and therefore classified as SUDI. In 11 of the 19 deaths, an infectious agent was identified as the cause of death: E coli sepsis, meningococcal septicaemia, pneumococcal sepsis, methicillin resistant staphylococcus aureus, streptococcus pneumoniae, streptococcus agalactiae, streptococcus pneumonia with respiratory syncytial virus, disseminated adenovirus and cytomegalovirus sepsis. In eight of the 19 deaths a specific infectious agent was not identified but there were clinical indications of infection: necrotizing enterocolitis with diarrhoea or sepsis, meningitis and lower respiratory tract infection, unknown viral infection complicating pulmonary hypoplasia, bacterial meningitis, meningoencephalitis, acute bronchiolitis, enteroviral myocarditis.

In seven deaths the infant was also premature and in two deaths there were also birth defects. One death was also complicated by neonatal abstinence syndrome.

It was noted that in eight of the deaths, parents had sought help from their general practitioner, the South Australian Ambulance Service or local hospital prior to the death of their infant. The parents of two other children noted signs of ill health and monitored or treated their infant prior to death. In four infants neither parents nor health professionals noticed signs of illness in the 24 hours prior to death.

The circumstances of these deaths from overwhelming infections reinforce the importance of seeking urgent medical advice. Early recognition and treatment of the infection gives an infant the best possible chance of survival.

## *Cancers*

In this seven year period, there were 57 deaths due to cancer of various forms, with 10 of these deaths occurring in 2011. For further information on deaths from cancer, see the SA Cancer Registry Annual Report.[5]

5 www.dh.sa.gov.au/pehs/PDF-files/CancerInSA2008-HSP-Epidem-20120301.pdf *SA Health South Australian Cancer Registry Annual Report* Last accessed September 2012.

### 1.3.2 Deaths from illness or disease of infants younger than one year

Of the 571 children who died from illness and disease between 2005 and 2011, 406 were infants younger than one year of age. Almost half of these infants died within one day of their birth. The two most common categories of death for these infants were conditions which originated during pregnancy, labour and at birth and conditions attributed to congenital and chromosomal abnormalities (Table 6).

*Table 6: Causes of infant deaths attributed to illness or disease, South Australia 2005–11**

| | 2011 | 2005–11 |
|---|---|---|
| **Sex** | | |
| Female | 27 | 183 |
| Male | 22 | 223 |
| **Age Group** | | |
| Less than 1 day | 20 | 185 |
| 1 day to less than 1 week | 14 | 71 |
| 1 week to less than 28 days | 7 | 56 |
| 28 days to less than 1 year | 8 | 94 |
| **Causes of Death** | | |
| Certain conditions originating in the perinatal period | 30 | 234 |
| Congenital malformations, deformations and chromosomal abnormalities | 15 | 120 |
| All other causes of illness and disease | 4 | 51 |
| **TOTAL** | **49** | **406** |

*Source: Child Death and Serious Injury Review Committee database

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

Details were obtained from perinatal death certificates for all infants who died before 28 days of age. The number of infants who had a birth weight less than 400 grams and/or a gestation less than 20 weeks were included in the Committee's information as follows: 13 (2005), 5 (2006), 6 (2007), 11 (2008), 8 (2009), 9 (2010) and 3 (2011). It should be noted that in 32 of the 312 cases, information was missing about the infant's birth weight. Life is considered to be present at birth when the infant breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of the voluntary muscles.[6]

In June 2010 the South Australian State Coroner found that 'pulseless electrical activity' also known as 'PEA' occurring as the only sign of life in a newborn infant satisfies the common law 'born alive' rule. This means that an infant born without taking a breath or having a heart beat but with PEA can be considered a person in the eyes of the law. If the infant then dies they are therefore within the jurisdiction of the SA Coroner's Court.[7] The Committee will maintain an interest in any impact of this finding.

Detailed information about causes of death in this age group is available in the infant mortality publications produced by the Pregnancy Outcome Unit of SA Health.[8]

### ACTIONS – *Deaths Due to Illness or Disease*

- Three Australian States were involved in the care of an infant who died as a result of a fall. The Committee wrote to the Women's and Children's Hospital to remind them of the need to address cross-jurisdictional child protection issues.
- The Committee has improved its processes for gathering further information about the deaths of children from illness and disease. These improvements have enabled further scrutiny of these deaths and reflect the increasing interest of child death registers held in other States and Territories about deaths attributed to illness and disease.

## 1.4 Deaths Due to SIDS and Undetermined Causes

In the period between 2005 and 2011, 68 deaths were attributed to SIDS or undetermined causes. The death rate for this seven year period is 2.8 deaths per 100 000 children.

In 2011, 8 deaths were attributed to SIDS and undetermined causes, compared to 14 deaths in 2010. The rate for deaths attributed to these causes in 2011 was 2.3 deaths per 100 000 children (Table 7). Comparison of death rates across the seven year period can be found in Table 25 (Section 4.14).

6 www.health.sa.gov.au/pehs/PDF-files/12065.1-Pregnancy%20Outcomes%20Report.pdf SA Health Maternal, Perinatal and Infant Mortality Committee. *Maternal, Perinatal and Infant Mortality in South Australia, 2009.* Adelaide: SA Health, Government of South Australia, 2011. Last accessed September 2012.

7 www.courts.sa.gov.au/CoronersFindings/Lists/Coroners%20Findings/Attachments/454/Home%20Birthing%20-%20SPENCER-KOCH%20Tate%20and%20HOBBS%20Jahli%20Jean%20and%20KAVANAGH%20Tully%20Oliver%20.pdf Accessed 23 October 2012

8 *op. cit.* SA Health Maternal, Perinatal and Infant Mortality Committee.

*Table 7: Demographics of child deaths attributed to SIDS or undetermined causes, South Australia 2005–11**

| | 2011 | 2005–11 | Rate[1] per 100 000 2005–11 |
|---|---|---|---|
| **TOTAL** | **8** | **68** | **2.8** |
| **Sex** | | | |
| Female | 2 | 28 | 2.3 |
| Male | 6 | 40 | 3.2 |
| **Age Group** | | | |
| Infants (<28 days) | 0 | 7 | 5.1[2] |
| Infant 28 days – 1 year | 7 | 52 | 38.3[3] |
| 1–17 years | 1 | 9 | 0.4 |
| **Cultural Background** | | | |
| Aboriginal | 2 | 11 | 12.9 |
| **Contact with Families SA** | | | |
| Families SA | 5 | 33 | |
| **Usual Residence** | | | |
| Outside SA | 0 | 0 | |
| **Socioeconomic Background (SEIFA IRSD)[4]** | | | |
| Most disadvantaged SEIFA 5 | 3 | 30 | 5.9 |
| SEIFA 4 | 1 | 8 | 1.7 |
| SEIFA 3 | 1 | 10 | 2.2 |
| SEIFA 2 | 1 | 9 | 1.9 |
| Least disadvantaged SEIFA 1 | 2 | 11 | 2.3 |
| **Remoteness (ARIA+)[4]** | | | |
| Major City | 6 | 44 | 2.6 |
| Inner Regional | 0 | 12 | 4.0 |
| Outer Regional | 1 | 9 | 3.0 |
| Remote and Very Remote | 1 | 3 | 3.1 |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

2 The infant mortality rate is calculated per 100 000 live births. See Section 4.11.

3 The mortality rate is calculated per 100 000 live births surviving 28 days.

4 South Australian residents only included.

**Source: Child Death and Serious Injury Review Committee database*

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## FINDINGS – *Deaths Due to SIDS and Undetermined Causes*

- In the period between 2005 and 2011, the death rate for children whose deaths were attributed to SIDS or undetermined causes has increased 6.5% on average per year (p=0.3). From 2007, accidental deaths in infants were more likely to be attributed to undetermined causes based on the available post mortem information. When the years 2007–2011 alone are considered, no trend is found (p=0.99). This shift in attribution of cause of death will be monitored.
- The risk factors present in the deaths of infants have remained consistent over the seven year reporting period, with unsafe sleeping environments continuing to be a common factor in the majority of deaths.
- In terms of the vulnerabilities of this population, in nearly half of the deaths, the families of these infants had had contact with Families SA, and the rate of death for SIDS and undetermined causes was much higher in areas of most disadvantage (SEIFA 5).

Between 2005 and 2011 there were nine children over one year of age whose cause of death was not determined: four were young children who died suddenly and unexpectedly in their sleep. The remaining five were children of various ages who died in diverse circumstances and whose cause of death could not be determined.

### 1.4.1 Deaths due to SIDS and undetermined causes 2011

In 2011 there were eight deaths attributed to SIDS or undetermined causes. In one of these deaths, of a child older than one year, the cause of death was unascertained. Of the seven unexplained deaths of infants younger than one year, six were attributed to undetermined causes, and one death was attributed to SIDS. Factors to note in these deaths were:

- The youngest infant to die from undetermined causes or SIDS was 12 weeks old and the oldest was ten months. Two infants were Aboriginal.
- Co-sleeping was a risk factor in two deaths; pillows, blankets and doonas were noted in both cases.
- In four of the seven cases one or both parents or carers smoked cigarettes, cannabis or both. Smoking during pregnancy and exposing an infant to cigarette smoke is an acknowledged risk factor for sudden infant death.
- No infant was placed to sleep in a face down position – all were placed to sleep on their back. Three infants were reportedly found in the same position, the other three were found face down or with their face turned towards the mattress or pillow.

- In two cases infants had been moved from their cot and placed in alternative, unsafe sleeping situations.
- The circumstances of these deaths suggested that, in an attempt to provide softer, safer or more comfortable sleeping arrangements, the infant's carers inadvertently created a more hazardous sleeping environment:
  - In two cases, additional mattresses, folded quilts or other material had been placed on the appropriately firm mattress base of a portacot.
  - In five cases infants were deliberately positioned on or alongside adult pillows.
- An examination of the six available records of universal contact visits for these infants indicated that safe sleeping practices and SIDS risk factors had been discussed and attempts had been made to facilitate a change in sleeping practices where it was noted that this had been occurring in inappropriate settings. In reviewing this documentation it was noted that many attempts to contact families were sometimes required, and significant effort had been made to support some families when required.

## ACTIONS – *Deaths Due to SIDS and Undetermined Causes*

- A number of suffocation and entrapment hazards can be created by placing additional mattresses, folded quilts or other materials on the appropriately firm mattress base of a portacot. The mandatory safety standard[9] for folding cots came into effect in March 2009. It requires portacots to have a permanent, prominent and legible warning not to add an extra mattress as it may cause suffocation. It is not known whether the portacots in these cases were manufactured prior to the introduction of this requirement.
- The South Australian Safe Infant Sleeping Standards have been released in this State by SA Health.[10] The standards aim to ensure parents and caregivers receive consistent and accurate information and the opportunity to observe recommended safe sleeping practices. The circumstances of the seven deaths in 2011 suggest that there is an ongoing need for community education that emphasises the importance of sleeping an infant in an Australian Standards approved cot made up in accordance with the SIDS and Kids guidelines.[11]
- The Committee will monitor the ways in which the deaths of infants are attributed to SIDS, undetermined causes, suffocation or asphyxiation.

9 www.productsafety.gov.au/content/index.phtml/itemId/975008/fromItemId/974944 Last accessed October 2012.

10 www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/health+information/health+information+for+the+clinician/sa+safe+infant+sleeping+standards Last accessed October 2012.

11 www.sidsandkids.org/safe-sleeping/making-up-babies-cot/ Last accessed October 2012.

# **SECTION 1:** CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.5 Deaths Due to External Causes

In the period between 2005 and 2011, there were 215 deaths of children attributed to external causes with a death rate of 8.8 deaths per 100 000 children. Twenty deaths were attributed to external causes in 2011.

External causes of death encompass deaths from fatal assault and suicide and non-intentional deaths resulting from transport crashes, drowning and various kinds of accidents such as falls, poisoning and suffocation. This category of death also includes deaths from health-system-related adverse events. The criteria the Committee uses to classify deaths into each of these categories are detailed in Section 4.5 *The Committee's Classification of Cause of Death*.

Table 8 provides demographic information about deaths from external causes and Table 9 provides more details about the age of the children who died and the causes of death. Comparison of death rates across the seven year period can be found in Table 25 (Section 4.14).

*Table 8: Demographics of child deaths attributed to external causes, South Australia 2005–11**

| | 2011 | 2005–11 | Rate[1] per 100 000 2005–11 |
|---|---|---|---|
| **TOTAL** | **20** | **215** | **8.8** |
| **Sex** | | | |
| Female | 8 | 85 | 7.1 |
| Male | 12 | 130 | 10.3 |
| **Age Group** | | | |
| Infants (<1 year) | 1 | 37 | 27.2[2] |
| 1–4 years | 7 | 50 | 9.6 |
| 5–9 years | 3 | 18 | 2.7 |
| 10–14 years | 0 | 22 | 3.1 |
| 15–17 years | 9 | 88 | 20.0 |
| **Cultural Background** | | | |
| Aboriginal | 2 | 24 | 28.1 |
| **Contact with Families SA** | | | |
| Families SA | 9 | 70 | |
| **Usual Residence** | | | |
| Outside SA | 0 | 13 | |
| **Socioeconomic Background (SEIFA IRSD)[3]** | | | |
| Most disadvantaged SEIFA 5 | 3 | 50 | 9.8 |
| SEIFA 4 | 6 | 47 | 9.7 |
| SEIFA 3 | 3 | 45 | 9.9 |
| SEIFA 2 | 7 | 36 | 7.8 |
| Least disadvantaged SEIFA 1 | 1 | 24 | 5.1 |
| **Remoteness (ARIA+)[3]** | | | |
| Major City | 11 | 112 | 6.6 |
| Inner Regional | 3 | 31 | 10.3 |
| Outer Regional | 6 | 36 | 12.0 |
| Remote and Very Remote | 0 | 23 | 23.9 |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

2 The infant mortality rate is calculated per 100 000 live births. See Section 4.11.

3 South Australian residents only included.

**Source: Child Death and Serious Injury Review Committee database*

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## FINDINGS – *Deaths Due to External Causes*

- For the period between 2005 and 2011, the death rate for children who died in South Australia from external causes shows an 11% decrease on average per year (p=0.001):
  - This average decrease reduces to 9% when deaths of infants aged under 1 year from SIDS and undetermined causes as well as external causes were examined (Section 1.4).
  - A decrease over time has been noted in transport deaths. (Section 1.5.1). In the future the Committee will further analyse these contributions to the decrease in deaths from all external causes.
- For both 2011 and the 2005–11 reporting period, males were more likely than females to die from external causes. Young people aged 15–17 years were 2.3 times more likely to die from an external cause than from illness or disease.
- Over the period 2005–11 Aboriginal children were 3.5 times more likely than non-Aboriginal children to die from external causes, 28.1 deaths per 100 000 Aboriginal children, 8.1 deaths per 100 000 non-Aboriginal children.
- In the seven year period 2005 to 2011, in 70 (33%) deaths, the child or their families had had contact with Families SA in the three years prior to death.
- Children who died from external causes and who lived in areas of greatest disadvantage (SEIFA 5) had a higher rate of death than those who lived in areas of least disadvantage (SEIFA 1), 9.8 deaths per 100 000 children in areas of greatest disadvantage compared to 5.1 deaths per 100 000 children in areas of least disadvantage.
- Living in a rural or remote area was associated with a higher rate of death in comparison to living in a metropolitan area, 23.9 deaths per 100 000 in remote and very remote areas, 6.6 deaths per 100 000 children in metropolitan areas.

Table 9 provides details about the deaths attributed to external causes in 2011 and for the years 2005–11.

*Table 9: External causes of child deaths by age and cause of death, South Australia 2005–11**

| Cause of death | Infants < 1 year | 1–9 years | 10–17 years | Total |
|---|---|---|---|---|
| **2011** | | | | |
| Transport | 0 | 4 | 2 | 6 |
| Accidents | 0 | 0 | 2 | 2 |
| Suicide | 0 | 0 | 4 | 4 |
| Other causes (drowning, fatal assault, fire-related deaths) | 1 | 6 | 1 | 8 |
| **TOTAL** | **1** | **10** | **9** | **20** |
| | | | | |
| **2005–2011** | | | | |
| Transport | 5 | 20 | 59 | 84 |
| Accidents | 16 | 7 | 10 | 33 |
| Fatal assault or neglect | 8 | 14 | 9 | 31 |
| Suicide | 0 | 0 | 25 | 25 |
| Drowning | 3 | 17 | 2 | 22 |
| Health- system-related adverse events | 5 | 5 | 3 | 13 |
| Fire-related | 0 | 5 | 2 | 7 |
| **TOTAL** | **37** | **68** | **110** | **215** |

**Source: Child Death and Serious Injury Review Committee database*

Transport incidents accounted for 84 deaths (40%) attributed to external causes in the seven year period between 2005 and 2011; the majority of these deaths occurred in the 10–17 year age group. All suicide deaths occurred in this age group. In contrast, the majority of accidental deaths were infants younger than one year of age. The highest number of children 1–9 years also died in transport incidents and from causes such as fatal assault, neglect or drowning. Further details concerning each of these causes of death can be found in the following sections of the report.

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## 1.5.1 Transport

Between 2005 and 2011, 84 children have died in transport incidents. Six deaths occurred in 2011.

Transport deaths include deaths arising from incidents involving a device used, or designed to be used for, moving people or goods from one place to another. These incidents may involve pedestrians and include railway or water transport. Incidents may occur on public roads or places other than a public road.

*Table 10: Child deaths attributed to transport incidents by age and sex, South Australia 2005–11**

| | 0–4 years | 5–14 years | 15–17 years | Total | Rate[1] per 100 000 |
|---|---|---|---|---|---|
| **Year** | | | | | |
| 2005 | 3 | 4 | 8 | 15 | 4.3 |
| 2006 | 3 | 1 | 7 | 11 | 3.1 |
| 2007 | 3 | 3 | 10 | 16 | 4.6 |
| 2008 | 2 | 3 | 6 | 11 | 3.1 |
| 2009 | 1 | 1 | 10 | 12 | 3.4 |
| 2010 | 2 | 5 | 6 | 13 | 3.7 |
| 2011 | 2 | 2 | 2 | 6 | 1.7 |
| **Sex** | | | | | |
| Females | 6 | 11 | 16 | 33 | 2.8 |
| Males | 10 | 8 | 33 | 51 | 4.1 |
| **TOTAL** | **16** | **19** | **49** | **84** | **3.4** |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11

*Source: Child Death and Serious Injury Review Committee database*

## FINDINGS – *Transport*

- For the period between 2005 and 2011, the death rate for transport incidents shows an 8% decrease on average per year (p=0.14) with the highest rate (4.6 deaths per 100 000 children) occurring in 2007 and the lowest (1.7 deaths per 100 000 children) in 2011.
- With the exception of 2011, the greatest number of deaths, in any year, occurred in young people 15–17 years of age. This group represented over half the total number of deaths (58.3%).
- Between 2005 and 2011, the highest number of transport deaths (33) were of young men 15–17 years of age (39.3%).

### *Transport deaths 2011*

Six children died in four separate transport incidents in 2011; three children died in one incident. Four of the six who died in 2011 were males. Five were passengers and one young person was a driver.

The lower overall road toll (103) in SA in 2011 (compared with 119 and 118 in 2009 and 2010 respectively) is reflected in the smaller number (6) of transport related deaths recorded by the Committee in 2011.[12]

All of the crashes in 2011 occurred in rural settings, and were characterised by driver fatigue or inattention resulting in the vehicle deviating from the road. Typically this was followed by 'overcorrection' and subsequent high speed impact with a fixed object or oncoming vehicle. Excessive speed, alcohol or drug use was not associated with these deaths. This common rural accident scenario is well recognised by road safety authorities, and notably the SA Government has prepared a number of informative resources for drivers in an attempt to provide driver education about appropriate and safe reactions to a situation where a vehicle moves off the roadway.[13]

South Australia's Road Safety Strategy 2010 identifies a number of evidence based environmental modifications including sealed road shoulders, safety barriers and changes to median strips intended to reduce these types of crashes.[14] The importance of modern safety technologies such as electronic stability control which support driver attempts to regain vehicle control in such situations is also recognised.

## ACTIONS – *Transport*

- A number of important studies on road safety in this State have recently been published which should guide local road safety initiatives.
  - Dr Lisa Wundersitz of the South Australian Centre for Automotive Safety Research has published an informative study of crashes involving young drivers.[15]
  - Adelaide Thinker in Residence 2011–2012, Professor Fred Wegman's final report *Driving down the road toll by building a Safe System* is also an important resource to guide improved road safety for users of all ages.[16]

12 www.dpti.sa.gov.au/roadsafety/road_crash_facts/sa_crashes Last accessed October 2012.

13 www.youtube.com/watch?v=92sAvD-Zsho&feature=youtu.be, www.mylicence.sa.gov.au/the_online_drivers_handbook/understand_different_types_of_crashes_and_how_to_avoid_them Last accessed October 2012.

14 http://dpti.sa.gov.au/towardszerotogether/saferroads Last accessed October 2012.

15 http://casr.adelaide.edu.au/casrpubfile/1243/CASR101.pdf Last accessed October 2012.

16 http://thinkers.sa.gov.au/wegmanflipbook/files/inc/911587238.pdf Last accessed October 2012.

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## 1.5.2 Suicide

The Committee has attributed the deaths of 25 young people to suicide in the seven years between 2005 and 2011.

The Committee classifies a death as suicide where the intent of the child was clearly established. It also attributes a death to suicide if careful examination of coronial, police, health and education records indicates a probable intention to die.

*Table 11: Child deaths attributed to suicide, South Australia 2005–11**

| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
|---|---|---|---|---|---|---|---|---|
| TOTAL | 5 | 5 | 1 | 2 | 4 | 4 | 4 | 25 |

*Source: Child Death and Serious Injury Review Committee database

### FINDINGS – *Suicide*

- In each of the past three years, the deaths of four young people have been attributed to suicide, all have been 15–17 years old.
- In the seven years between 2005 and 2011, nearly three-quarters of the young people (71%) whose deaths were attributed to suicide were male and five young people were Aboriginal (20%).
- Hanging was the most common mechanism of death (88%) and these events most commonly occurred at the young person's place of residence.

### *Suicide deaths 2011*

Three of the four young people whose deaths were attributed to suicide in 2011 were male. None of these young people was Aboriginal. On the basis of the information reviewed by the Committee the following themes were identified:

- The mechanism of death in all four cases was hanging and all events occurred at the young person's place of residence.
- In three cases, the events occurred in outer metropolitan or rural areas of South Australia.
- Suicide notes were found in two cases.
- Three young people had either threatened or attempted suicide previously and/or had a history of self-harming behaviours. Two had a history of depression.
- Alcohol and/or drug use had occurred prior to the suicide in three of the four cases.

Police investigations that gathered information from several sources including friends, parents, mobile phone and computer records provided the most comprehensive picture about the circumstances of each young person's death. Such a broad-based approach by SAPOL to its investigations is to be encouraged.

## ACTIONS – *Suicide*

- More detailed information will be sought about the lives of these young people and will be included in the Committee's in-depth review of deaths attributed to suicide since 2008.
- In 2008 the Committee recommended the development of a State-wide suicide prevention strategy for young people and continues to monitor, support and promote the development of such a strategy. See Section 2.4.3.

### 1.5.3 Accidents

A total of 33 deaths have been the result of accidents in the seven year reporting period and two deaths were the result of accidents in 2011.

Accidents exclude deaths attributed to transport incidents, fires or drowning and are also referred to as deaths from unintentional injuries. Accidents most commonly include suffocation, strangulation and choking, falls and poisoning.

*Table 12: Child deaths attributed to accidents, by age, South Australia 2005–11**

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| Infants < 1 year old | 6 | 5 | 2 | 1 | 1 | 1 | 0 | 16 |
| 1–17 years | 1 | 1 | 6 | 4 | 1 | 2 | 2 | 17 |
| **TOTAL** | **7** | **6** | **8** | **5** | **2** | **3** | **2** | **33** |

**Source: Child Death and Serious Injury Review Committee database*

## FINDINGS – *Accidents*

- There continues to be a decline in the number of accidental deaths in the seven year reporting period. This decline appears primarily due to a decrease in deaths of infants younger than one year being attributed to accidental causes such as suffocation or asphyxiation.
- 70% of the accidental deaths between 2005 and 2011 were male children.

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### *Accidental infant deaths 2005–11*

No infant deaths were attributed to suffocation or asphyxia in 2011. The Committee's comments regarding the accidental infant deaths occurring between 2005–2011 remain the same as they were in the 2010–11 Annual Report.[17]

### *Accidental deaths of children 1–4 years 2005–11*

No accidental deaths of 1–4 year old children occurred in 2011. The Committee's comments about the circumstances of the accidental deaths that occurred in previous years remain the same as they were in the 2010–11 Annual Report.[18]

### *Accidental deaths of young people 15–17 years 2005–11*

Over the seven year reporting period, the deaths of eight young men resulted from accidents.

- Three young men died in falls and four died from some kind of accidental poisoning.
- Four deaths, from various causes, occurred when young people were in the company of their peers.
- Five of these deaths involved risk-taking behaviours.

### 1.5.4 Fatal Assault, neglect and other non-accidental causes of death

Between 2005 and 2011, the Committee attributed 31 deaths to either fatal assault or neglect. Three deaths were attributed to these causes in 2011.

The Committee characterises a fatal assault as *the death of a child from acts of violence perpetrated upon him or her by another person* (Lawrence, 2004; p 842). The definition of neglect encompasses both chronic neglect and single incidents of neglect and includes a carer's failure to provide for the child's basic needs, abandonment, inadequate supervision and refusal or delay in the provision of medical care (NSW Child Death Review Team, 2003, p 15). See Section 4.5.5 for further details.

17 www.cdsirc.sa.gov.au/cdsirc/LinkClick.aspx?fileticket=ECG9-QXhaUE%3D&tabid=476

18 *Ibid.*

*Table 13: Child deaths attributed to fatal assault and neglect, South Australia 2005–11**

| Cause of death | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
|---|---|---|---|---|---|---|---|---|
| Assault | 2 | 5 | 1 | 3 | 4 | 2 | 2 | 19 |
| Neglect | 2 | 2 | 0 | 0 | 1 | 0 | 1 | 6 |
| Other Causes[1] | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 6 |
| **TOTAL** | **4** | **9** | **1** | **5** | **7** | **2** | **3** | **31** |

1 Other causes include deliberate suffocation, poisoning and incineration.

**Source: Child Death and Serious Injury Review Committee database*

## FINDINGS – *Fatal Assault, neglect and other non-accidental causes of death*

- The number of deaths attributed to fatal assault or neglect has fluctuated over the seven year period from nine in 2006 to one death in 2007.
- Almost twice the number of males compared to females have died (20 deaths, 64.5%) and children younger than four years old account for 64% (20 deaths) of all deaths from fatal assault or neglect.

Based on the information so far available to the Committee, 19 deaths have been attributed to fatal assault, and six to neglect. The deaths of the majority of children younger than four years of age in this category have been attributed to some form of fatal assault; in six of these young children, there was evidence of previous injuries. Other mechanisms of death included suffocation, poisoning and incineration. The majority of alleged perpetrators were parents.

## ACTIONS – *Fatal Assault, neglect and other non-accidental causes of death*

- The Committee has considered the trends emerging from the accumulated information available over the seven year reporting period. The deaths of young children; the presence of domestic violence and parental mental health issues in the circumstances of these deaths are factors flagged for further consideration once coronial and criminal proceedings are completed.

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.5.5 Drowning

In the seven year period between 2005 and 2011, 22 children drowned; the majority of drowning deaths occurred in private swimming pools. Other locations included: a water tank, a fish pond, a bath tub and bodies of water such as rivers and the sea. Four children drowned in 2011. Buckets featured in two of these deaths.

*Table 14: Child deaths attributed to drowning, South Australia 2005–11**

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
|---|---|---|---|---|---|---|---|---|
| **TOTAL** | 2 | 5 | 4 | 2 | 3 | 2 | 4 | 22 |

**Source: Child Death and Serious Injury Review Committee database*

### FINDINGS – *Drowning*

- In the seven year period 2005 to 2011, 60% of the children who drowned (13 deaths) were between 1–4 years old.
- Eight of the thirteen 1–4 year olds drowned in the family swimming pool. In 4 of these eight drowning deaths, the pool gate had been left open and in one instance the pool was unfenced.

The South Australian Water Safety Committee[19] is made up of representatives from a broad range of Government and non-Government agencies and is dedicated to eliminating the risk of drowning in South Australia. That Committee acknowledges the disproportionate risk of drowning amongst children and has focused on a number of key issues including promotion and support for a review of swimming pool enclosure legislation, examination of swimming pool compliance arrangements and consideration of issues to do with the wearing of personal floatation devices whilst undertaking certain activities.

## 1.5.6 Fire-related deaths

Seven fire-related deaths were recorded in the seven year period between 2005 and 2011; one in 2011. Four of these deaths were associated with the Port Lincoln bush fires in 2006 and have been the subject of a coronial inquest.[20] The circumstances of three deaths suggested that the child and/or their siblings had access to a lighter or matches and were not being supervised by an adult.

19 www.safecom.sa.gov.au/site/water_safety/watersafety.jsp. Last accessed September 2012.

20 www.courts.sa.gov.au/CoronersFindings/Lists/Coroners%20Findings/Attachments/310/Wangary%20Fires%20Inquest%20-%20MODIFIED%20and%20FINAL%20February%202008.pdf *South Australian Coronial Inquest 2007 Wangary Fires*. Last accessed October 2012.

### 1.5.7 Health-system-related events

No health system related deaths were recorded in 2011, although 13 deaths were attributed to these causes in previous years.

## 1.6 Vulnerable Groups of Children

Children who live in poverty, are Aboriginal or geographically isolated are more likely to be at risk of poorer health and wellbeing. The deaths of the children in these vulnerable populations are considered in more detail in the following sections. It should be noted that some children fall within more than one of these vulnerable populations.

### 1.6.1 Contact with Families SA

In the seven year period between 2005 and 2011, 216 children died whose families had had contact with Families SA in the three years before their death. The death rate for this period was 8.8 deaths per 100 000 children. In 2011, the death rate was 9.7 deaths per 100 000 children. This death rate is calculated using the number of children in South Australia, rather than the number of children in contact with Families SA, which is not readily available. This rate only allows for comparison of rates across years (see Section 4.11).

Children or their families may have been in contact with Families SA for reasons not directly related to child safety issues. For example they or their families may have sought or received financial assistance from Families SA. Families SA receives notifications from various sources that children are or may be at risk.

Within this group, infants younger than one year old have the highest death rate of all ages; they are also the age group who are subject to the highest rate of substantiation of child protection concerns in any year, both in South Australia and nationally.[21]

Over the seven year period, the death rate for Aboriginal children whose families had had contact with Families SA in the three years before their death, was 58.5 deaths per 100 000 Aboriginal children. Aboriginal and Torres Strait Islander children continue to be over-represented in the child protection system. Nationally, ATSI children are eight times more likely to be the subject of a substantiated notification of child abuse or neglect, and the rate of ATSI children on care and protection orders is nine times the rate for non-Aboriginal children.[22]

Tables 15 and 16 provide further details about these deaths. Comparison of death rates across the seven year period can be found in Table 25 (Section 4.14).

21 www.aihw.gov.au/publication-detail/?id=10737421016 Last accessed September 2012.

22 *Ibid*

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

*Table 15: Demographics of child deaths and contact with Families SA, South Australia 2005–11**

| | 2011 | 2005–11 | Rate[1] per 100 000 |
|---|---|---|---|
| **TOTAL** | **34** | **216** | **8.8** |
| **RATE per 100 000** | **9.7** | | |
| **Sex** | | | |
| Female | 14 | 84 | 6.9 |
| Male | 20 | 132 | 10.5 |
| **Age Group** | | | |
| Infants (<1 year) | 20 | 107 | 78.7[2] |
| 1–4 years | 4 | 35 | 6.7 |
| 5–9 years | 4 | 16 | 2.4 |
| 10–14 years | 2 | 23 | 3.3 |
| 15–17 years | 4 | 35 | 8.0 |
| **Cultural Background** | | | |
| Aboriginal | 10 | 50 | 58.5 |
| **Usual Residence** | | | |
| Outside SA | 0 | 4 | |
| **Socioeconomic Background (SEIFA IRSD)[3]** | | | |
| Most disadvantaged SEIFA 5 | 12 | 76 | 16.0 |
| SEIFA 4 | 9 | 63 | 13.6 |
| SEIFA 3 | 5 | 38 | 8.4 |
| SEIFA 2 | 5 | 22 | 4.6 |
| Least disadvantaged SEIFA 1 | 3 | 13 | 2.6 |
| **Remoteness (ARIA+)[3]** | | | |
| Major City | 20 | 122 | 7.2 |
| Inner Regional | 5 | 30 | 10.0 |
| Outer Regional | 7 | 40 | 13.3 |
| Remote and Very Remote | 2 | 20 | 20.8 |

1 Rates have been calculated using ABS population estimates for children between 0–17 years. See Section 4.11.

2 The infant mortality rate is calculated per 100 000 live births. See Section 4.11.

3 South Australian residents only included.

*Source: Child Death and Serious Injury Review Committee database*

## FINDINGS – *Contact with Families SA*

- The death rate for these children was 8.8 deaths per 100 000 children for the seven year period between 2005 and 2011. For the period between 2005 and 2011, the death rate for children whose families had had contact with Families SA has increased 2% on average per year for all children (p=0.6). It could reflect changes in the number of notifications to Families SA and a rise in the rate of children on child protection orders in South Australia.[23]
- Infants younger than one year had a higher rate of death in comparison to children aged between 1–17 years.
- Aboriginal children were 8.4 times more likely to die than non-Aboriginal children, 58.5 deaths per 100 000 for Aboriginal children, 7.0 per 100 000 for non-Aboriginal children.
- Illness or disease accounts for the greatest number of deaths from 2005 to 2011 (56%).
- Children who lived in areas of greatest disadvantage (SEIFA 5) had a higher rate of death than those who lived in areas of least disadvantage (SEIFA 1), 16.0 deaths per 100 000 children in areas of greatest disadvantage compared to 2.6 deaths per 100 000 children in areas of least disadvantage.
- Living in a remote area was associated with a higher rate of death in comparison to living in a metropolitan area, 20.8 deaths per 100 000 children in remote and very remote areas compared to 7.2 deaths per 100 000 in major city areas.
- The notifications about the families who had contact with Families SA showed that they most commonly experienced financial difficulties and family violence and notifications were more likely to be about issues of neglect than physical or sexual abuse.

### *Contact with Families SA and causes of death*

The majority of children who have had contact with Families SA in the three years before their death died from illness or disease. This was so for both the seven year period from 2005 to 2011 (52%) and for 2011 alone (56%).

The rate of death for children who have had contact with Families SA and died from illness or disease was 4.6 deaths per 100 000 children, 1.3 for SIDS or undetermined causes and 2.8 for external causes. See Section 4.11 for discussion of the calculation of death rates for children whose family has had contact with Families SA.

23 www.aihw.gov.au/publication-detail/?id=10737421016 Last accessed September 2012.

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

*Table 16: Child deaths and contact with Families SA by age and cause of death, South Australia 2005–11**

| Cause of death | Infants < 1 year | 1–9 years | 10–17 years | Total |
|---|---|---|---|---|
| **2011** | | | | |
| Illness or Disease | 13 | 4 | 2 | 19 |
| Undetermined Causes | 5 | 0 | 0 | 5 |
| External Causes | 1 | 4 | 4 | 9 |
| Pending | 1 | 0 | 0 | 1 |
| **TOTAL** | **20** | **8** | **6** | **34** |
| **2005–2011** | | | | |
| **Illness or Disease** | | | | |
| Conditions in the perinatal period | 37 | 0 | 0 | 37 |
| Congenital and chromosomal abnormalities | 19 | 5 | 2 | 26 |
| Cancers | 0 | 9 | 5 | 14 |
| All other illness or disease and causes not yet known | 10 | 11 | 14 | 35 |
| **Illness or Disease – Total** | **66** | **25** | **21** | **112** |
| **Undetermined Causes – Total** | **29** | **3** | **1** | **33** |
| **External Causes** | | | | |
| Transport | 1 | 5 | 14 | 20 |
| Fatal assault/neglect (1 pending) | 3 | 8 | 3 | 14 |
| Accidents | 7 | 2 | 5 | 14 |
| Suicide | 0 | 0 | 12 | 12 |
| All other external causes | 0 | 8 | 2 | 10 |
| Pending | 1 | 0 | 0 | 1 |
| **External Causes – Total** | **12** | **23** | **36** | **71** |
| **TOTAL** | **107** | **51** | **58** | **216** |

*Source: Child Death and Serious Injury Review Committee database*

### *The nature of vulnerability*

The most commonly occurring issues that prompted notification to Families SA for children who died in 2011 were:

- Financial difficulties (38%),
- Family violence (35%),
- Parent(s) with alcohol and other drug problems (30%), and
- Parent(s) with mental health problems or disability (30%).

For 11 families (32%) there was only one notification in the three years prior to the child's death, either about a child protection issue (8) or for financial assistance. Notifier concerns were more likely to be about the care of the child and/or their siblings than to be about physical or sexual abuse.

Systemic issues about Families SA and service delivery are identified in the Committee's in-depth reviews. See Section 1.7.1 and 1.7.4 for a summary of relevant reviews and the associated recommendations and Section 2 for information about the key service delivery issues that the Committee has been monitoring.

## 1.6.2 Aboriginal children

Eighty-three Aboriginal children died in South Australia between 2005 and 2011, a death rate of 97.1 deaths per 100 000 Aboriginal children.

Twelve Aboriginal children died in 2011. The death rate in 2011 was 98.3 deaths per 100 000 Aboriginal children. This rate of death is 3.5 times the rate for non-Aboriginal children.

Tables 17 and 18 provide more information about the deaths of Aboriginal children. Comparison of death rates across the seven year period can be found in Table 25 (Section 4.14).

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

*Table 17: Demographics of deaths of Aboriginal children, South Australia 2005–11**

| | 2011 | 2005–11 |
|---|---|---|
| **TOTAL** | **12** | **83** |
| **RATE per 100 000** | **98.3** | **97.1** |
| **Sex** | | |
| Female | 6 | 36 |
| Male | 6 | 47 |
| **Age Group** | | |
| Infants (<1 year) | 8 | 47 |
| Infant Mortality Rate[1] | 11.6 | 11.3 |
| 1–4 years | 1 | 7 |
| 5–9 years | 1 | 4 |
| 10–14 years | 1 | 8 |
| 15–17 years | 1 | 17 |
| **Contact with Families SA** | | |
| Families SA | 10 | 50 |
| **Usual Residence** | | |
| Outside SA | 1 | 19 |
| **Socioeconomic Background (SEIFA IRSD)[2]** | | |
| Most disadvantaged SEIFA 5 | 7 | 37 |
| SEIFA 4 | 2 | 16 |
| SEIFA 3 | 0 | 5 |
| SEIFA 2 | 1 | 5 |
| Least disadvantaged SEIFA 1 | 1 | 1 |
| **Remoteness (ARIA+)[2]** | | |
| Major City | 6 | 28 |
| Inner Regional | 0 | 0 |
| Outer Regional | 3 | 17 |
| Remote and Very Remote | 2 | 19 |

1 The Infant Mortality Rate is calculated per 1000 live births. See Section 4.11

2 South Australian residents only included.

*Source: Child Death and Serious Injury Review Committee database*

## FINDINGS – *Aboriginal Children*

- For the period between 2005 and 2011, the death rate for all Aboriginal children who died in South Australia shows a 6.7% decrease on average per year (p=0.2) and a 3.5% decrease for Aboriginal children who were resident in South Australia (p=0.57).
- Aboriginal children were 3.0 times more likely to die than non-Aboriginal children (97.1 deaths per 100 000 Aboriginal children compared to 32.6 for non-Aboriginal children).
- Aboriginal infants younger than one year had a higher rate of death than non-Aboriginal infants in the period 2005–11 (11.3 deaths per 1000 Aboriginal infants compared to 3.5 for non-Aboriginal infants).
- The majority of Aboriginal children who died came from the State's most disadvantaged areas.

### *Aboriginal children and causes of death*

The cause of death for 48 of the 83 Aboriginal children who died between 2005 and 2011 was illness or disease (58%). The cause of death for eight of the 12 Aboriginal children who died in 2011 was also illness or disease.

*Table 18: Deaths of Aboriginal children by age and cause of death, South Australia 2005–11**

| Cause of death | Infants < 1 year | 1–9 years | 10–17 years | Total |
|---|---|---|---|---|
| **2011** | | | | |
| Illness or Disease | 6 | 1 | 1 | 8 |
| Undetermined Causes | 2 | 0 | 0 | 2 |
| External Causes | 0 | 1 | 1 | 2 |
| **TOTAL** | **8** | **2** | **2** | **12** |
| **2005–2011** | | | | |
| Illness or Disease | 33 | 7 | 8 | 48 |
| Undetermined Causes – Total | 10 | 1 | 0 | 11 |
| External Causes | 4 | 3 | 17 | 24 |
| **TOTAL** | **47** | **11** | **25** | **83** |

*Source: Child Death and Serious Injury Review Committee database

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

Thirty-three of the 48 deaths attributed to some kind of illness or disease between 2005 and 2011 were infants younger than one year (69%). The main causes of these deaths were associated with conditions occurring in the perinatal period, often associated with extreme prematurity, and may reflect difficulties in maternal health or antenatal care.

Eleven deaths were attributed to SIDS or undetermined causes; the 10 infants who died from these causes were male.

Transport incidents accounted for nine of the 25 deaths from external causes; six of these young people were male and seven were 10–17 years of age. In the seven year reporting period, the deaths of five young Aboriginal people have been attributed to suicide.

### *Aboriginal children who were not resident in South Australia*

In the seven year period between 2005 and 2011, 19 Aboriginal children who died were not normally resident in South Australia at the time of their death. Fourteen of these children were normally resident in the Northern Territory. The majority of these children died from illness or disease in South Australian hospitals. These deaths reflect cross-border medical care arrangements whereby seriously ill children are brought from Northern Territory to South Australia for high level medical care.

## ACTIONS – *Aboriginal Children*

- SA Health Safe Sleeping Advisory Committee has supported the development of safe sleeping information for Aboriginal families in line with the South Australian Safe Infant Sleeping Standards.
- An in-depth review (Section 1.7.1) has highlighted the challenges of working with complex family circumstances and the need to ensure that both Aboriginal and non-Aboriginal workers are supported to develop the expertise necessary to manage such complexity.

## 1.6.3 The impact of Socioeconomic Disadvantage – SEIFA IRSD

Table 2 highlights the distribution pattern of socioeconomic disadvantage and death. Fifty percent of the children who died lived in the State's most disadvantaged areas (SEIFA 4 and 5) compared to 30% of deaths which occurred in the least disadvantaged areas of the State. Rates of death, which take into account the population of children in each quintile, were also highest in SEIFA 4 and 5 (37.2 and 44.0 per 100 000 children).

The impact of disadvantage on death is accentuated in the SEIFA IRSD for the two vulnerable groups of children (Tables 15 and 17). Approximately two thirds of children who died and who had had contact with Families SA lived in the State's most disadvantaged areas and there was an increase in the rate of child death with increasing disadvantage in this vulnerable population. Fifty-three of the 83 Aboriginal children who died were resident in South Australia's most disadvantaged areas.

Table 19 shows the number of deaths for each quintile between 2005 and 2011. The Committee will continue to monitor and analyse this information, especially in relation to the decrease in the number of deaths in SEIFA 1.

*Table 19: Child deaths by SEIFA quintile, South Australia 2005–11**

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2005–11 |
|---|---|---|---|---|---|---|---|---|
| SEIFA 5 | 28 | 25 | 26 | 35 | 33 | 35 | 32 | 224 |
| SEIFA 4 | 30 | 26 | 27 | 16 | 32 | 28 | 21 | 180 |
| SEIFA 3 | 29 | 22 | 20 | 26 | 22 | 24 | 16 | 159 |
| SEIFA 2 | 14 | 21 | 17 | 18 | 20 | 20 | 22 | 132 |
| SEIFA 1 | 21 | 17 | 18 | 16 | 18 | 10 | 11 | 111 |

**Source: Child Death and Serious Injury Review Committee database*

### 1.6.4 The impact of Geographical Remoteness – ARIA+

The Accessibility and Remoteness Index of Australia or ARIA+[24] is a distance-based measure which defines five categories of remoteness based on road distance to major service centres. Categories are determined by reference to postcode (AIHW, 2004). The categories are: major city, inner regional, outer regional, remote and very remote.

The higher rate of deaths in remote and very remote areas suggested that services are harder to access in these areas (Table 2).

Table 20 shows the number of deaths in each ARIA+ category, by year.

*Table 20: Child deaths by ARIA+, South Australia 2005–11**

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2005–11 |
|---|---|---|---|---|---|---|---|---|
| Major city | 70 | 71 | 81 | 78 | 80 | 77 | 65 | 522 |
| Inner regional | 20 | 14 | 13 | 14 | 27 | 21 | 13 | 122 |
| Outer regional | 16 | 18 | 14 | 12 | 14 | 16 | 21 | 111 |
| Remote and Very Remote | 16 | 8 | 10 | 7 | 4 | 3 | 3 | 51 |

**Source: Child Death and Serious Injury Review Committee database*

24 See Section 4.1.8 for more details.

# **SECTION 1:** CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.7 In-Depth Reviews 2011–12

Part 7C of the *Act* gives the Committee authority to undertake the in-depth review of cases of child death and serious injury. The objective of such reviews is the identification of desirable changes in legislation, policies, practices or procedures that will reduce the likelihood of deaths or serious injuries in similar circumstances. The Committee has adopted a process for the identification of cases for review and for the conduct of the review (see Section 4.3).

In 2011–12 the Committee submitted five in-depth reviews. There were three reviews of individual deaths; two reviews were about adolescents at risk and one concerned a child with significant physical and intellectual disabilities. Another review considered several sudden unexpected deaths of infants and the universal contact visit. Issues arising from the deaths of children and young people from asthma were considered in the fifth review.

### 1.7.1 In-Depth Review: Adolescent at Risk, Aboriginality, Complex Case

This review concerned the death of a young Aboriginal person who had been under the Guardianship of the Minister for at least a year before they died. Records showed that this young person's situation had always been extraordinarily complex and the review highlighted the significant policy and practice demands that can arise from such complexity. In 2010–2011 the Committee reported on similar issues arising from the in-depth review about the death of a vulnerable, Aboriginal infant.

1.7.1 In-Depth Review: Adolescent at Risk, Aboriginality, Complex Case *(continued)*

| **Submission Date** January 2012 | **Year of Death** 2009 |
|---|---|

## Issues Arising from the Review

### *Knowledge of the young person and their voice and views*

There was little known about this young person despite the amount of service activity occurring on their behalf.

### *Case management and service delivery*

Service delivery to this young person and their family was often clumsy, generic, crisis and resource driven.

It is not known if a case management model was in use, but there was little evidence of much needed coordination, monitoring and evaluation of services by any one 'lead' agency.

The files made available to the Committee for review were not practice friendly and would not support responsive, systematic frontline service delivery. They were cluttered, repetitive, out of sequence and appeared incomplete.

A case plan from an Aboriginal support service provided a minimal amount of information.

### *The use of statutory powers*

Despite multiple notifications for abuse, neglect or abandonment, a home environment that encompassed extreme violence and chronic non-attendance at school, neither child protection nor education agencies considered the use of statutory powers to intervene or bring about changes for this young person.

### *Reunification*

Families SA's attempts to reunify the young person with their family were not well informed or successful.

### *The importance of acknowledging community supports*

There is no indication that Families SA has any policies or practices that seek to acknowledge the support provided by family, neighbours or community members and through these opportunities educate the wider community about complex social welfare matters.

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.7.1 In-Depth Review: Adolescent at Risk, Aboriginality, Complex Case *(continued)*

| **Submission Date** January 2012 | **Year of Death** 2009 |
|---|---|

## Recommendations

### *Knowledge of the young person and their voice and views*

All agencies working with children and young people should ensure that all practices adequately reflect the voice and needs of children and young people.

When working with children and young people and their families where there are multiple needs, continuity of service delivery is essential.

### *Case management and service delivery*

Where an agency considers a case management approach relevant in a client situation, the model of case management should be creative, proactive and coordinated and include all of a client's formal and informal supports and services. Once a case management plan is developed it should be implemented until such time as a decision is made that the child's needs no longer require case management.

All agencies should review case file and data management systems so as to ensure that client records are organised in logical, sequential order, without multiple copies or repetitions of documents, and with key documents such as assessments and reports, case summaries, and case management plans clearly marked and accessible to front line workers.

Agencies run by or for Aboriginal people should be encouraged and supported to further develop program design and management to ensure that they can and do deliver informed, timely, focused and tailored services.

That Families SA put resources into further developing depth of expertise of frontline staff in child-centred engagement, child-centred assessment and child-focused service delivery, in particular building effective relationships with children and young people who have experienced abuse and neglect.

### *The use of statutory powers*

The education and child protection agencies within the Department of Education and Early Childhood review the use of their statutory powers under their respective Acts and ensure the formal and timely assessment of children at risk.

### *Reunification*

Families SA re-assess its reunification policy to accommodate cases where there are individual contra-indications and where family of origin or extended family supports are clearly over-stretched.

### *The importance of acknowledging community supports*

Families SA consider the extent to which it does and might better acknowledge and confirm the work of informal community supports in complex family, domestic violence and child protection cases.

### 1.7.2 In-Depth Review: Sudden Unexpected Deaths in Infancy and the Universal Contact Visit

This review focused on the Universal Contact Visit (UCV) which is offered to all new parents in South Australia. It involves a trained nurse visiting the home to discuss a wide range of issues related to infant care and should occur within six weeks of birth. The UCV 'enables early identification of family and child development issues, leading to the possibility of earlier intervention and problem prevention.[25] The review considered whether refinements to the delivery of the UCV might have the potential to reduce the incidence of death in cases such as the 14 deaths reviewed; three infants did not receive the UCV before their death. In this review the Committee noted that it has written previously about examples of good practice associated with the delivery of UCV; in particular the efforts made with difficult-to-engage families and the high quality of the record-taking.

| **Submission Date** January 2012 | **Years of Death** 2008–09 |
|---|---|

#### Issues Arising from the Review

A four to six week wait between discharge from hospital after birth and the universal contact visit is too long for vulnerable infants.

A discussion about safe sleeping may not be enough to ensure that families will make good decisions about their infant's safety.

Some families can be difficult to engage:

- when a family does not have settled and stable housing, trying to make contact with them after discharge can be difficult.
- they may decline the UCV; they may not want follow-up phone calls or they may decline to complete the 'Pathways to Parenting' questionnaire (P2P) which identifies key issues or they can miss appointments;

Some families may have multiple points of contact with services that are themselves uncoordinated; several families had already received services from domiciliary mid-wives or services such as Metro-Home Link but these services were not coordinated with the UCV.

The risk factors that lead to vulnerability are not always easy to identify; at least two families indicated they had had no contact with services such as Families SA, but CDSIRC records indicated that they had.

25 'Universal Contact' in Family Home Visiting: Service Outline. SA Gov: CYWHS 2005 p 5

# **SECTION 1:** CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.7.2 In-Depth Review: Sudden Unexpected Deaths in Infancy and the Universal Contact Visit *(continued)*

| **Submission Date** January 2012 | **Years of Death** 2008–09 |
|---|---|

### Recommendations

The limitations of the UCV need to be clearly acknowledged. The chances of engaging families with support services may be limited or negligible if they decline the UCV, are not traceable after discharge, decline to complete the P2P or do not feel comfortable offering all information about themselves, or decline the offer of further services. The possibilities for 'earlier intervention and problem prevention' are thus greatly reduced.

Greater thought should be given to the best ways in which to engage these families before the infant is born to ensure that they receive the support necessary to keep the infant safe and healthy. For vulnerable families, the UCV should be considered the FINAL not the FIRST point for the identification of vulnerability. Engagement with these families should start ante-natally.

When the UCV does occur, it needs to be co-ordinated with other health home visitors such as the domiciliary midwives. Midwifery services and other home support services such as Metro Homelink, which are offered immediately post-discharge, had successfully visited some families who were difficult to contact or engage several weeks later.

With the shift in portfolio responsibilities and the amalgamation of early childhood, child protection and child health services, greater opportunities for service co-ordination now present themselves. The Committee continues to urge the Women's and Children's Health Network and all health services caring for pregnant women to actively seek information about the families who for some reason do not receive a universal contact visit. In this wider service forum the information gathered about these families will be critical in determining the best ways in which to engage and work with them.

## 1.7.3 In-Depth Review: Adolescent at Risk, Homelessness, and Government and Non-government service provision

This young person was homeless at the time of their death. Non-government youth accommodation services had been used for several years. Education and youth mental health services held a lot of information about this young person and this information may have aided case management, but there appeared to be no available forum for the exchange of information between the Government and non-Government service providers.

## 1.7.3 In-Depth Review: Adolescent at Risk, Homelessness, and Government and Non-government service provision *(continued)*

| **Submission Date** June 2012 | **Year of Death** 2008 |
|---|---|

### Issues Arising from the Review

Education and mental health agencies provided support and guidance to both education staff and the young person throughout primary school years and early years in secondary school.

The communication and planning between agencies was well-documented.

The young person's parents were usually involved in any planning or evaluation meetings, as was the young person themselves.

Specialist paediatric or comprehensive psychological assessment including careful assessment of the family history and circumstances is crucial for decision-making about a child or young person's care.

The sharing of information between government agencies did not extend to the non-government youth homelessness accommodation sector. They appeared to have had no information about the young person's background, awareness of which might have better informed a service approach.

Recent changes to the intake procedures used in the non-government youth homelessness sector ('homeless 2 home' program) may facilitate the use of better intake and assessment procedures.

Elements of the Family Safety Framework, the Individual Education Plan process for Children and Young People in Care, or other multi-agency approaches to service delivery which includes non-government services, could be considered in the development of a framework focused on achieving better outcomes for young people experiencing, or at risk of, homelessness in South Australia.

### Recommendations

The Minister for Education and Child Development in collaboration with the Minister for Communities and Social Inclusion progress the development of a framework that addresses the needs of homeless young people or those at risk of homelessness and with high and complex needs. The framework must address:

- Flexible service provision
- Information sharing between government and non-government agencies
- Appropriate resource allocation
- High standards of case management

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

### 1.7.4 In-Depth Review: Disability, the 'voice of the child' and service delivery

This child had significant intellectual and physical disability and required 24 hour care. The child had lived both at home in the care of a parent and later in foster care, under the Guardianship of the Minister.

| **Submission Date** June 2012 | **Year of Death** 2009 |
|---|---|

## Issues Arising from the Review

The levels of service activity were very high throughout this child's life. However, it would seem that the provision of services was driven by the demands of the child's primary carer and as such, service delivery from the perspective of the child's needs, was lost.

The levels of service activity and the outcomes achieved in this case were contrasted to those in another case that was reviewed in 2008–09[26] where the child's disabilities placed a similar set of demands on a vulnerable single parent. The factors that appeared to influence better outcomes in the present case included: metropolitan as compared to rural location; carer's high level of demand, and high levels of advocacy support for the carer.

This child died whilst under the Guardianship of the Minister but an Adverse Events Committee review was not conducted.

## Recommendations

All departmental policies and practices should reflect the primary importance of the 'voice of the child' in decision making processes. In particular, staff providing direct services to children, especially children with disabilities, should be expected to demonstrate this recognition of the voice of the child in their practice and in their recording of interactions and agreed decisions.

Children and young people should retain an individual case manager in circumstances where there are competing interests or agendas within family situations.

Case managers in the organisations involved must clarify lead roles for each individual client to more effectively support positive outcomes for each family member.

Families SA should adopt a policy that requires the conduct of a review by the Adverse Events Committee when a child or young person has died whilst under custody or Guardianship of the Minister.

26 www.cdsirc.sa.gov.au/cdsirc/LinkClick.aspx?fileticket=DiipqRjOAjM%3d&tabid=476, Section 3.3.4

### 1.7.5 In-Depth Review: Deaths attributed to asthma

In the period 2006 to 2010, the Committee recorded the deaths of four children and two young people as a result of acute asthma.

| **Submission Date** June 2012 | **Years of Death** 2006–2010 |
|---|---|

## Issues Arising from the Review

Five of the six children who died as a result of asthma lived in vulnerable families. Vulnerability extended to the management of the child or young person's asthma which may have increased their risk of death.

Regular visits to the general practitioner for review and management of asthma would have given these children, young people and their families the best chance of controlling their asthma. There is no cure for asthma but good management can prevent symptoms from occurring or worsening.[27]

Home-based multi-trigger, multi-component interventions are programs that aim to reduce environmental triggers for children suffering from asthma. They have led to less hospital visits and days of asthma and increased attendance at school.[28, 29]

It is particularly important for children and young people with severe or unstable asthma to have access to medication and comply with an appropriate asthma management regime within a patient-parent-doctor partnership.[30]

The Department of Education and Child Development (DECD) requires the Principal of a school to actively seek a Health Care Plan from a medical practitioner via a child's family, then develop a Health Support Plan in consultation with the family using the medical practitioner's Written Asthma Action Plan. An Asthma Care Plan proforma has been developed by DECD.[31]

Children with acute asthma, especially those from vulnerable families, should be able to use to the SA Ambulance Service as often as needed.

27 Australian Centre for Asthma Monitoring (2011). *Asthma in Australia 2011: with a focus chapter on chronic obstructive pulmonary disease.* Asthma series no. 4. Cat. no. ACM 22. Canberra: AIHW. Viewed 28 May 2012 <www.aihw.gov.au/publication-detail/?id=10737420159>.

28 Bracken, MM, Fleming, L, Van Stiphout, NV, Bossley CJ, Biggart, E, Wilson, NM & Bush, (2009) A. The importance of nurse led home visits in the assessment of children with problematic asthma. *Arch. Dis. Child.* Published online 21 Jun 2009; doi: 10.1136/adc.2008.152140.

29 Crocker, DD, Kinyota, S, Dumitru, GG, Ligon, CB, Herman, EJ, Ferdinands, JM, Hopkins, DP, Lawrence, BM, Sipe, TA, (2011) Task Force on Community Preventive Services. Effectiveness of home-based, multi-trigger, multicomponent interventions with an environmental focus for reducing asthma morbidity. A community guide systematic review. *Am J Prev Med,* 41(2S1): S5–S32.

30 Government of South Australia SA Health (2008). *Asthma. Parent and Carer Information.* Department of Health, Government of South Australia.

31 Government of South Australia, Department of Education and Children's Services. (2007) First Aid in Education and Children's Services. *Partnerships for health care and education.* Department of Education and Children's Services Revised Edition.

# SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–11 AND IN-DEPTH REVIEWS 2011–12

## 1.7.5 In-Depth Review: Deaths attributed to asthma *(continued)*

| **Submission Date** June 2012 | **Years of Death** 2006–2010 |
|---|---|

### Recommendations

The Recommendations are listed by the agency to which they are directed.

#### *Families SA*

- The life threatening nature of severe or unstable asthma in a child or young person whose family is receiving services from Families SA should be identified in Families SA's assessment plan and ongoing monitoring.
- Families SA's ongoing monitoring processes might include enquiring about the child's asthma health and their asthma management, in particular the presence and frequency of visits to the general practitioner, their Written Asthma Action Plan and their family's action to reduce environmental risk factors for the exacerbation of asthma.

#### *Department of Education and Child Development*

- A current Written Asthma Action Plan should be completed by the General Practitioner and held by the child or young person's school.
- A Health Support Plan should be developed by the school in consultation with the family.
- Both plans should identify whether a child's asthma is severe and unstable and / or life threatening.
- For children with life threatening asthma, the plan should be reviewed periodically or when a child moves to a different school.
- South Australian government and non-government schools should consider completing the free training provided by Asthma SA in managing acute asthma, holding appropriate equipment and medication to treat acute asthma in children of all ages, displaying information about how to treat acute asthma and having an asthma management policy encouraging parents to provide a Written Asthma Care Plan to the school.

#### *The Royal Australian College of General Practitioners and SA Health*

- The general practitioner is best placed to be the lead practitioner in the management of a child or young person's asthma.
  - A Written Asthma Action Plan should be completed in consultation with the child or young person and their family.
  - General practitioners should use the existing desktop software that provides access to a Written Asthma Action Plan proforma developed by the Department of Education and Child Development.
  - Regular review and update of the plan should be undertaken by the general practitioner and the child or young person and their family.
  - SA Health and the Royal College of General Practitioners should take responsibility for ensuring that general practitioners reinforce with parents the importance of providing a Written Asthma Action Plan to their child's school.

### 1.7.5 In-Depth Review: Deaths attributed to asthma *(continued)*

| **Submission Date** June 2012 | **Years of Death** 2006–2010 |
|---|---|

**Recommendations** *(continued)*

  - Periodic advice and review by a respiratory paediatric specialist should be sought for children and young people with severe or unstable asthma.
  - Referral to a tertiary centre specialising in respiratory diseases of childhood should be considered for children or young people with severe or unstable asthma.
- The Royal Australian College of General Practitioners should provide guidance to general practitioners on assisting older children, young people and their parents to self manage their asthma as developmentally appropriate.
- For adolescents, chronic disease self management will include guidance about age appropriate levels of understanding, self management capacity, support for parents about their changing role in managing their child's asthma, transition to adult health services and access to resources (for example: medicare card; financial; social and emotional support).

#### *SA Health*

- Home-based multi-trigger, multicomponent interventions aimed at reducing exposure to asthma triggers should be offered to children and young people with severe and unstable asthma.
- SA Health should consider how vulnerable children and young people with severe and unstable asthma can be provided with best practice asthma management. This will include access to appropriate medication within the context of a patient-parent-doctor relationship.
- In the event of a severe acute episode of asthma, an ambulance should be called.
- SA Health should investigate how families with financial vulnerability and a child with severe or unstable asthma can access an ambulance, free of charge.

## 1.8 In-Depth Reviews in Progress and Planned

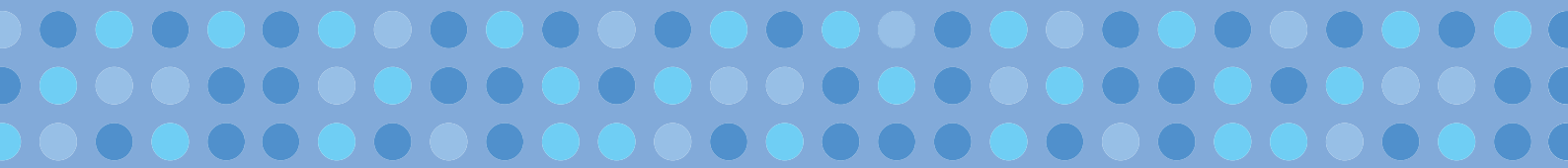
The Committee has a number of in-depth reviews in progress including reviews of:

- six children referred for review to the Committee by the Honorable Jay Weatherill MP, the former Minister for Families and Communities. This review was unavoidably delayed due to criminal prosecution processes.[32]
- the deaths of very young infants whose parents have been under the Guardianship of the Minister, and
- deaths attributed to suicide since 2007.

In 2012–13 the Committee intends to commence in-depth reviews including:

- the deaths of children who had naso-gastric tubes or ventroperitoneal shunts,
- the deaths of children with disabilities, and
- the deaths of children from fatal assault and neglect.

32 See s52S(4) of the *Children's Protection Act, 1993.*



# SECTION 2
# IMPROVING THE HEALTH AND WELLBEING OF SOUTH AUSTRALIA'S CHILDREN

*Part 1.4 (3) – 'In the exercise of powers under this Act…the child's wellbeing and best interests are to be the paramount considerations.'*

Children's Protection Act, 1993

# SECTION 2: IMPROVING THE HEALTH AND WELLBEING OF SOUTH AUSTRALIA'S CHILDREN

## 2.1 Achieving Systemic Change

Throughout 2011–12 the Committee sought to contribute to better outcomes for children and young people by monitoring, promoting and supporting systemic change across several different areas.

## 2.2 Better Outcomes for Vulnerable Infants

The importance of identifying and supporting vulnerable families before an infant is born has been an ongoing focus of the Committee's recommendations. The Committee also considers comprehensive discharge planning to be another factor that will contribute to better outcomes for vulnerable infants after they leave hospital.

In the previous Annual Report the Committee indicated it would undertake a review of Universal Contact Visit (UCV) notes. This review was completed during 2011–12 in relation to the deaths of 14 infants who died suddenly and unexpectedly, three of whom did not receive the UCV before their death (Section 1.7.2). The Committee again recommended antenatal engagement with vulnerable families and co-ordination of services to vulnerable families after the infant has been discharged from hospital. The importance of finding out more about those families who do not receive a UCV was also highlighted in this review.

In response to the Committee's recommendations SA Health provided information about the following improvements to antenatal services:

- Screening at the first antenatal visit for psychosocial risk factors and risk of depression.
- Referral to a clinician and mental health team if needed.
- Access to Women's and Children's Health Network's 'Strengthening Links' program for woman and families experiencing moderate to high 'active adversity and risk.'
- Access to the Aboriginal Family Birthing Program (Country Health SA) and the metropolitan Family Birthing Program.

In relation to improvements to discharge processes, SA Health said that there had been:

- Changes to the referral process so that high risk families receive the UCV 1–2 weeks after discharge.
- The Women's and Children's Health Network was developing a common discharge process for vulnerable infants. Common assessment criteria and a focus on the process of 'hand-over' between agencies at discharge have been identified as key elements in this process. The Committee has been updated on the development of the process but the timeframe for implementation is not known.

SA Health said that it had improved support to families after discharge through:

- Pathways for follow-up of families in the Aboriginal Birthing Program to enable transition to post-natal support programs.
- Referral to Helen Mayo House and improvements to the discharge process from Helen Mayo House including the direct involvement of community health service providers prior to discharge.
- In Central and Northern metropolitan areas, an early child-parent service operating out of two Children's Centres and including a home visiting service, culturally specific workers and a fatherhood worker.

The responses received from SA Health focused on services available to women and their families primarily through the Women's and Children's Health Network but provided very little information about services in the four other local health networks: Southern, Central, Northern and Country Health. This issue was raised when the Committee met with the Honorable Grace Portolesi MP, Minister for Education and Child Development to discuss the response the Committee had received. The Committee will continue to actively monitor programs and progress in these areas.

### *Infants and safe sleeping*

In March 2012 SA Health released the e-learning package associated with the South Australian Safe Infant Sleeping Standards that were finalised in 2011. The Committee continues to support the SA Safe Sleeping Advisory Committee which currently has carriage of this work, and continues to advocate with SA Health to determine the ongoing structure that will support the continuous improvement of this important initiative.

## 2.3 Better Outcomes for Children

*'The Department for Education and Child Development…is committed to strengthening the way in which children and their families are involved in our services and have their voices heard, are listened to, and involved in key decisions which affect their lives.'*

*Response regarding Case 581, 22 June 2012*

In December 2011 the Chair of the Committee spoke at a meeting of the Senior Officers' Group for the Care and Protection of Children about the key issues of concern raised in the Committee's reviews. The Senior Officers' Group is responsible for co-ordination across key portfolios. It aims to achieve a whole-of-government approach, joined-up action and investment in child protection. It is tasked with coordinating the five action areas for the *New Strategic direction for protecting children in South Australia,* as described in the previous Annual Report.

The key issues the Chair highlighted were:

- services for vulnerable infants,
- strengthening inter-agency collaboration,
- strengthening case management practice,
- monitoring issues in relation to neglect and cumulative harm,
- developing workers' confidence and competence and
- support for Aboriginal children, children in rural and remote areas and children with disabilities.

These key issues reflect the five areas for action in the *New strategic direction* and the Chair emphasised that through its reviews and the responses to its recommendations, the Committee would continue to monitor change and progress in these areas.

# SECTION 2: IMPROVING THE HEALTH AND WELLBEING OF SOUTH AUSTRALIA'S CHILDREN

### 2.3.1 Worker confidence, competence and case management

The Committee has continued to make recommendations about practice issues. Particular issues that have been identified in the reviews submitted in this reporting period were about the quality of case management and child-centred engagement, assessment and service delivery.

The Committee has the opportunity to monitor implementation of these and previous recommendations about practice issues through its regular meetings with Families SA and the written responses to its recommendations.

The focus of the meetings with Families SA has been about improvements to the systems that support and promote the skill and expertise of its workforce; in particular the changes to supervisory roles and structures that aim to better support the work of frontline staff. The written responses to recommendations have also addressed these issues.

Through both sources, the Committee notes that Families SA continues to put considerable effort into improving the confidence and competence of its workforce and is aware of the areas of practice that challenge its frontline practitioners. For example, case and records management, child-centred case management, and case reviews were the three 'practice themes' identified in the 2010–11 audit of cases that Families SA had conducted through their own internal audit and risk management service. These issues reflect those that have been identified in the Committee's reviews. Families SA acknowledged that there were a number of areas where practice needed to be strengthened and said that these would be addressed through:

- 'Site specific' work to address 'local' issues – working with Families SA staff at identified sites to improve case practices.
- Building on the yearly audit process.
- Provision of appropriate training opportunities for its practitioners.
- Families SA leadership forums where specific actions to address these themes will be determined.

In its written responses, Families SA has emphasised the central importance of its on-line case management tool – C3MS – the Connected Client Case Management System, as a key means of improving the case management practices of its frontline staff:

*'FSA considers that it has a unique, evidence-based system which not only supports the production and retrieval of information, but provides an incredible resource to workers and managers in quality assuring work, audit and data extraction which can be used to inform service planning and reporting.'*

*Response regarding Case 581, 22 June 2012*

The response provided to the Committee's recommendations also pre-empted the development of a 'Practice Framework;' a document that will assist practitioners to understand the way the components of the case management approach interconnect.

### 2.3.2 The child's voice and views

In two reviews this year the Committee spoke about the importance of ensuring that the child's needs were central to any decisions made or actions taken in relation to them. The issues arising that prompted this were:

- A strong, comprehensive picture of the child and their needs and how these would be met was not evident from the files.
- Decisions made on the child's behalf did not appear to be based on an understanding of the child's situation, needs and feelings.

Both Families SA and DECD have written about being 'committed to strengthening the way in which children and their families are involved in our services and have their voices heard, are listened to, and involved in key decisions which affect their lives.'

In response to recommendations about this issue, Families SA again emphasised the importance of C3MS, as in its view, this electronic case management tool is configured in such a way that it requires evidence of the involvement of children and young people in the planning process. The new 'Practice Framework' was also cited because it will emphasise the importance of providing children and young people with the opportunity to contribute. Commitment to the National Framework, the formation of a Residential Care Youth Advisory Council and participation of young people in the preparation of their case plans and review meetings, were also put forward as evidence for a continuing and strengthened focus on the child's voice and views.

### 2.3.3 Children with disabilities

In the 2010–11 Annual Report the Committee recognised the challenges faced by Disability Services,[33] and further meetings with this service were planned. In the current reporting year further information about Disability Services was provided to the Committee by the then Minister for Families and Communities. This information described service provision to children with disabilities, particularly those with complex needs. It was said that the service aimed to:

- Introduce a model of tiered services.
- Enhance the capacity of services to provide prevention and early intervention services,
- Enhance specialist support for specific issues such as sleep disturbance, eating, toilet training, communication and behaviour.
- Work more effectively with service partners such as DECD, SA Health and the non-government sector to respond to the needs of children and young people with disabilities.
- Utilize outcome-focused, evidence-based interventions.
- Target services to assist families to support the development of their children and to sustain them in their caring role.

33 Formerly Disability SA

# SECTION 2: IMPROVING THE HEALTH AND WELLBEING OF SOUTH AUSTRALIA'S CHILDREN

However, the Committee notes the challenges to service provision for this service including:

- A doubling of referral in the past few years, primarily of children with autism spectrum disorder and Asperger's syndrome.
- An increase in the number of children with disabilities under Guardianship of the Minister.
- An increase in out-of-home placements of children with disabilities who are not under Guardianship or Voluntary Custody Orders.

The Committee has also noted the planned introduction to South Australia of the National Disability Insurance Scheme which will change the ways in which children with a disability (from birth to five years) receive services. It seems inevitable that this Scheme will increase demand for service responses. The impact of this increased demand on the disability sector will become a critical issue.

In the current reporting period a review into the death of a child with significant disabilities (See Section 1.7.4) raised further issues about case management for such children. In particular the Committee emphasized the importance of ensuring that the needs of children with significant disabilities are understood and that the case manager is an effective advocate for the child, especially if their needs are different to those of the family/parent/carer.

## 2.4 Better Outcomes for Young People

The Committee's efforts to monitor and promote change to improve outcomes for young people have focused on school-related issues and suicide prevention. In this reporting year, cross-agency planning to strengthen the effectiveness of case management was recommended (section 1.7.3) and responses to this recommendation will be provided in the next Report.

### 2.4.1 Chronic non-attendance at school

In 2009–10 the Committee submitted a review that recommended the Department of Education and Children's Services consider how it monitors and intervenes when children are chronically truant from school.

Based on another review in the current reporting period (Section 1.7.1) the Committee recommended that DECD consider the use of its statutory powers in cases where the young person is absent from school for long periods of time. DECD commented that the use of statutory powers were considered only as a last resort and in determining whether to use these powers DECD takes into consideration a wide range of factors that may be contributing to non-attendance, including available services to support the family. Although the Committee accepts DECD's view that this may be a strategy of last resort, given the significance of chronic truancy as an indicator of a child's vulnerability, the Committee will maintain a watching brief on the issue of truancy as it would be concerned if legislative strategies were thwarted by resource constraints.

### 2.4.2 School counsellors and record-keeping

In the previous report the Committee highlighted concerns about the role of school counsellors. The response from DECD assisted the Committee to understand the nature of the school counsellor's role. It confirmed that the 'counselling service' is provided by qualified teachers who 'broaden their professional knowledge and skills in order to develop specialised expertise in promoting student learning and wellbeing.' It was stated that the counsellors do not offer therapeutic intervention or long-term counselling and that the supervision of counsellors is the responsibility of the school principal. However, the Committee noted that the pamphlet for students and parents that was provided with the response from DECD described the counselling process as one in which it is best to form a 'trusting relationship' with the counsellor and that the young person must be 'prepared to work with the counsellor on different ways of thinking and behaving to achieve your goals.'

DECD confirmed that a school counsellor's hand written notes were 'maintained and retained by the school counsellor.' This response highlights the Committee's concern that this detailed information about a child or young person will be difficult to obtain should the school counsellor leave the education system. In response, the Department indicated that it had sought the assistance of State Records to review and assess the continuing legal requirements for record-keeping, 'including the content of Pupil Record Folders.' The Committee will seek DECD's final decision in relation to the retention and status of school counsellors' records.

### 2.4.3 Suicide prevention

After making its recommendations in 2007 that there was a need for a State-wide Youth Suicide Prevention Plan, the Committee has continued to monitor the work of SA Health and suicide prevention for young people.

This year, SA Health released the SA Suicide Prevention Strategy 2012–2016.[34] In the Strategy children and young people are acknowledged as groups for targeted suicide prevention initiatives, with a particular focus on children in care. Both intervention and prevention goals and activities have been identified. Goals and activities for people in regional South Australia emphasise the needs of Aboriginal people, including young people.

It is evident that the Strategy's Activity Statements represent ideas from many different sources and that in developing the Strategy, the Office of the Chief Psychiatrist has consulted widely.

In its response to the first draft of the Strategy the Committee highlighted issues about priorities, clarity and scope, especially in relation to the Plan's 'Activity Statements.' These issues are only partially addressed in the current version of the Strategy where there is no indication about implementation priorities or processes. The Committee also raised issues about community representation in the governance structure. An introductory statement about this structure is presented in the Strategy and indicates that implementation of the Strategy is the responsibility of the Office of the Chief Psychiatrist and oversight will be provided by the Minister's Suicide Prevention Advisory Committee.

34 www.sahealth.sa.gov.au/wps/wcm/connect/4052c4004c9a3289bc3cbca496684d9f/SASPS-+Mental+Health+-+Office+of+the+Chief+Psychiatrist-20120904.pdf?MOD=AJPERES&CACHEID=4052c4004c9a3289bc3cbca496684d9f Last accessed October 2012.

# SECTION 2: IMPROVING THE HEALTH AND WELLBEING OF SOUTH AUSTRALIA'S CHILDREN

It is stated that the Strategy will be evaluated annually on both outcome and process-based measures. The Committee anticipates that this evaluation will provide more evidence about implementation priorities.

## 2.5 Better Outcomes for Children Under the Guardianship of the Minister

In the previous Annual Report, the Committee indicated that it had received responses to recommendations about paediatric health assessments for children under Guardianship of the Minister and about Families SA's reunification policies. The Committee requested further information from Families SA about the ways in which it would demonstrate improved outcomes for Children under Guardianship, in particular in relation to timely paediatric checks. Families SA indicated that it would take some years before it would be able to report on the timeliness of health checks.

In relation to reunification, the Committee requested more information about the proposed improvements to reunification decisions that a 'structured decision-making tool' and a practice guide about 'contra-indications' for reunification was going to deliver. Families SA indicated that it would be able to report on improvements to decision-making through the use of the new assessment tool in the future.

In both this review and the previous review of Children under Guardianship of the Minister, the Committee noted that the decision made about reunification did not improve the outcomes for the child or young person. The Committee again raised concerns about Families SA's reunification policies in one of its most recent reviews.

In October 2011 the then Minister for Families and Communities flagged the beginning of the Reunification Initiative – a dedicated response that would promote and enhance opportunities for reunifying children as early and as safely as possible with their birth families. The Committee understands that this five year initiative has commenced in four Families SA district centres and will seek reports as the initiative progresses.

In August 2012 in response to the recommendation that the reunification policy be reviewed, Families SA stated that parents and caregivers who present an ongoing danger to children or whose parenting deficits cannot be addressed within a reasonable time-frame will not be considered for reunification, and where there were 'contra-indications from the outset' then further placement sources would be sought. Given these definitions, it did not consider that its reunification policies needed to be reviewed.

The Committee will continue to monitor the effects of reunification on children and young people and will look for evidence of the impact of the Reunification Initiative in its reviews.

## 2.6 Continuing the Contribution to Systemic Change

In October 2011 administration of the *Children's Protection Act 1993* became the responsibility of the Honorable Grace Portolesi MP, the Minister for Education and Child Development, and the Department for Education and Child Development (DECD) was established. Child protection services and primary and population health services for families (the universal contact visit, family home visiting and Child and Family Health Services) are now co-located within DECD.

This Department considers its role to be:

- To provide quality care and education so that every young person has the opportunity to be a successful learner, a confident and creative individual, and an active and informed citizen.
- To build the capacity of families to provide safe and nurturing environments for children and young people.
- To work closely with our partners in the community to ensure the wellbeing, safeguarding and healthy development of children and young people.[35]

The Committee now reports to the Minister for Education and Child Development. In its recommendations and meetings with the Minister and the Department, the Committee has emphasised the opportunities for the provision of integrated services to children within the new, broader framework for service delivery. This means, for example:

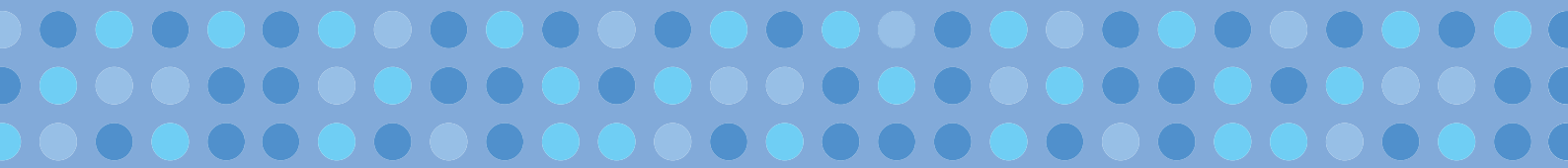
- Services for vulnerable infants could be collaboratively developed, seamlessly delivered and integrated with early learning opportunities.
- Development of a more integrated approach to chronic truancy – which is often an indicator of neglect.
- Addressing gaps in service delivery that occur for young people who may be disengaged from one system, such as education, but still known to another system such as child protection.

The Committee will continue to monitor the issues it has made recommendations about; some of these issues are reflected in the previous sections of the report. Each year, as further reviews are completed, new issues arise. In this reporting year, two new issues have been highlighted: ensuring that the child's voice and views are heard, and the co-ordination between Government and non-Government services. The Committee will monitor these new issues in coming years.

The review about deaths from asthma reflects the depth of information now available to the Committee in relation to certain causes of death, especially those from illness and disease. Further reviews about deaths from illness or disease are planned and will be informed by the responses to the recommendations made about asthma management.

The Committee will also strengthen its capacity to monitor implementation of its recommendations through its collaborative work with both Government and non-Government key stakeholders. It will continue to seek evidence about the implementation of policies and the evaluation of programs. It will utilize a range of strategies to challenge and extend the development of improved practices that have been identified in its reviews.

35 www.decd.sa.gov.au/aboutdept/files/links/Directions_for_the_new_dep.pdf Last accessed October 2012.



# SECTION 3
# COMMITTEE MATTERS 2011–12

*S 52N (1) – The Child Death and Serious Injury Review Committee is established.*

Children's Protection Act, 1993

# **SECTION 3:** COMMITTEE MATTERS 2011–12

## 3.1 Legislation and Purpose

The Child Death and Serious Injury Review Committee was established by the *Children's Protection Act, 1993* (the *Act*)[36] in February 2006. It is an initiative arising out of recommendations made in *Our best investment: a State plan to protect the interests of children (Layton, 2003).* An interim committee operated under directions issued by Cabinet from April 2005 until February 2006.

The role of the Committee is to contribute to the prevention of death or serious injury to children in South Australia.

The Committee reviews the circumstances and causes of death or serious injury to children and makes recommendations to Government that may help prevent similar deaths or serious injuries. Recommendations suggest changes in legislation, policies, procedures or practices.

Since October 2011 the Committee's administrative, financial and human resource management has been overseen by the Department for Education and Child Development. This oversight was previously provided by the former Department for Families and Communities.

## 3.2 Committee Matters 2011–12

The Committee met 10 times in 2011–12. Each member belongs to one of four 'screening teams' (see Diagram 1) and each of these teams met as required, usually in advance of each Committee meeting.

The Committee continued to address six key areas of work:

- The timely and accurate collection of information about the circumstances and causes of child deaths and serious injuries.
- Screening the circumstances and cause of child deaths in South Australia and identifying systemic issues which should be addressed through the review process.
- Undertaking in-depth reviews of deaths and serious injuries that identify systemic changes and making recommendations about systemic change that will contribute to the prevention of similar deaths or serious injuries.
- Monitoring the progress of recommendations including supporting and contributing to prevention-based activities concerning child deaths and serious injuries.
- Providing an Annual Report, which contributes to Government and community knowledge and understanding of the causes of child deaths and serious injuries and the efforts that should be made to prevent or reduce deaths or serious injuries.
- Reporting to the Minister on the performance of its statutory functions.

36 http://legislation.sa.gov.au/LZ/C/A/CHILDRENS%20PROTECTION%20ACT%201993/CURRENT/1993.93.UN.PDF Children's Protection Act, 1993 Last accessed August 2012.

### 3.2.1 Governance

The Committee reports to the Minister for Education and Child Development who has responsibility for the administration of the *Act.* Prior to October 2011, the administration of the *Act,* under which the Committee is established, was the responsibility of the Minister for Families and Communities.

### 3.2.2 Improving procedures, knowledge and skills

The Secretariat has liaised with the State Coroner and the Office of Births Deaths and Marriages to identify unregistered deaths of children in SA and has facilitated the exchange of information about these deaths between these two agencies.

A new protocol has been agreed to for exchange of information between the Committee and the State Coroner about cases where domestic or family violence is identified in the circumstances of the death.

The Committee and the SA Health Maternal, Perinatal and Infant Mortality Committee have been collaborating on the development of a protocol for the exchange of information about infant deaths.

In the 2010–11 Annual Report, the Committee said it would take steps to improve the ways in which it identifies and reports on children with disabilities. In this reporting year the Committee has requested the appointment of a member with expertise and experience working with children with disabilities to provide advice and guidance to the Committee about the best way forward in this area.

The Secretariat has continued to improve the ways in which it records and analyses information through upgrading the systems used for searching the information it holds about the deaths of children and through automating processes for the retrieval and analysis of statistical information for the annual report.

### 3.2.3 Supporting partnerships

The Committee held regular and productive meetings with Families SA, and has met with Housing SA to discuss recommendations it has made or has planned and to understand the best ways to support systemic change in these agencies.

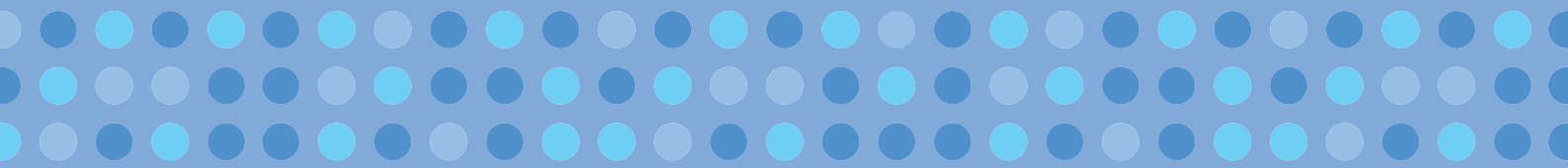
The Chair has met with both the Minister for Families and Communities and the Minister for Education and Child Development to discuss issues arising from the Committee's work and to seek each Minister's views about these issues.

The Chair and members of the Committee met with the State Coroner, Deputy State Coroner and their staff, and representatives from the Women's and Children's Hospital to discuss issues of mutual concern about youth suicide.

### 3.2.4 Building the Committee's profile

In December 2011 the Chair attended a meeting of the Senior Officers' Group for the Care and Protection of Children. This group is responsible for coordination across key portfolios to achieve a whole- of-government approach and investment in protecting children. The meeting discussed the ways in which the Committee's findings can inform the work of this group.

The Chair represented the Committee at the annual meeting of the Australian and New Zealand Child Death Review and Prevention Group in February 2012.



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## 4.1 Deaths Included in the Annual Report

It will be noted that the report about the Committee's activities (Section 3) and the in-depth review of deaths (Section 1.7) is inclusive of work between 1 July 2011 – 30 June 2012 whereas in Sections 1.1–1.6 the numbers of deaths referred to are based on the calendar year: 1 January 2011 – 31 December 2011. This difference in reporting periods reflects the unavoidable time delays between a death and the availability of relevant information such as post mortem results, major crash reports etc. By reporting on deaths in the previous calendar year the amount of missing data is minimised, resulting in a more comprehensive and informative account of deaths in a twelve month period. Reporting by calendar year is also consistent with the practices of the Australian Bureau of Statistics (ABS) and child death review teams in other States and Territories.

The Committee considered the two common ways of reporting on deaths – either through the date of registration of the death with the Registrar or the date of the child's death. It was decided that for ease of understanding, the date of death would be used as the marker for its inclusion in the data set for that year.

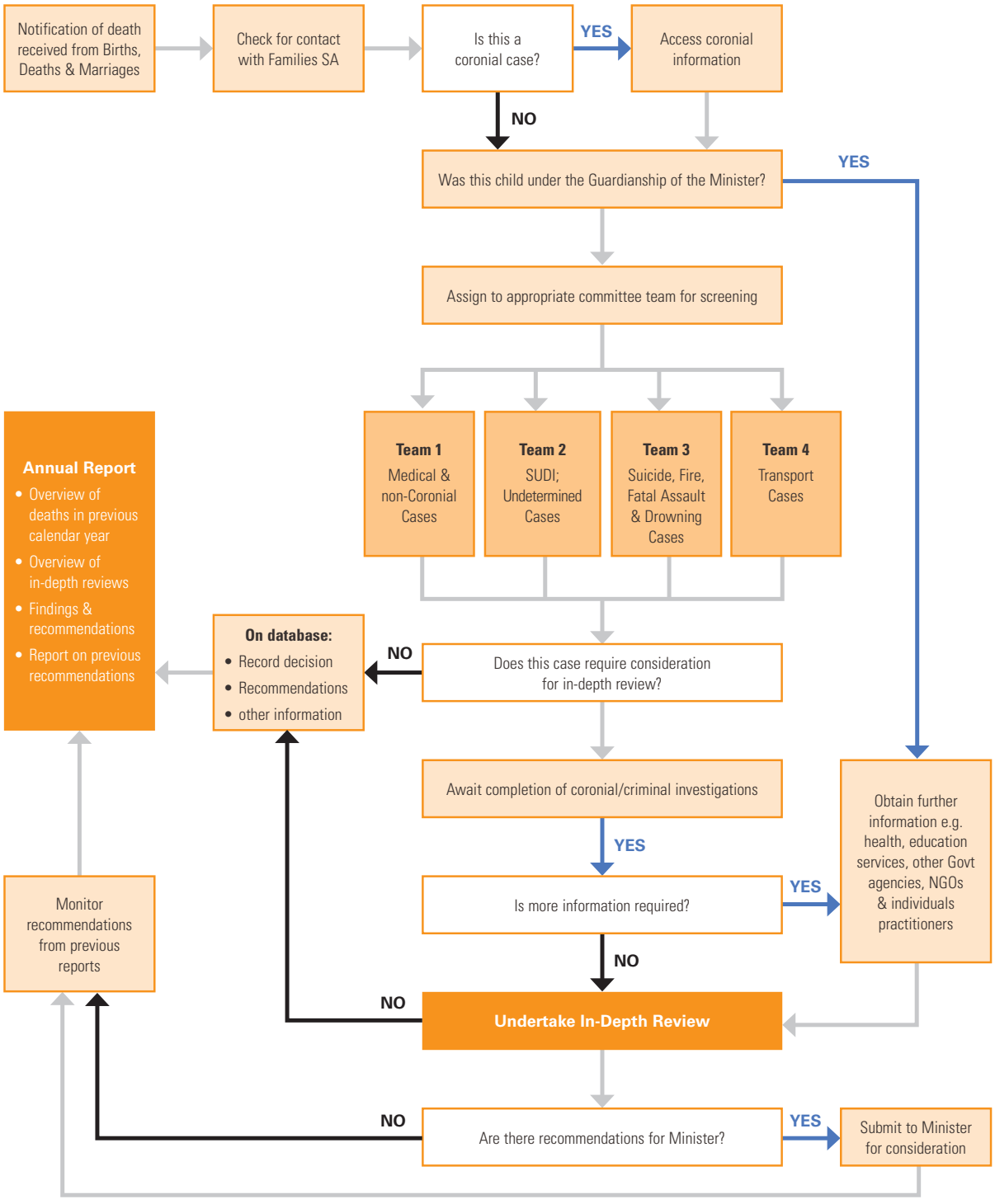
The number of deaths the Committee reports on each year is based on information received from the Office of Births, Deaths and Marriages. The Committee reports on the number of deaths each year that have been registered with the Office of Births, Deaths and Marriages. This figure includes infants whose deaths were registered with the Office notwithstanding that the length of gestation was less than 20 weeks and/or birth weight was less than 400grams.

## 4.2 Access to Information and the Process for Screening and Review of Deaths

This section provides details about the Committee's processes for obtaining, analysing and storing information; for screening deaths, and for classifying causes of death.

Diagram 1 indicates the key sources of information available to the Committee about the deaths of children in South Australia and illustrates the processes the Committee uses to screen and review this information.

## *Diagram 1: Committee's Screening and Reviewing Process*



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### 4.2.1 The Office of Births, Deaths and Marriages

The Committee currently has a protocol with the Office of Births, Deaths and Marriages for the release of information about the deaths of children and young people in South Australia. This information is provided to the Committee on a monthly basis.

### 4.2.2 The Office of the State Coroner

Under an arrangement with the Coroner, information is released to the Committee for each reportable death[37] of a child aged younger than 18 years of age.

### 4.2.3 Release of information from Government agencies

The Committee has protocols regarding release of information with the Department for Education and Child Development, which includes Families SA, and SA Health.

## 4.3 In-Depth Review Process

At any one time, deaths screened by the Committee will be assigned one of the following criteria:

- ***Not eligible for review*** – a case will be considered ineligible for review under s52S (2) of the *Act* – if the child was not normally resident in the State at the time of death or serious injury or the incident resulting in death or serious injury did not occur in the State; or
- ***Not for review*** – a case may not require in-depth review if the screening of information available at the time indicates that there are no systemic issues arising from the death that the Committee considers need to be addressed. These cases are assigned a category of death e.g. illness or disease, SUDI, transport, fatal assault etc and the details are kept on the Committee's database until required for inclusion in the relevant Annual Report; or
- ***Pending further information*** – in some cases the Committee requests further information prior to making a decision regarding in-depth review. The majority of cases awaiting further information are deaths attributed to illness or disease or health-system-related adverse events. The medical screening team maintains a high level of scrutiny regarding the circumstances of the deaths of children from these causes, especially where children have received health system services, have had complex conditions requiring a high level of care, or where there has been an interface between medical, welfare and other systems; or
- ***Pending completion of investigations*** – in accordance with Section 52S (4) of the *Act*, the Committee must ensure that its review processes will not compromise criminal or coronial investigations before it undertakes a review. Criminal investigations are considered to be concluded once any person involved in the death or serious injury of the child has been sentenced, or once South Australia Police have determined they have no further interest in the matter. Investigations conducted by the Coroner are considered to have ended when the Coroner has made a finding into the cause of death or a coronial inquiry has been completed; or

37 www.legislation.sa.gov.au/LZ/C/A/CORONERS%20ACT%202003/CURRENT/2003.33.UN.PDF
Deaths that are reportable to the Coroner are those indicated in Part 1 of the *Coroner's Act 2003*.

- ***Awaiting assignment*** – in any reporting year, there are also cases ready for review but awaiting assignment of a 'review team' to undertake the review.

The number of cases pending investigation or review gradually decrease in any year, as information is obtained, cases are finalised in the criminal and coronial systems, and the Committee makes a determination about further review and undertakes this review.

## 4.4 Reporting Requirements

Section 52W of the *Act* outlines the reporting responsibilities of the Committee. It requires the Committee to report periodically to the Minister for Families and Communities, and also to provide an annual report on the performance of its statutory functions during the preceding financial year.

The Committee submits a report to the Minister for Families and Communities at the conclusion of each in-depth review. This report provides details of the case that has been reviewed. It includes a synopsis of all relevant documents and records and the Committee's comments on the information contained in these documents. The report contains the Committee's recommendations about systemic issues that may contribute to the prevention of similar deaths or serious injuries.

## 4.5 The Committee's Classification of Cause of Death

In Section 1 *Child Deaths South Australia 2005–11* the Committee's classification of the cause of death has been used. In many cases, the Committee has multiple sources of information available about children (including health, welfare and education records) and is not limited to the causes of death recorded in post-mortem reports or death certificates. Accordingly, the Committee's classification for a particular death may vary from the ICD-10 classification (See Section 4.12 *ICD-10 Coding of Cause of Deaths* for an explanation of this coding). For example, deaths the Committee has attributed to suicide may have been coded using ICD-10 coding as 'intentional self-harm' (X60-X84), an 'event of undetermined intent' (Y10-Y34) or be included amongst deaths attributed to 'other accidental threats to breathing' (W75-W84). The impact of this group of deaths will be lost with the ICD-10 system of coding.

At the time of classifying a death, the Committee will consider all available information. However in some cases, further information may become available that may give rise to a change in the classification assigned to a particular death or group of deaths. Any changes will be noted as an addendum in the subsequent Annual Report. In addition, the Committee will continue to review its definitional guidelines in the light of available information.

The guidelines the Committee uses to classify deaths to external causes are described on the following pages.

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### 4.5.1 Transport deaths

Transport deaths include deaths arising from incidents involving a device used for, or designed to be used for moving people or goods from one place to another. These incidents may involve pedestrians and include railway or water transport. Incidents may occur on public roads or places other than a public road.

### 4.5.2 Accidents

Accidents exclude deaths attributed to transport incidents, fires or drowning. Also referred to as deaths from unintentional injuries, accidents most commonly include suffocation, strangulation and choking, falls and poisoning.

### 4.5.3 Suicide

In any report about suicide, the issue of definition is crucial. Most studies about suicide rates usually conclude that because of definitional issues, the rates of suicide in any community are under-reported. The focus of these definitional issues is often whether it can be clearly established under the law that the person intended to kill him or herself. The Committee classifies a death as suicide where the intent of the child or young person was clearly established. It also attributes a death to suicide if careful examination of coronial, police, health and education records indicated a probable intention to die.

### 4.5.4 Fatal assault

The Committee characterises a fatal assault as 'the death of a child from acts of violence perpetrated upon him or her by another person' (Lawrence, 2004; p 842).

### 4.5.5 Fatal neglect

The Committee defines fatal neglect as a death resulting from an act of omission by the child's carer(s) including:

- failure to provide for the child's basic needs,
- abandonment,
- inadequate supervision, and
- refusal or delay in provision of medical care.

This definition can account for both chronic neglect and single incidents of neglect, or a combination of both (NSW Child Death Review Team 2003; p 15). The Committee is mindful of the evidence which indicates that a child's level of development will strongly influence the impact that neglect can have (Lawrence & Irvine, 2004).

### 4.5.6 Health-system-related adverse events

These deaths have been classified as such by the Committee based on written records which may not necessarily be complete. The Committee places a death in this category based on consideration of preventable aspects in the circumstances of the death and a focus on future prevention strategies rather than an investigation of the cause of death.

### 4.5.7 Sudden Unexpected Death of Infants (SUDI) and Sudden Infant Death Syndrome (SIDS)

Sudden unexpected death in infancy (SUDI) has been described as an 'umbrella' term that is used for all sudden unexpected deaths of infants younger than one year of age.

#### *The definition of Sudden Unexpected Death in Infancy (SUDI)*

In December 2007 the Australian and New Zealand national meeting of child death review teams and committees agreed to work towards a common reporting framework that was based on the definition of SUDI proposed by Fleming et al. (2000). The agreed SUDI definition is infants from birth to 365 completed days of life whose deaths:

| | |
|---|---|
| Criterion 1 | Were unexpected and unexplained at autopsy; |
| Criterion 2 | Occurred in the course of an acute illness that was not recognised by carers and/or by health professionals as potentially life-threatening; |
| Criterion 3 | Arose from a pre-existing condition that had not been previously recognised by health professionals; or |
| Criterion 4 | Resulted from any form of accident, trauma or poisoning. |

#### *The definition of Sudden Infant Death Syndrome (SIDS)*

The criteria used to determine a death attributed to SIDS continues to be the San Diego definition proposed by Krous et al. (2004, see Table 19).

In this report, the sudden unexpected deaths of infants younger than one year will be reported in the following way:

- Criterion 1 deaths are recorded in Section 1.4 *Deaths due to SIDS and Undetermined Causes*.
- Criteria 2 and 3 deaths are noted in Section 1.3.2 *Death from Illness or Disease of Infants Younger than One Year*.
- Criterion 4 deaths are recorded in Section 1.5 *Deaths due to External Causes*. These deaths may have occurred as the result of various external causes including transport crashes, drowning and fatal assault, however the reader who is interested in identifying deaths that share common risk factors for unsafe sleeping environments should refer to Section 1.5.3 *Accidents*, where deaths from accidental suffocation and asphyxiation are considered.

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## *Table 21: Definition of sudden infant death syndrome*

### General Definition of SIDS

SIDS is defined as the sudden unexpected death of an infant <1 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.

### Category IA SIDS: Classic features of SIDS present and completely documented

Category IA included deaths that meet the requirements of the general definition and also all of the following requirements.

***Clinical***

- > 21 days and < 9 months of age;
- Normal clinical history including term pregnancy (gestational age > 37 weeks);
- Normal growth and development;
- No similar deaths among siblings, close genetic relatives (uncles, aunts or first degree cousins), or other infants in the custody of the same caregiver).

***Circumstances of Death***

- Investigations of the various scenes where incidents leading to death might have occurred and determination that they do not provide an explanation for the death;
- Found in a safe sleeping environment, with no evidence of accidental death.

***Autopsy***

- Absence of potentially fatal pathologic findings. Minor respiratory system inflammatory infiltrates are acceptable; intrathoracic petechial haemorrhage is a supportive but not obligatory or diagnostic finding;
- No evidence of unexplained trauma, abuse, neglect or unintentional injury;
- No evidence of substantial thymic stress effect (thymic weight < 15g and/ or moderate/severe cortical lymphocyte depletion). Occasional 'starry sky' macrophages or minor cortical depletion is acceptable;
- Negative results of toxicologic, microbiologic, radiologic, vitreous chemistry and metabolic screening studies.

### Category IB SIDS: Classic features of SIDS present but incompletely documented

Category IB includes infant deaths that met the requirements of the general definition and also meet all of the criteria for category IA except that investigation of the various scenes where incidents leading to death might have occurred was not performed and/ or >1 of the following analyses were not performed: toxicologic, microbiologic, radiologic, vitreous chemistry or metabolic screening studies.

### Category II SIDS

Category II includes infants that meet category I except for > 1 of the following.

***Clinical***

- Age range outside that of category IA or IB (i.e. 0-21 days or 270 days (9 months) through to first birthday);
- Similar deaths among siblings, close relatives or infants in the custody of the same caregiver that are not considered suspect for infanticide or recognised genetic disorders;
- Neonatal or perinatal conditions (e.g. those resulting from pre-term birth) that have resolved by the time of death.

***Circumstances of Death***

- Mechanical asphyxia or suffocation caused by overlaying not determined with certainty.

***Autopsy***

- Abnormal growth or development not thought to have contributed to death;
- Marked inflammatory changes or abnormalities not sufficient to be unequivocal cause of death.

### Unclassified sudden infant death

Includes deaths that do not meet the criteria for category I or II SIDS, but for which alternative diagnoses of natural or unnatural conditions are equivocal, including cases where autopsies were not performed.

### Post resuscitation cases

Infants found *in extremis* who are resuscitated and later die ('temporarily interrupted SIDS') may be included in the aforementioned categories, depending on the fulfilment of relevant criteria.

*Source: Krous, Beckwith, Byard et al. 2000*

## 4.6 Aboriginal and Torres Strait Islander Status

The information received from the Registrar has an Aboriginal or Torres Strait Islander indicator for each case. The Committee has determined that, in the absence of any other form of reliable indicator of Aboriginal status, this indicator will be used.

## 4.7 Usual Place of Residence

The information received from the Registrar indicates the 'last place of residence' for each case. This information is taken to indicate the child's usual place of residence for review and reporting purposes. The Committee acknowledges that this information may have been variously interpreted by the person giving the information and may not reflect a consistent definition of a person's usual residence.

The Committee will indicate the number of cases where the information from the Registrar shows that the child's last place of residence was outside South Australia. Where relevant, this information will be noted.

## 4.8 ARIA+ Index of Remoteness and Accessibility

ARIA stands for Accessibility/Remoteness Index of Australia. The ARIA methodology was developed by the Australian Government Department of Health and Aged Care in 1977. Minor changes have been made to this original methodology, resulting in the ARIA+ index of remoteness. This Index is a distance-based measure of remoteness (AIHW, 2004).[38]

It defines five categories of remoteness based on road distance to service centres: Major City, Inner and Outer Regional, Remote and Very Remote. The Very Remote category indicates very little accessibility of goods, services and opportunities for social interaction. ARIA+ Index is an indicator of the degree of geographic remoteness of an area and is a more accurate indicator of disadvantage than subjective labels such as 'rural' or 'country'.

## 4.9 SEIFA Index of Relative Socio-economic Disadvantage

The SEIFA (Socio-Economic Indexes for Areas) Index of Relative Socio-economic Disadvantage (IRSD)[39] draws on a variety of personal and household characteristics (available from the 2006 Census) to rank household and socioeconomic status. The IRSD is calculated to show the relativity of areas to the Australian average for the particular set of variables which comprise it. This average is set at 1000. Scores below 1000 indicate areas with relatively disadvantaged populations under this measure, and scores above 1000 indicate areas with relatively advantaged populations. In this report SEIFA IRSD scores are divided into five quintiles, with the least disadvantaged populations represented in quintile 1 and the most disadvantaged in quintile 5.

38 http://aihw.gov.au/publication-detail/?id=6442467589 AIHW (2004) *Rural, regional and remote health: a guide to remoteness classifications.* AIHW Cat no PHE 53, Canberra: AIHW. Last accessed October 20112.

39 www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001 *ABS SEIFA Indexes.* Last accessed October 2012.

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## 4.10 Storage and Analysis of Information

Information about the circumstances and causes of child deaths in South Australia are stored in a custom built Windows application, utilising the Microsoft NET 2.0 Framework and SQL Server 2005 database, designed for use in a Microsoft Windows environment.

## 4.11 Death Rates

Death rates have been calculated using ABS population projections (ABS, 2011). Children who died in South Australia but whose usual residence was outside of the State are included in all calculations except for the total number of deaths per year where death rates for only those children resident in the State at the time of death are included.

The death rates for Aboriginal children were calculated using the Estimated Resident population of Aboriginal children aged younger than 18 years for 2006 (12 212 Aboriginal children). This figure is based on the 2006 Census and has been adjusted by the Australian Bureau of Statistics to take into account the under reporting of Indigenous status.[40]

The Infant Mortality Rate (IMR) is calculated according to the deaths of children younger than one year old per 1000 live births in the same year. For the purpose of comparison in the tables in this report, the IMR is represented as the deaths of children younger than one year old per 100 000 live births in that year. The South Australian Maternal, Perinatal and Infant Mortality Committee provided data about live births. In 2011, there were 20, 194 live births in South Australia.

The rates of death for children whose families have had contact with Families SA are calculated by dividing the number of children dying whose families had contact with Families SA by the total population of children in SA. The Committee defines 'contact with Families SA' to be any contact in the three years prior to the child's death. It would be preferable to use the denominator 'all children whose family had had contact with Families SA' to calculate the death rate as this would enable a comparison of the rate of death for children whose family had had contact with Families SA and those who had not. However, this information about the number of children who had contact with Families SA from 2005–2011 is not readily available. The Secretariat will investigate the possibility of access to this information with Families SA in 2013. A prevalence rate only is presented in this report for the purposes of comparison over time of the death rates of children whose families have been in contact with Families SA.

The Poisson distribution was used to investigate whether there were trends in the number of deaths due to various causes. The Poisson distribution describes the occurrence of rare events. A p-value of less than 0.05 denoted a significant increasing or decreasing trend.

40 Advice received from Public Health Information and Development Unit, University of Adelaide, September 2010.

## 4.12 ICD-10 Coding for Cause of Death

Deaths have also been coded using the World Health Organization's (WHO) International Classification of Diseases (Version 10: ICD-10). Using this coding system, the underlying cause of death is considered the primary cause of death for classification. The primary cause of death is defined as '(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury'. The WHO has agreed that the most effective public health objective is to prevent the precipitating cause from operating and with this in mind have determined this coding convention.[41]

ICD-10 coding of deaths has been undertaken by the National Centre for Health Information Research and Training in Brisbane under a contractual arrangement and with the agreement of the Minister for Families and Communities, the Registrar, and the Coroner.

ICD-10 coding of causes of death for the years 2005–11 are reported in Section 4.13 *Deaths of Children by ICD-10 Chapter Description*.

## 4.13 Deaths of Children by ICD-10 Chapter Description

Table 20 details the ICD-10 causes of death from 2005–11. The totals for each cause and year represent the current information available from the CDSIRC database. Small changes to numbers for each cause and year occur from year to year. Coding of deaths may change as further information becomes available, for example from coronial inquests or findings that vary from the cause of death attributed at post mortem. The Committee bases its annual totals on the child's date of death. Occasionally, these figures will vary. For example in 2010 the Coroner held an inquiry to determine whether the Coroner's Court had jurisdiction to conduct an Inquest into the death of an infant. This death occurred in 2007. The Coroner determined that this infant was born alive and in 2011 conducted and completed an inquest into this and two other infant deaths that occurred in the context of homebirths.[42] Complete information about these deaths was only available following the inquest and has since been added to the database.

41 Extracted from ICD-10 Second Edition, 2005, 4. Rules and guidelines for mortality and morbidity coding.

42 Coronial inquest – Spence Tate-Koch *op. cit.* Last accessed October 2012.

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## *Table 22: Deaths of children by ICD-10 chapter, South Australia 2005–11**

| ICD-10 Chapter Description | Number of deaths per year | | | | | | | Total | Rate 2005–11[1] |
|---|---|---|---|---|---|---|---|---|---|
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | | |
| **Illness or Disease (Natural Causes)** | | | | | | | | | |
| Certain infections and parasitic diseases (A00-B99) | 3 | 1 | 1 | 1 | 5 | 3 | 2 | 16 | 0.7 |
| Neoplasms (C00-D48) | 8 | 10 | 7 | 12 | 7 | 3 | 10 | 57 | 2.3 |
| Endocrine, nutritional and metabolic diseases (E00-E90) | 5 | 1 | 2 | 3 | 4 | 2 | 6 | 23 | 0.9 |
| Diseases of the nervous system (G00-G99) | 5 | 11 | 8 | 4 | 11 | 12 | 6 | 57 | 2.3 |
| Diseases of the eye and adnexa (H00-H59) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0.04 |
| Diseases of the circulatory system (I00-I99) | 2 | 2 | 3 | 1 | 3 | 3 | 1 | 15 | 0.6 |
| Diseases of the respiratory system (J00-J99) | 3 | 2 | 0 | 3 | 2 | 6 | 1 | 17 | 0.7 |
| Diseases of the digestive system (K00-K93) | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 0.2 |
| Diseases of the musculoskeletal system and connective tissue (M00-M99) | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 4 | 0.2 |
| Certain conditions originating in the perinatal period (P00-P96) | 44 | 23 | 42 | 34 | 32 | 36 | 30 | 241 | 9.8 |
| Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99) | 20 | 25 | 19 | 27 | 26 | 15 | 18 | 150 | 6.1 |
| **Illness or Disease** | **93** | **77** | **83** | **86** | **91** | **80** | **75** | **585** | **23.8** |
| **SIDS and Undetermined Causes** | | | | | | | | | |
| Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99) | 6 | 9 | 11 | 7 | 11 | 13 | 8 | 65 | 2.6 |
| **External Causes** | | | | | | | | | |
| Transport-related (V01-V99) | 17 | 11 | 18 | 11 | 12 | 12 | 6 | 87 | 3.5 |
| Falls (W00-W19) | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 5 | 0.2 |
| Exposure to inanimate mechanical forces (W20-W49) | 1 | 1 | 3 | 1 | 1 | 0 | 0 | 7 | 0.3 |
| Accidental drowning and submersion (W65-W74) | 2 | 4 | 2 | 2 | 3 | 2 | 4 | 19 | 0.8 |
| Other accidental threats to breathing (W75-W84) | 6 | 7 | 4 | 3 | 2 | 3 | 3 | 28 | 1.1 |
| Exposure to smoke fire and flames (X00-X09) | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 0.2 |
| Accidental poisoning by exposure to noxious substance (X40-X49) | 0 | 1 | 1 | 2 | 1 | 0 | 2 | 7 | 0.3 |
| Accidental exposure to other unspecified factors (X58-X59) | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0.08 |
| Intentional self harm (X60-X84) | 1 | 2 | 0 | 2 | 4 | 4 | 1 | 14 | 0.6 |
| Assault (X85-Y09) | 3 | 6 | 0 | 4 | 4 | 1 | 1 | 19 | 0.8 |
| Event of undetermined intent (Y10-Y34) | 4 | 1 | 1 | 1 | 0 | 1 | 0 | 8 | 0.3 |
| Medical devices associated with adverse incidents (Y70-Y82) | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 0.1 |
| **External Causes – Total** | **36** | **34** | **31** | **27** | **28** | **26** | **21** | **203** | **8.3** |
| Cause not yet known | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | |
| **ALL DEATHS – TOTAL** | **135** | **120** | **125** | **120** | **130** | **119** | **107** | **856** | **34.9** |

1 Rates have been calculated per 100 000 children using ABS population estimates for children between 0–17 years. See Section 4.11.

**Source: Child Death and Serious Injury Review Committee database*

Between 1 January 2005 and 31 December 2011 856 children died. Approximately two-thirds of these deaths have been attributed to illness or disease, predominantly conditions occurring in the time between late pregnancy and the first weeks after birth. One quarter of deaths were attributed to external causes, predominantly transport related causes.

### 4.13.1 Causes of death by age

This section provides information about the causes of child deaths by age grouping.

#### *Children younger than 28 days*

In the period 2005–11, 38.2% of deaths were of children younger than 28 days old (284 deaths). The male to female ratio was 1.2:1. Twenty-one infants were Aboriginal.

The majority of deaths were from illness and disease. Two hundred and ten infants died from various conditions originating in the perinatal period – the time between late pregnancy and the weeks after birth. Ninety-two infants died from conditions associated with congenital or chromosomal abnormalities such as Down syndrome.

#### *Children aged 28 days – 1 year*

Children aged 28 days to one year accounted for 20.7% of the deaths in the period 2005–11 (177 deaths). The male to female ratio was 1.3:1. Twenty-six infants were Aboriginal.

The deaths of 28 infants were related to congenital or chromosomal abnormalities and 24 deaths were associated with conditions originating in the perinatal period. Fourteen infants died from diseases of the nervous system and 30 from external causes. Fifty-two infants died from undetermined causes.

#### *Children aged 1–4 years*

In 2005–11, 13.0% of children who died were between one and four years of age (111 deaths). The male to female ratio was 1.5:1. Seven children were Aboriginal.

Fifty-five children died from illness or disease with 16 deaths attributed to cancer, 14 to diseases of the nervous system and 10 to birth defects.

Fifty children died from external causes including twelve deaths attributed to some form of fatal assault and 13 from accidental causes including drowning.

#### *Children aged 5–9 years*

Fifty-six children (6.5%) who died in the period 2005–11 were aged between five and nine years. There were equal numbers of males and females. Four children were Aboriginal. Thirty-six children died from illness or disease and 18 from external causes.

#### *Children aged 10–14 years*

Fifty-eight deaths in the period 2005–11 (6.8%) occurred in children aged between ten and 14 years. Eight children were Aboriginal. Deaths from illness or disease included nervous system diseases such as epilepsy and cancer. Twenty-two deaths were attributed to external causes such as transport crashes and fatal assault.

#### *Children aged 15–17 years*

One hundred and twenty-seven deaths (14.8%) in the period 2005–11, were of children aged between 15–17 years, with the majority of deaths due to external causes. There was a male to female ratio of 2.3:1 and 17 children were Aboriginal. Forty-nine young people died in transport crashes with The deaths of 24 young people were attributed to suicide. The causes of the 38 deaths attributed to illness of disease included cancer and respiratory system disease such as asthma.

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*Table 23: Deaths of children, cause of death and sex from 0–4 years, South Australia 2005–11[1]**

| | Female | Male | Total |
|---|---|---|---|
| **Children <28 days** | | | |
| Certain conditions originating in the perinatal period | 87 | 123 | 210 |
| Congenital malformations, deformations and chromosomal abnormalities | 50 | 42 | 92 |
| Other Illness or Disease | 5 | 5 | 10 |
| **ILLNESS or DISEASE – Total** | **142** | **170** | **312** |
| **SIDS & UNDETERMINED – Total** | **3** | **4** | **7** |
| **EXTERNAL – Total** | **4** | **3** | **7** |
| Cause not yet known | 0 | 1 | 1 |
| **TOTAL** | **149** | **178** | **327** |
| **Children 28 days – 1 year** | | | |
| Congenital malformations, deformations and chromosomal abnormalities | 16 | 12 | 28 |
| Certain conditions originating in the perinatal period | 7 | 17 | 24 |
| Diseases of the nervous system | 6 | 8 | 14 |
| Certain Infectious and parasitic diseases | 3 | 7 | 10 |
| Diseases of the circulatory system | 3 | 3 | 6 |
| Diseases of the respiratory system | 2 | 3 | 5 |
| Other Illness or Disease | 4 | 3 | 7 |
| **ILLNESS or DISEASE – Total** | **41** | **53** | **94** |
| **SIDS & UNDETERMINED – Total** | **20** | **32** | **52** |
| Transport | 2 | 1 | 3 |
| Accidents | 7 | 7 | 14 |
| Fatal Assault | 3 | 5 | 8 |
| Other External Cause | 3 | 2 | 5 |
| **EXTERNAL – Total** | **15** | **15** | **30** |
| Cause not yet known | 0 | 1 | 1 |
| **TOTAL** | **76** | **101** | **177** |
| **Children 1–4 years** | | | |
| Cancer | 8 | 8 | 16 |
| Endocrine, nutritional and metabolic diseases | 3 | 3 | 6 |
| Diseases of the nervous system | 3 | 11 | 14 |
| Congenital malformations, deformations and chromosomal abnormalities | 4 | 6 | 10 |
| Other Illness or Disease | 3 | 6 | 9 |
| **ILLNESS or DISEASE – Total** | **21** | **34** | **55** |
| **UNDETERMINED – Total** | **4** | **2** | **6** |
| Transport | 2 | 9 | 11 |
| Drowning | 8 | 5 | 13 |
| Accidents | 2 | 4 | 6 |
| Fatal Assault | 3 | 9 | 12 |
| Other External Cause | 4 | 4 | 8 |
| **EXTERNAL – Total** | **19** | **31** | **50** |
| **TOTAL** | **44** | **67** | **111** |

1 Based on ICD-10 codes

**Source: Child Death and Serious Injury Review Committee database.*

## *Table 24: Deaths of children, cause of death and sex from 5–17 years, South Australia 2005–11[1]**

| | Female | Male | Total |
|---|---|---|---|
| **Children 5–9 years** | | | |
| Cancer | 10 | 6 | 16 |
| Diseases of the nervous system | 4 | 4 | 8 |
| Congenital malformations, deformations and chromosomal abnormalities | 3 | 3 | 6 |
| Other Illness or Disease | 3 | 3 | 6 |
| **ILLNESS or DISEASE – Total** | **20** | **16** | **36** |
| **UNDETERMINED – Total** | **1** | **1** | **2** |
| Transport | 5 | 4 | 9 |
| Other External Cause | 2 | 7 | 9 |
| **EXTERNAL – Total** | **7** | **11** | **18** |
| **TOTAL** | **28** | **28** | **56** |
| **Children 10–14 years** | | | |
| Cancer | 4 | 7 | 11 |
| Diseases of the nervous system | 5 | 4 | 9 |
| Other Illness or Disease | 8 | 8 | 16 |
| **ILLNESS or DISEASE – Total** | **17** | **19** | **36** |
| Transport | 6 | 4 | 10 |
| Other External Cause | 7 | 5 | 12 |
| **EXTERNAL – Total** | **13** | **9** | **22** |
| **TOTAL** | **30** | **28** | **58** |
| **Children 15–17 years** | | | |
| Cancer | 4 | 8 | 12 |
| Diseases of the nervous system | 2 | 4 | 6 |
| Congenital malformations, deformations and chromosomal abnormalities | 2 | 3 | 5 |
| Other Illness or Disease | 4 | 11 | 15 |
| **ILLNESS or DISEASE – Total** | **12** | **26** | **38** |
| **UNDETERMINED – Total** | **0** | **1** | **1** |
| Transport | 16 | 33 | 49 |
| Suicide | 8 | 16 | 24 |
| Other External Cause | 3 | 12 | 15 |
| **EXTERNAL – Total** | **27** | **61** | **88** |
| **TOTAL** | **39** | **88** | **127** |

1 Based on ICD-10 codes

**Source: Child Death and Serious Injury Review Committee database.*

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## 4.14 Trends in Child Death

Death rates for the individual years of the seven year reporting period are shown in Table 22. The rates are given for all of the major categories of death and for vulnerable groups of children.

*Table 25: Trends in death rates[1] of children, South Australia 2005–11**

| Year | All[2] | Res[3] | IMR[4] | I&D[5] | SID & Undet[6] | Ext[7] | FSA[8] | ATSI[9] |
|---|---|---|---|---|---|---|---|---|
| **2005–2011** | **34.9** | **32.8** | **3.7** | **23.2** | **2.8** | **8.8** | **8.8** | **97.1** |
| 2005 | 38.7 | 34.9 | 4.6 | 25.2 | 1.7 | 11.7 | 8.9 | 139.2 |
| 2006 | 34.3 | 31.7 | 3.4 | 19.7 | 2.6 | 12.0 | 8.9 | 90.1 |
| 2007 | 35.7 | 33.7 | 4.1 | 23.4 | 3.1 | 9.3 | 8.3 | 106.5 |
| 2008 | 34.1 | 31.6 | 3.6 | 24.5 | 2.3 | 7.4 | 7.4 | 90.1 |
| 2009 | 37.0 | 35.5 | 3.6 | 25.3 | 3.4 | 8.2 | 9.7 | 90.1 |
| 2010 | 33.8 | 33.2 | 3.7 | 22.7 | 4.0 | 7.1 | 8.8 | 65.5 |
| 2011 | 30.4 | 29.0 | 2.9 | 21.9 | 2.3 | 5.7 | 9.7 | 98.3 |
| **p value** | **0.17** | **0.47** | **0.14** | **0.93** | **0.30** | **0.001** | **0.63** | **0.21** |

1 Rates have been calculated per 100 000 children using ABS population estimates for children between 0–17 years with the exception of the Infant Mortality Rate which is calculated per 1000 live births. See Section 4.11

2 All children who died in South Australia

3 Only children resident in South Australia at the time of their death

4 Infant Mortality Rate – per 1000 live births

5 Deaths attributed to illness or disease

6 Death attributed to SIDS or undetermined causes

7 Death attributed to external causes including fatal assault and suicide and non-intentional deaths resulting from transport crashes, drowning and various kinds of accidents such as falls, poisoning and suffocation. This category of death also includes deaths from health-system-related adverse events.

8 Children or their families who had contact with Families SA in the three years prior to their death

9 Aboriginal children

**Source: Child Death and Serious Injury Review Committee database*

Over the seven year reporting period, death rates for all children, resident children and infants under one year of age have decreased by a small percentage (1–2%). The rate of death for Aboriginal children has also decreased.

The death rate for deaths from external causes has shown a significant decrease (11%) in the seven year reporting period. This decrease needs to be considered alongside the 6% increase in deaths from SIDS and undetermined causes, because of the observed decrease in the number of infant deaths attributed to accidental causes from 2007 onwards and the increase in the infant deaths attributed to undetermined causes. When both external and SIDS and undetermined causes of death are combined, the significance of the decrease reduces to 9%. The death rate for transport incidents shows an 8% decrease on average per year (p=0.14) which will also contribute to the decrease in deaths from external causes over the years 2005 to 2011.

The death rate for children whose families had had contact with Families SA in the previous three years has increased by a small percentage (2%).

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