

CHILD DEATH & SERIOUS INJURY
REVIEW COMMITTEE
ANNUAL REPORT 2012–13



Government
of South Australia

LETTER OF TRANSMISSION

Hon Jennifer Rankine MP
Minister for Education and Child Development

Dear Minister

I submit to you for presentation to Parliament the 2012–13 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 2012–13.

Yours faithfully



Dymphna Eszenyi

Chair

Child Death and Serious Injury Review Committee

31 October 2013

CHAIR'S FOREWORD

I am pleased to present the Committee's eighth Annual Report to Parliament under Part 7C of the *Children's Protection Act 1993*.

This report covers the Committee's reviews into all deaths of children in South Australia between 1 January 2012 and 31 December 2012 and provides a summary of child deaths over eight years, commencing in 2005. Again this year, it is pleasing to see a small decrease in the rate of child deaths in South Australia.

In contrast with previous years where the Committee has reported on four or five in-depth reviews, in 2012–13 the Committee completed only one in-depth review. This review concerned the case of six seriously injured children referred to the Committee in 2008 by the then Minister for Families and Communities. By the time criminal prosecution processes surrounding this case were completed allowing the Committee's review process to commence, the Committee had already, in a number of unrelated in-depth reviews, made recommendations for improvements to systems which responded to concerns similar to the concerns raised in the case of these six seriously injured children.

This review of six seriously injured children consumed a great deal of the Committee's resources, especially the voluntary time of Committee members. It required the analysis of a huge volume of documentation. This documentation included all that could be gathered, using the Committee's powers under *the Act*, in South Australia from before the children's presence and plight were uncovered until a year after that date. It became apparent from that documentation that these six children were virtually unknown to agencies in South Australia. The Committee accordingly broadened the scope of its review to include all documentation that could be found relating to the household in which the six children lived when they came to South Australia.

The information received in that documentation related to the circumstances of the six seriously injured children and a number of other children residing in the same household. That information was, and remains, confidential.

The Committee crafted a series of recommendations designed to improve Government systems so that the possibility of children being held out of public view is reduced. Many of the recommendations are designed to ensure that agencies such as Families SA, Housing SA and also individual practitioners are able to identify and assist children before they are harmed. Other recommendations are designed to assist in the delivery of swift and effective responses for children who are harmed or at risk of harm.

In previous years the Committee's reviews have highlighted service provision issues for children with disability. This Annual Report includes a Special Report on the deaths of children with disability. I think that this work will give the Committee a greater understanding of the issues that are of most concern in the provision of services to this most vulnerable group of children and their families.

On behalf of the Committee I extend my condolences to the families and friends who have experienced the death of a child and to the communities and professionals who cared for them.

I would like to thank my colleagues on the Committee for the attention, care and expertise that each of them brought to the Committee's deliberations and I also thank the Committee's hard-working Secretariat.

As a community we seek to care for all our children and to keep them safe. I share the Committee's hope that this Report will assist those who work with and for children in their efforts to keep them safe from harm.

Dymphna Eszenyi

Chair

Child Death and Serious Injury Review Committee

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GLOSSARY

ABS	Australian Bureau of Statistics
Act	<i>Children's Protection Act 1993</i>
AIHW	Australian Institute of Health and Welfare
ARIA+	Index of Remoteness and Accessibility, Australia
ATSI	Aboriginal and Torres Strait islander
CDSIRC	Child Death and Serious Injury Review Committee
Children	In this report 'children' includes infants, children and young people from birth up to 18 years
Coroner	State Coroner SA
DCSI	Department of Communities and Social Inclusion
DECD	Department of Education and Child Development
DPTI	Department of Transport, Planning and Infrastructure
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
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:

- Australian and New Zealand Child Death Review and Prevention Group (ANZCDR&PG), representatives attending ANZCDR&PG meetings who share insights gained from their own jurisdictions and especially the Victorian Council on Obstetric and Paediatric Mortality and Morbidity who currently chair ANZCDR&PG meetings
- Department for Communities and Social Inclusion who continue to provide statistical advice, library services, and technical advice and support for the Committee's database, and assistance with records management
- Kidsafe SA
- National Centre for Health Information Research and Training, Brisbane, especially Ms Sue Walker, Director
- Office of Births, Deaths and Marriages
- SA Health Epidemiology, Systems Performance Division
- SA Health Safe Sleeping Advisory Committee and Maternal, Perinatal and Infant Mortality Committee
- SIDS and Kids SA
- State Coroner, Mr Mark Johns and staff
- Women's and Children's Health Network Records Management team
- Chief Executives and Senior Officers from the Department of Education and Child Development, the Department for Communities and Social Inclusion, SA Health and SA Police for contributing to the Committee's understanding of service delivery in their departments

COMMITTEE MEMBERS

Chair

Ms Dymphna (Deej) Eszenyi

Membership 2012–13

Professor Roger Byard AO

Ms Angela Davis

Ms Dianne Gursansky

Ms Janine Harvey

until 14 December 2012

Dr Diana Hetzel

Mr Barry Jennings QC

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from 9 August 2012

Mr Tom Osborn APM

Ms Michelle Hasani

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Ms Melanie Kydd

EXECUTIVE SUMMARY

This is the eighth 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 death and serious injury to children and makes recommendations to Government for changes to legislation, policies and procedures that may help prevent similar deaths or serious injuries.

Activities

The Committee met ten times during 2012–13. The Committee has actively sought to improve its procedures and knowledge base, support its partners and build its profile. At a planning meeting in December 2012 it identified priorities for work including a focus on the deaths of children with disability and better ways to identify cases for review. Statistical information about deaths in South Australia has been provided to child death review teams in other States and Territories. The Chair and members have contributed to national meetings and conferences and partnerships with key stakeholders in South Australia have been strengthened.

Throughout 2012–13 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 features the work that has been done to identify and analyse the deaths of children with disability. It contains information about the deaths of children in South Australia from 1 January 2012 to 31 December 2012. This report also sets out summaries of information now available for the eight year period from 2005 until 2012.

The Committee completed one in-depth review about six children with serious injuries in the 2012–13 reporting period. It also completed a preliminary analysis of 11 deaths attributed to suicide.

Special Report: Deaths of children with disability 2005–12

Identifying and analysing information about the deaths of children with disability was a focus of the Committee's work in 2012–13. Using guidelines for identifying disability developed specifically for this purpose, 137 deaths of children with disability aged 1–17 years were identified. These deaths comprise just over one-third (34.7%) of the total number of deaths of children 1–17 years old who died between 2005 and 2012. A more detailed analysis of these deaths showed that the main types of disability associated with the deaths of these 137 children were neurodegenerative disease, genetic disorders and birth defects, malignant forms of cancer, epilepsy and cerebral palsy. Higher death rates were found for Aboriginal children with disability and for children with disability living in the State's most disadvantaged areas.

Child Deaths in South Australia 2005–12

The death rate for children who died in South Australia for the eight year period between 2005 and 2012 was 34.2 deaths per 100 000 children. In this eight 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 occurring in 2012 (29.9 deaths per 100 000 children).

The Committee is now monitoring trends in deaths across time. In the eight 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 2012 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. The infant mortality rate was 3.6 infant deaths per 1000 livebirths.

In this eight year period, Aboriginal children were three times more likely to die than non-Aboriginal children, with a death rate of 96.9 deaths per 100 000 Aboriginal children compared to a death rate for non-Aboriginal children of 31.9 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, reflecting 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 (44.3 deaths per 100 000 children) compared to the death rate for children in the State's least disadvantaged areas (23.1 deaths per 100 000 children), and in the death rate for children living in remote and very remote areas of the State (52.7 deaths per 100 000) compared to the rate for children in major city areas (30.2 deaths per 100 000).

Over the period 2005 to 2012, 648 of the 962 deaths (67.4%) were attributed to illness or disease (23.1 deaths per 100 000 children). After setting aside deaths from illness or disease, more children died in transport incidents than in any other circumstances in the eight year period (3.3 deaths per 100 000 children, 93 deaths). Sixty-eight infants younger than one year of age died from SIDS (10 deaths) or undetermined causes (58 deaths). The death rate for Sudden Infant Death Syndrome (SIDS) was 6.4 deaths per 100 000 live births and the death rate for infants younger than one year whose cause of death was undetermined was 37.1 deaths per 100 000 live births.

Over this eight year period there has been a decrease in the number of deaths attributed to external causes with the highest rate recorded in 2006 (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 incidents, accidents of various kinds, deliberate acts that result in the death of a child, neglect and suicide.

EXECUTIVE SUMMARY

Child Deaths in 2012

In 2012 alone, the majority of the 106 deaths were from illness and disease which primarily occurred in infants under one year of age (53.8% deaths). Only three infants younger than one year died from SIDS or an undetermined cause. Twenty-one deaths were attributed to external causes with nine of these deaths occurring in transport incidents. Of these 21 deaths, over half (61.9%) were young people aged 10–17 years; six occurred in transport incidents, four from suicide and three from other external causes.

In-depth Reviews and Analysis

The Committee's review of six seriously injured children raised issues about service provision and a child's cultural background, how the child protection and education systems identify and respond to indicators of neglect and the importance of interagency collaboration and information sharing, especially where there are indicators that a child is being neglected. The Government's capacity to provide emergency and long-term plans for children who have suffered significant trauma was also addressed in the recommendations the Committee made about the case of six seriously injured children.

A preliminary analysis of suicide and young people was completed. It is the first stage in a three stage review that aims to provide recommendations about prevention and intervention based on the analysis of young people's 'life charts.'

Contributions to Systemic Change

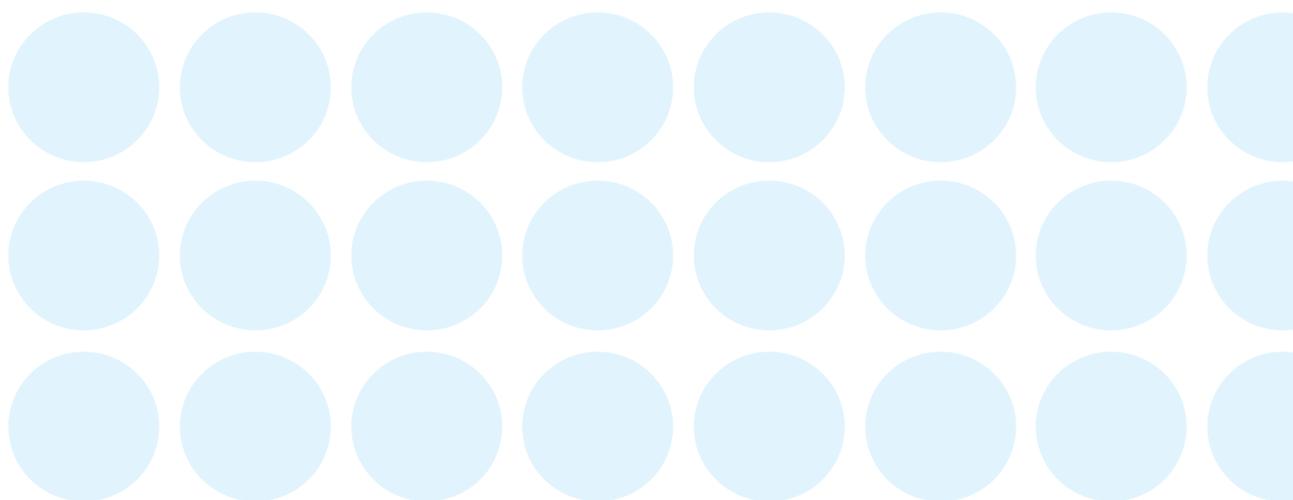
The Committee has sought to monitor, promote and support systemic changes to improve outcomes for children and young people based on its recommendations from reviews in previous years and those made in the current reporting period.

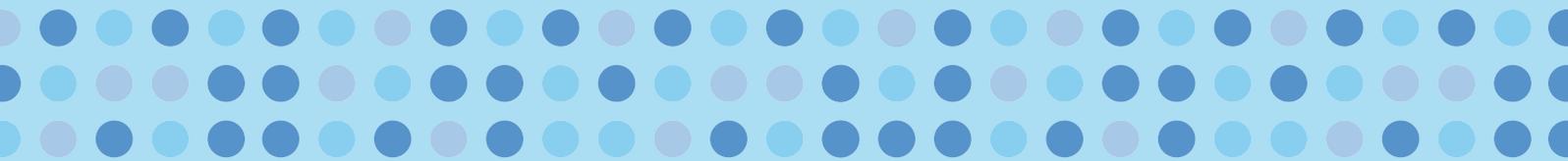
For vulnerable infants this has included progress being made towards identifying and supporting vulnerable families, broadening the reach of the Aboriginal birthing program and the safety of home birthing. Maintaining agency and community awareness about infant safe sleeping, including product safety, also fell within the scope of monitoring activities in this reporting year.

The Committee has considered and commented on major legislative, policy and program reforms occurring in 2012–13 which will have both short and long term impacts on the provision of services to children and their families. It has also continued to monitor and comment on issues affecting the safety of children, including swimming pool legislation and quad bike safety.

The Committee's views about the negative impact that chronic school non-attendance can have on a child's health and wellbeing are set out in the discussion of issues arising from its review of six seriously injured children. Recommendations were made about this issue and progress with the implementation of these recommendations will be monitored.

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





SPECIAL REPORT

DEATHS OF CHILDREN WITH DISABILITY 2005–2012

'Poverty is both a cause and a consequence of disability. Correlates of poverty, such as inadequate medical care and unsafe environments, significantly contribute to the incidence and impact of disability, and complicate efforts for prevention and response. By the same measure, many of the factors contributing to high levels of impairment among children are potentially preventable, thus offering the opportunity to reduce the levels of disability as well as of poverty.'

Promoting the Rights of Children with Disabilities, UNICEF Innocenti Digest No 13

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EXECUTIVE SUMMARY

This Special Report focuses on the deaths of children with disability.

The national and international literature about children with disability was reviewed, a practical definition for disability was developed and a target age group was identified.

This Special Report provides information about children with disability from 1–17 years of age whose deaths occurred between 2005 and 2012. In summary:

- 137 or 34.7% of the total number of children who died between 2005 and 2012 can be described as having a disability that impacted on their daily living in the six months prior to their death.
- Aboriginal children with disability are more likely to die in childhood than non-Aboriginal children with disability.
- The death rate for children with disability is much higher in areas of socioeconomic disadvantage than in less disadvantaged areas.
- The causes of death for children with disability were most commonly identified as being some form of illness or disease, such as breathing difficulties, illnesses associated with cancer and cardiac problems. Other causes of death for children with disability included drowning, ventriculoperitoneal (VP) shunt malfunctions and suicide.
- Extremely small numbers of children with disability died in remote and very remote areas of the State.

This information will assist the Committee to identify and explore further systemic issues relating to the care and management of children with disability and to develop a better understanding about the services and

supports needed for these children. With the establishment of a Disability Register, the Committee is better placed to monitor the impact that the introduction of DisabilityCare Australia has on the provision of services and supports to children with disability and their families.

1.1 Background

In its 2011–12 Annual Report, the Committee noted some of the challenges likely to affect the provision of disability services to children and their families in South Australia. These challenges have been identified across several of the Committee's in-depth reviews into deaths of children with disability.

The Committee's reviews have shown that families caring for a child with disability face significant challenges in accessing services and support and that children with disability die in circumstances related to their disability. Some disabilities are degenerative and will result in the child's early death; other disabilities cause children to have fragile health placing them at higher risk of death. In other cases reviewed by the Committee there was insufficient support given to families to provide adequate levels of care, especially when children had complex behavioural issues with consequent high care needs.

In light of these issues, and given that South Australia is a launch site for the National Disability Insurance Scheme (DisabilityCare Australia) for children aged 0–14 years, it was timely that the Committee focus on the deaths of children with disability.

The priority for the Committee in this reporting period was to establish a Disability Register (the Register). In order to do this, the Committee sought to establish a practical definition for disability and to identify a target age group on which to focus. Subsequent tasks identified as integral to this project included:

- Generating a demographic snapshot of the deaths of children with disability, who died in South Australia between 2005 and 2012,
- Identifying any systemic issues relating to the care and management of children with disability,
- Developing an increased understanding about how the care and management of these children may impact the service system, and
- Identifying relevant future areas of focus for the Committee.

The steps taken to achieve these tasks included:

- Reviewing the national and international literature about the deaths of children with disability,
- Investigating, analysing and reviewing the information on the Child Death and Serious Injury Review Committee's database to establish the rules to identify cases needing to be included on the Register,
- Identifying the types of disability that resulted in cases being included, and
- Identifying the causes of death for these children.

After completing these tasks, a practical definition for disability was established. It enabled clear decisions to be made about which cases from the database needed to be included on the Disability Register. The definition for disability used was:

1. The child was over one year of age at the time of its death,
2. The child's daily activities were limited because of their disability, illness, disease or health problem, and
3. The child's daily activities were adversely affected for a period of six months or more.

The decision not to include infants younger than one year was made because it became apparent that there were a unique set of challenges

associated with identifying disability in children under the age of one and that a definition specifically tailored to this cohort of children needed to be established before any relevant conclusions could be drawn about the deaths of these very young children. As a result, this Report focuses on the deaths of children with disability, aged 1–17 years, who died in South Australia between 2005 and 2012.

Where the length of time during which the child's daily activities were adversely affected was unknown (assumed to be the time between diagnosis and death), the case was not included on the Register.

Cases where the child had a chronic health issue (ie asthma, epilepsy, diabetes etc) were only included on the Register if other disabilities were present or if the child's daily activities would have been adversely affected for a period of six months or more due to the frequency and severity of the health issue. Furthermore, cases were only included if, despite effective treatment, the child still suffered as a result of their chronic health issue.

In a number of cases, decisions about inclusion on the Register, types of disability and causes of death were limited by the quality of information available.¹

1.2 Deaths of Children with Disability 2005–2012

In the eight year period between 2005 and 2012, 137 children with disability aged 1–17 years, died in South Australia. These 137 deaths comprise just over one-third (34.7%) of the total number of deaths of children aged 1–17 years on the Committee's database. The death rate for these children was 5.1 deaths per 100 000 children aged 1–17 years of age. For the period between 2005 and 2012 the death rate for all children with disability aged 1–17 years in South Australia shows a 3% increase on average, per year ($p = 0.38$).

¹ The information ranged from a single statement about the cause of death, obtained from the Death Certificate, through to comprehensive information about the circumstances and causes of death obtained from coronial, health and other records. See Section 1.6.6

Table SR1 provides demographic information about these deaths. Section 1.6 provides information about the methodology used to identify these deaths.

*Table SR1: Demographics of deaths of children with disability aged 1–17 years, South Australia 2005–12**

	2012	2005–12	RATE ¹ per 100 000 2005–12
TOTAL	12	137	5.1
Sex			
Female	7	58	4.5
Male	5	79	5.8
Age Group			
1–4 years	2	46	7.7
5–9 years	5	37	4.9
10–14 years	3	32	4.0
15–17 years	2	22	4.4
Cultural Background			
Aboriginal	1	12	12.7
Contact with Families SA²			
Families SA	1	41	
Usual Residence			
Outside SA	0	6	
Socioeconomic Background (SEIFA IRSD)³			
Most disadvantaged SEIFA 5	2	31	5.3
SEIFA 4	0	34	6.2
SEIFA 3	6	29	5.8
SEIFA 2	2	19	3.6
Least disadvantaged SEIFA 1	2	18	3.3
Remoteness (ARIA+)³			
Major City	6	84	4.3
Inner Regional	3	23	6.7
Outer Regional	2	22	6.4
Remote and Very Remote	1	2	1.8

¹ Rates have been calculated using ABS population estimates for children between 1–17 years. See Section 4.11 of the Annual Report 2012–13.

² Death rates for Families SA are not included, see Section 4.11 of the Annual Report 2012–13.

³ South Australian residents only included. Rates have been calculated using 0–17 year ABS population estimates and as such can only be used to compare rates within SEIFA and ARIA categories.

*Source: Child Death and Serious Injury Review Committee database

Key points from this demographic information:

- The death rate of children with disability was 5.1 deaths per 100 000 children for the eight year period between 2005 and 2012. For the period between 2005 and 2012 the death rate for all children with disability aged 1–17 years in South Australia shows a 3% increase on average, per year ($p = 0.38$).
- Over the eight year period, male children with disability had a higher rate of death than female children with disability.
- Children with disability aged 1–4 years had the highest rate of death (7.7 deaths per 100 000) and children with disability aged 10–14 years had the lowest rate of death (4.0 deaths per 100 000 children).
- Nearly one third (29.9%) of children with disability aged 1–17 years had had contact with the child protection system in the three years before their death.
- Aboriginal children with disability aged 1–17 years were 2.6 times more likely to die than non-Aboriginal children (12.7 deaths per 100 000 Aboriginal children, 4.9 deaths per 100 000 non-Aboriginal children).
- Children with disability who lived in areas of greatest disadvantage (SEIFA 5) had a higher rate of death (5.3 deaths per 100 000) than those who lived in areas of least disadvantage (SEIFA 1) (3.3 deaths per 100 000).
- Living in a regional area was associated with a higher rate of death for children with disability (6.7 and 6.4 per 100 000 deaths for inner and outer regional areas, respectively) compared to those living in a major city area (4.3 per 100 000 deaths). Very few children aged 1–17 years died in remote or very remote areas (1.8 per 100 000 deaths).

1.3 Deaths of Children with Disability and Disability Type

The broad categories of disabilities for the 137 children aged 1–17 years who died between 2005 and 2012 are provided in Table SR2. Some children had multiple types of disability, for example cerebral palsy and epilepsy. Multiple disability diagnoses were recorded for each child when they were identified.

Table SR2: Deaths of children with disability and disability type, South Australia 2005–12*

Disability Type ²	2012	2005–2012	RATE ¹ per 100 000 2005–12
Neurodegenerative disease, genetic disorders and birth defects	2	56	2.1
Cerebral palsy	2	25	0.9
Epilepsy	3	28	1.1
Heart and circulatory problems	2	13	0.5
Cancer	5	38	1.4
Intellectual disability	1	5	0.2
Other disability types	1	13	0.5

¹ Rates have been calculated using ABS population estimates for children between 1–17 years. See Section 4.11 of the Annual Report 2012–13.

² Children with multiple disabilities have been included in all relevant categories.

*Source: Child Death and Serious Injury Review Committee database

Children aged 1–17 years whose disability was associated with a neurodegenerative disease, genetic disorder or birth defect had the highest rate of death in the eight year period between 2005 and 2012 (2.1 deaths per 100 00 children).

A description of each disability type and its prevalence in the deaths of children with disability is provided in the following sections of the Report.

1.3.1 Neurodegenerative diseases, genetic disorders and birth defects

This category included all instances of neurodegenerative diseases, genetic disorders and birth defects, including in-born errors of metabolism where the child's health deteriorates over time.

Children with many of these conditions are likely to die as a result of their disease and they require significant care as their condition progresses.

Fifty-six of the 137 children on the Disability Register were assigned to this category. Less than ten children had chromosomal abnormalities of some kind, including Down syndrome, Wolf-Hirschorn syndrome, Jacobsen syndrome and Goldenhar syndrome. Two children included in this category had Autism Spectrum Disorder.

For the period between 2005 and 2012, the death rate for children aged 1–17 years with neurodegenerative diseases, genetic disorders or birth defects in South Australia showed a 2% decrease, on average, per year ($p=0.68$).

1.3.2 Cerebral palsy

This category included all cases of cerebral palsy, which is a term used to describe a group of non-progressive motor function disorders that arise because of damage to, or dysfunction of, the developing brain.² This permanent

condition can affect body movement, muscle control, muscle coordination, muscle tone, reflex, posture and balance. It may also cause visual, learning, hearing, speech and intellectual impairments, as well as epilepsy.³

Twenty-five of the 137 children included on the Register had been diagnosed with cerebral palsy. For the period between 2005 and 2012, the death rate for children aged 1–17 years with cerebral palsy in South Australia showed a 17% increase, on average, per year ($p=0.08$).

The South Australian Cerebral Palsy Register contains further information about the prevalence of cerebral palsy in South Australia.⁴ It notes the strong association between premature birth and cerebral palsy (69.4 cases per 1000 live births compared to 1.1 cases per 1000 live births at ≥ 37 weeks gestation) and the association between cerebral palsy and impaired intellectual disability (32.5%) and with epilepsy (27%).

1.3.3 Epilepsy

Using the guidelines developed to identify disability, this category only included cases where the frequency and severity of the child's epilepsy would have adversely affected their daily activities for a period of six months or more (7 children), or the child with epilepsy had associated disability (21 children).

Epilepsy is a common disorder that is characterised by recurring seizures or sudden, uncontrolled surges in the normal electrical activity in all, or part, of the brain. While the Epilepsy Centre⁵ notes that epilepsy can mostly be controlled by taking medication and restricting daily living activities, epilepsy can be associated with sudden unexpected death.⁶

2 Collins, K.A. and Byard, R.W. (eds.), (2013) *Forensic pathology of Infancy and Childhood*, Springer Science+Business Media New York and Cerebral Palsy Australia (<http://www.cpastralia.com.au/index.php/site/home>), last accessed October 2013

3 Cerebral Palsy Alliance (<https://www.cerebralpalsy.org.au/>), last accessed October 2013

4 http://www.wch.sa.gov.au/services/az/other/phru/documents/cerebral_palsy_register_annual_report_2011.pdfhttp://www.wch.sa.gov.au/services/az/other/phru/documents/cerebral_palsy_register_annual_report_2011.pdf, last accessed October 2013.

5 Epilepsy Centre (<http://www.epilepsycentre.org.au/>), last accessed October 2013

6 Collins, K.A. and Byard, R.W. (eds.), (2013) *Forensic pathology of Infancy and Childhood*, Springer Science+Business Media New York

In total, 28 of the 137 children on the Disability Register had been diagnosed with some form of epilepsy, ranging from occasional seizures through to severe multiple and frequent seizures, with episodes of status epilepticus.

Between 2005 and 2012, the death rate for children aged 1–17 years with epilepsy in South Australia showed a 19% increase, on average, per year ($p=0.4$).

There were 17 cases where the child had been diagnosed with both epilepsy and cerebral palsy.

1.3.4 Heart and circulatory problems

This category included all cases where a condition involving the heart or blood vessels was able to be identified, regardless of whether the condition resulted from an infection or from a birth defect.

Children with conditions such as complex congenital heart defects or cardiomyopathy are, without life-saving surgery such as a heart transplant, at higher risk of dying as a result of their heart or circulatory problems.

Thirteen children were assigned to this category, including those who had congenital heart defects, myocarditis and cardiomyopathy.

1.3.5 Cancer

A death from cancer was included in the Disability Register only if the child had had cancer for a period of six months or more. While not traditionally recognised as a disability, it was included as a specific category because of the debilitating effects that cancer and cancer treatments have on the life of a child.

Thirty-eight of the 137 children included on the Disability Register had some form of cancer. The cancers were primarily malignant cancers of the brain or the brain stem; some were malignant cancers of the adrenal glands or other forms of malignant cancers. Five children had some form of leukaemia.

Between 2005 and 2012, the death rate for children aged 1–17 years with cancer in South Australia showed a 5% increase, on average, per year ($p=0.52$).

1.3.6 Intellectual disability

This category included all cases where the available information suggested that the child had some form of intellectual disability. It was identified as a specific category because it is a developmental disorder and people living with such disorders have significantly more difficulty than others in integrating new learning, understanding concepts and solving problems.

Five children were assigned to this category, including those who had been identified as having global developmental delays through to those who had been diagnosed with an intellectual disability. Interestingly, the available information suggested that only one of these five children had an additional disability.

1.3.7 Other disability types

This category accommodated all of the remaining disability types in children on the Disability Register. It incorporated cases where the child had conditions such as Epstein-Barr virus, systemic lupus and community acquired pneumonia. It also included cases where the available information was too limited to confidently assign the case to a specified category.

The following sections of the Report describe types of disability and age at death, and sex. Disability type is also considered alongside markers of vulnerability including contact with Families SA, Aboriginality, socioeconomic disadvantage and remoteness.

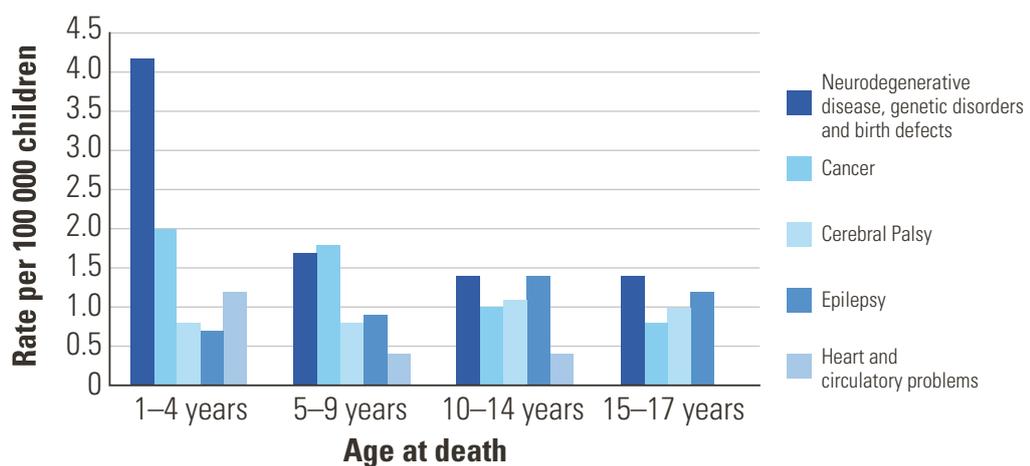
1.3.8 Disability type and age at death

For the 137 children with disability, the highest death rate occurred in children 1–4 years of age (7.7 deaths per 100 000 children 1–17 years old).

The highest death rates occurred in children with disability aged 1–4 years, with

neurodegenerative disease, a genetic disorder or birth defect (4.2 deaths per 100 000 children). Children with cancer and heart problems were more likely to die aged 1–4 years than at other ages. In contrast, children with cerebral palsy or epilepsy lived longer and were more likely to die between 10 and 17 years of age.

Figure SR1: Disability type by age at death, South Australia 2005–2012



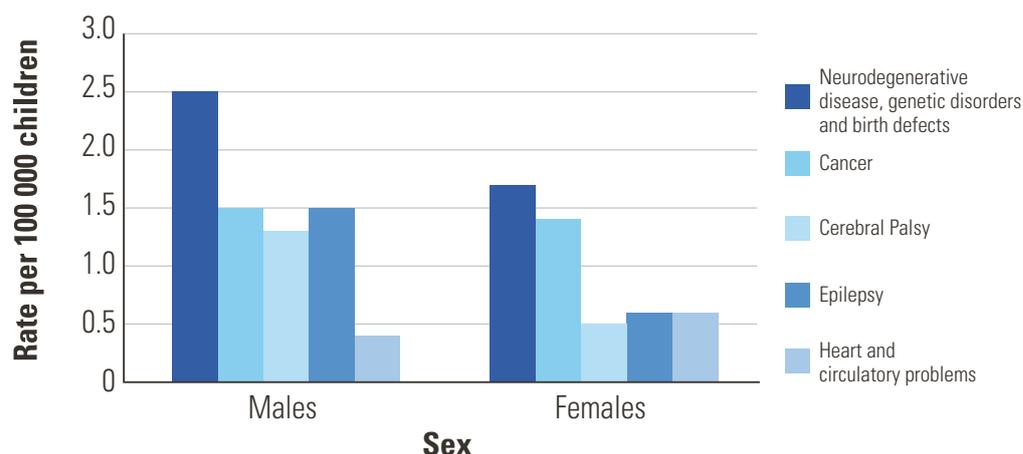
1.3.9 Disability type and sex

As previously stated, male children had a higher rate of death than female children in the 137 children with disability aged 1–17 years who died between 2005 and 2012 (5.8 deaths per 100 000 children for males and 4.5 deaths per 100 000 children for females).

The rates of death for male children were higher than the rates of death for female

children across four of the five disability types – neurodegenerative disease, genetic disorders and birth defects; cancer; cerebral palsy; and epilepsy. In contrast, the rate of death for female children with heart and circulatory problems was higher than the rate of death for male children with these disabilities, while the rates of death for both female and male children with cancer was approximately equal.

Figure SR2: Death rates for children with disability and disability type by sex, South Australia 2005–2012



1.3.10 Disability type and Aboriginal children

For the 2005–12 period, Aboriginal children with disability aged 1–17 years were 2.6 times more likely to die than non-Aboriginal children

(12.7 deaths per 100 000 Aboriginal children, 4.9 deaths per 100 000 non-Aboriginal children).

Aboriginal children had higher death rates for all disability types when compared to non-Aboriginal children.

Table SR3: Disability type and death rates for Aboriginal children, South Australia 2005–12*

Disability Type ²	Aboriginal children		
	Number	Rate per 100 000 ¹	Rates ratio
Neurodegenerative disease, genetic disorders and birth defects	6	6.36	3.3
Cerebral palsy	4	4.24	5.1
Epilepsy	4	4.24	4.5
Heart and circulatory problems	1	1.06	2.3
Cancer	2	2.12	1.5
Other disability	2	2.12	4.9

¹ Rates have been calculated using ABS population estimates for children between 1–17 years. See Section 4.11 of the Annual Report 2012–13.

² Children with multiple disabilities are included in all relevant categories

*Source: Child Death and Serious Injury Review Committee database

1.3.11 Disability type and contact with Families SA

Nearly one-third (29.9%) of children with disability aged 1–17 years had had contact with the child protection system in the three years before their death.

A higher percentage of children with epilepsy (50%), cerebral palsy (48%) and a neurodegenerative disease, genetic condition or birth defect (36%) had had contact with the child protection system. Lower percentages of children with cancer (21%) or heart and circulatory problems had had contact with Families SA (15%) in the three years before death.

1.3.12 Disability type, socioeconomic disadvantage and remoteness

Children with disability who lived in areas of greatest disadvantage (SEIFA 5) had a higher rate of death compared to those who lived in areas of least disadvantage (SEIFA 1). See Table SR1.

The numbers of children living in areas of least to greatest disadvantage, by the type of disability, are shown in Table SR4.

*Table SR4: Disability type and SEIFA, South Australia 2005–12**

Disability Type ²	Socioeconomic Background (SEIFA IRSD) ¹				
	SEIFA 1 least disadvantaged – SEIFA 5 most disadvantaged				
	1	2	3	4	5
Neurodegenerative disease, genetic disorders and birth defects	7	8	10	13	14
Cerebral palsy	2	2	3	10	8
Epilepsy	2	3	5	9	9
Heart and circulatory problems	2	1	3	3	2
Cancer	8	8	10	8	2
Other disability	0	2	3	7	6

¹ South Australian residents only included

² Children with multiple disabilities are included in all relevant categories

*Source: Child Death and Serious Injury Review Committee database

Children with disability who had cerebral palsy (72%), epilepsy (64%) or a neurodegenerative disease, genetic condition or birth defect (52%) were very likely to have lived in areas of greatest disadvantage (SEIFA 4 and 5). The percentages of children with cancer who died were more evenly distributed across the areas of greatest to least disadvantage; fewer children whose disability was associated with cancer lived in areas of least disadvantage.

The numbers of children with intellectual or other forms of disability were combined in this table and also show that a higher

percentage of children with these various forms of disability lived in the State's most disadvantaged areas (72%).

For the 137 children with disability who died between 2005 and 2012, the death rates were higher in regional areas of the State, but were very low in rural and remote areas. See Table SR5.

Table SR5 show the numbers of children with disability, by disability type, who died in major city, regional and remote and very remote areas of the State.

Table SR5: Disability type and ARIA+, South Australia 2005–12*

Disability Type ²	Remoteness (ARIA) ¹		
	Major city	Regional	Remote & Very remote
Neurodegenerative disease, genetic disorders and birth defects	40	11	1
Cerebral palsy	13	12	0
Epilepsy	19	9	0
Heart and circulatory problems	7	4	0
Cancer	21	15	0
Other disability	12	5	1

¹ South Australian residents only included
² Children with multiple disabilities are included in all relevant categories
*Source: Child Death and Serious Injury Review Committee database

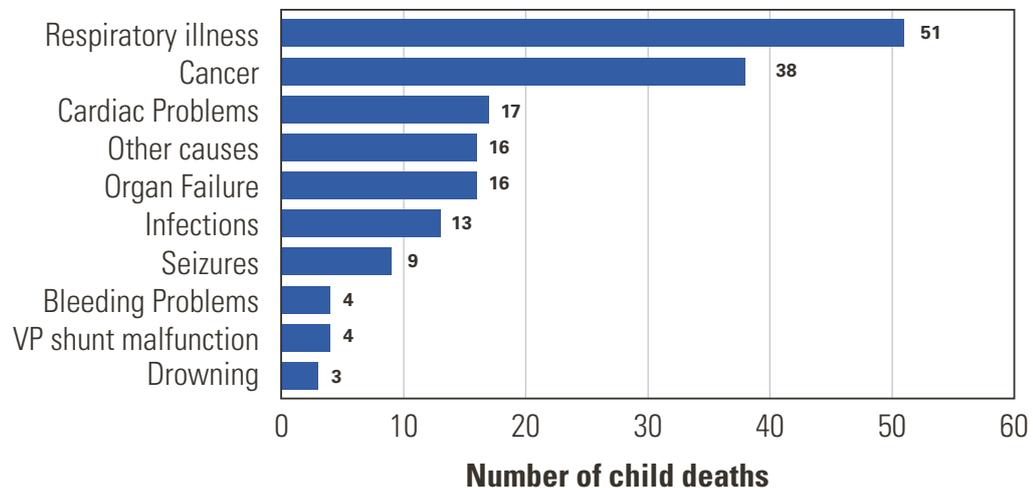
Most notable across disability types was the very low numbers of deaths of children with disability in remote and very remote areas of the State, with one possible explanation being that families of children with disability move closer to major centres in order to access

health care. The higher rates of death for children living in rural and regional areas compared to metropolitan areas with cerebral palsy, epilepsy, heart problems and cancer raises the question of the need for more support services in regional areas.

1.4 Children with Disability and Causes of Death

Figure SR3 provides information about the illness or disease associated with the deaths of these 137 children with disability. Multiple causes of death were recorded, if that information was available.

Figure SR3: Children with disability and causes of death, South Australia 2005–2012



The most common causes of death recorded for these 137 children were respiratory problems; pneumonia was included in this category. Cancer was included as a cause of death primarily because the information from the Death Certificate about these deaths was often limited to identification of the type of cancer. This was also the case when children died from the long-term consequences of other kinds of disorders or abnormalities, but was most apparent in the reporting of deaths from cancer. This lack of information can only be supplemented through scrutiny of health records. Section 1.6.7 provides more information about this issue.

Heart problems and organ failure were common causes of death for these children, with 17 and 16 children dying from these conditions, respectively. An additional 16 children died from 'other causes'. Nine of the cases were allocated to this category because of the limited amount of information available about the child's cause of death. A further three cases were included in this category because the cause of death was undetermined by the Coroner, while the cause of death for another five cases was attributed to external causes (two suicides, one homicide and one transport-related death).

Three children with disability died in drowning accidents and the deaths of four children were associated with VP shunt malfunctions.

1.4.1 Causes of death associated with neurodegenerative disease, genetic disorders and birth defects, cerebral palsy, epilepsy and heart and circulatory problems

The majority of children with a neurodegenerative disease, genetic disorder or birth defect experienced breathing problems prior to death, as did those with cerebral palsy and epilepsy. As expected, children with epilepsy were more likely to experience a seizure or seizures prior to death and the cause of death for children whose disability was associated with heart

and circulatory problems was more likely to be heart and circulatory problems.

Of the three children who drowned, one had Autism Spectrum Disorder. Two children drowned in bath tub accidents, one had a genetic degenerative disease and another child had a history of epilepsy.

*Table SR6: Causes of death and neurodegenerative diseases, genetic disorders and birth defects, cerebral palsy, epilepsy and heart and circulatory problems¹, South Australia 2005–12**

	Respiratory	Cardiac	Bleeding	Organ	Seizures	Cancer	Infection	Shunt	Drown	Other
Neurodegenerative, genetic & birth defects	27	9	2	7	2	1	5	4	2	9
Cerebral palsy	16	0	1	3	3	0	5	1	0	2
Epilepsy	13	0	1	5	8	0	3	1	1	2
Heart/Circ problems	2	10	0	0	0	0	2	1	0	1

¹ Children who died from multiple causes are included in all relevant categories

*Source: Child Death and Serious Injury Review Committee database

1.4.2 Causes of death associated with cancer

Where other causes of death were described on the Death Certificates of these children, they included problems with breathing, infections and organ failure.

*Table SR7: Causes of death and cancer¹, South Australia 2005–12**

	Respiratory	Cardiac	Bleeding	Organ	Seizures	Cancer	Infection	Shunt	Drown	Other
Cancer	8	0	1	3	1	38	3	0	0	0

¹ Children who died from multiple causes are included in all relevant categories

*Source: Child Death and Serious Injury Review Committee database

1.4.3 Causes of death associated with other disabilities

Four children with unspecified intellectual disabilities died from external causes. The deaths of two children in this category were attributed to suicide. Another child died in a transport incident and one child was killed by a parent.

*Table SR8: Causes of death and other disabilities¹, South Australia 2005–12**

	Respiratory	Cardiac	Bleeding	Organ	Seizures	Cancer	Infection	Shunt	Drown	Other
Intellectual Disability	1	0	0	1	0	0	0	0	0	4
Other disability types	5	2	1	3	1	1	2	0	0	0

¹ Children who died from multiple causes are included in all relevant categories

*Source: Child Death and Serious Injury Review Committee database

1.5 Issues arising from the Disability Register

This is the first year that a report about the deaths of children with disability has been prepared. A demographic snapshot of the deaths of children with disability aged 1–17 years who died in South Australia between 2005 and 2012 has shown that:

- 137 or 34.7% of the total number of children who died between 2005 and 2012 can be described as having a disability that impacted on their daily living in the six months prior to their death.
- Aboriginal children with disability are more likely to die in childhood than non-Aboriginal children with disability.
- The death rate for children with disability is much higher in areas of socioeconomic disadvantage than in less disadvantaged areas.

- The causes of death for children with disability were most commonly identified as being some form of illness or disease, such as breathing difficulties, illnesses associated with cancer and cardiac problems. Other causes of death for children with disability included drowning, VP shunt malfunctions and suicide.
- Extremely small numbers of children with disability lived in remote and very remote areas of the State.

Given that one-third of the number of children aged 1–17 years who died between 2005 and 2012 were identified as living with a disability for longer than six months, this gives rise to questions about:

- The magnitude and impact that living with a disability has for these children and their families and caregivers,
- The relationship between the quality of care and the length of life, including the length of illness prior to death,

- The care and support options available to these children and their families, including whether they are appropriately targeted and accessible, and
- The distribution of support, respite and palliative services for children with disability in regional areas and areas of greater socioeconomic disadvantage, where the death rates were higher.

The higher rate of death for Aboriginal children with disability prompts questions about the ways in which disability impacts on the lives of Aboriginal children and whether it increases their vulnerability.

The very low death rate of children with disability in remote and very remote areas of the State raises questions about the reasons for these low rates and the potential association with access to services.

Finding answers to these questions will assist the Committee to identify systemic issues relating to the care and management of children with disability and to develop a better understanding about the subsequent impacts on the service system.

With the launch of the DisabilityCare Australia program, there is opportunity for children with disability and their families, in South Australia, to have greater control and flexibility about the ways in which services and support are provided to them. With the development of the Disability Register and through its in-depth reviews, the Committee can now monitor the impact of these changes in service delivery on children with disability and their families over time.

To improve the quality and relevance of future reports, it is intended that:

- Guidelines will be developed to identify the deaths of children with a disability less than one year of age,
- Key stakeholders will be consulted about relevant issues to include in future reports and
- The quality of information about the circumstances of death for children with disability will be improved by targeting access to health records for more of these children.

1.6 Methodology

This section describes the methodology used to define the scope of the work and to establish a clear and robust data set.

1.6.1 National and international review of literature

Initially, a review of national and international literature was undertaken to:

- Identify current reporting processes in relation to the broad subject headings of 'death', 'disability' and 'death or disability in children',
- Investigate the definitions used for describing disability or determining whether a person has a disability,
- Understand any protocols in relation to the description of the demographic characteristics used when reporting on 'death', 'disability' and 'death or disability in children' and
- Develop an appreciation for the ways in which this data is captured and presented.

The literature review revealed limited data and associated commentary about the deaths of children with disability. Available information related more to adults with disability or to general childhood mortality and morbidity.⁷

⁷ See for example World Health Organisation, *The Global Burden of Disease 2004 Update*, 2008; World Health Organisation/World Bank, *World Report on Disability: A Review*, 2011; and World Health Organisation, *World Health Statistics: A Snapshot of Global Health*, 2012

It further suggested significant differences in how the various jurisdictions described disability, however any adverse effects on a person's daily living activities for a period of six months or more, was a common defining feature when determining whether a person had a disability or disabling condition.⁸

The literature review also exposed differences in the focus age groups used, but indicated some degree of commonality in grouping children under 15 years of age into the one category, while using the sub-groupings of 0–4 years and 5–14 years, where appropriate.⁹

1.6.2 Database screening

A decision not to include infants younger than one year was made because it became apparent that there were a unique set of challenges associated with identifying disability in children under the age of one and that a definition specifically tailored to this cohort of children needed to be established before any relevant conclusions could be drawn about the deaths of these very young children. As a result, this Report focuses on the deaths of children with disability, aged 1–17 years, who died in South Australia between 2005 and 2012.

After completing the literature review, an initial screening exercise was performed to identify all cases from a sample year of data (2011) where a child, aged 1–17 years at their time of death, experienced a limitation in their daily living activities for a period of six months or more because of a disability, illness, disease or health problem.

The outcomes of this exercise were reviewed and validated by the Disability Review Team, which was a sub-committee of the Child

Death and Serious Injury Review Committee, specifically established to provide expert advice and guidance in relation to this work.

1.6.3 Development of a definition for disability

The review and validation process subsequently generated a definition for disability (discussed below), which was then applied to the remainder of the 2005 to 2012 cases contained on the database, excluding those cases where the child was less than one year of age at the time of its death.

In the first instance, cases were included on the Disability Register if:

1. The child was over one year of age at the time of its death,
2. The child's daily activities were limited because of their disability, illness, disease or health problem, and
3. The child's daily activities had been adversely affected for a period of six months or more.

Where the length of time during which the child's daily activities were adversely affected was unknown (assumed to be the time between diagnosis and death), the case was not included on the Register.

In assigning cases to the Register, it became apparent that some additional rules were needed to appropriately deal with the chronic health issues that would have had a disabling effect on a child's life (ie asthma, epilepsy, diabetes etc). In these cases, the scoping rules sought to understand:

1. Whether any other disabilities were present, and
2. If not, whether the frequency and severity of the chronic health issue would have adversely affected the child's daily activities for a period of six months or more.

⁸ See for example Statistics Canada, *Participation and Activity Limitation Survey 2006: Analytical Report*, 2006

⁹ See for example Statistics Canada, *Participation and Activity Limitation Survey 2006: Analytical Report*, 2006; Statistics New Zealand, *Hot off the Press: 2006 Disability Survey*, 2007; and US Department of Commerce, *Americans with Disabilities: 2010, 2012*

Such cases were only included on the Disability Register if other disabilities were present or the child's daily activities would have been adversely affected for a period of six months or more.

In some of these cases it became obvious that, had the child's chronic health issue been more effectively managed, there may have been no reason for their daily activities to have been adversely affected, thus reducing the likelihood of death. To help deal with these cases, two additional rules were established, which sought to understand whether:

1. The child's health issue had been managed effectively, in terms of both community and medical care, and
2. The child's parents or caregivers had managed their child's health issue effectively and/or had complied with the medical instructions provided.

In cases where a child suffered from a chronic health issue, the case was only included on the Disability Register if the health issue was deemed to have been managed effectively, but the child still suffered as a result of the health issue.

To validate the scoping rules and their ease of application, the members of the Disability Review Team independently reviewed the 2012 data and made a determination as to which cases fell within the scope of the project and which cases did not. With the exception of a small number of queries from the non-medical members of the sub-committee about the impacts of a disability, illness, disease or health problem on a child's daily living activities, the results returned by the members were very consistent. This process is represented in the following diagram on page SR20.

1.6.4 Identifying disability types

After identifying the cases to be assigned to the Disability Register, two exercises were undertaken to further categorise the 137 cases into meaningful groups.

The objective of the first exercise was to group all the cases according to the reason(s) for them being included on the Disability Register. Cases were assigned to at least one of the following seven categories, but to more if the child had multiple disabilities:

1. Neurodegenerative diseases, genetic disorders and birth defects
2. Cerebral Palsy
3. Epilepsy
4. Heart and circulatory problems
5. Cancer
6. Intellectual disability
7. Other disability

Allocation decisions were made based on the information available about each child's circumstances of harm and their cause of death, as recorded in the database.

1.6.5 Identifying causes of death

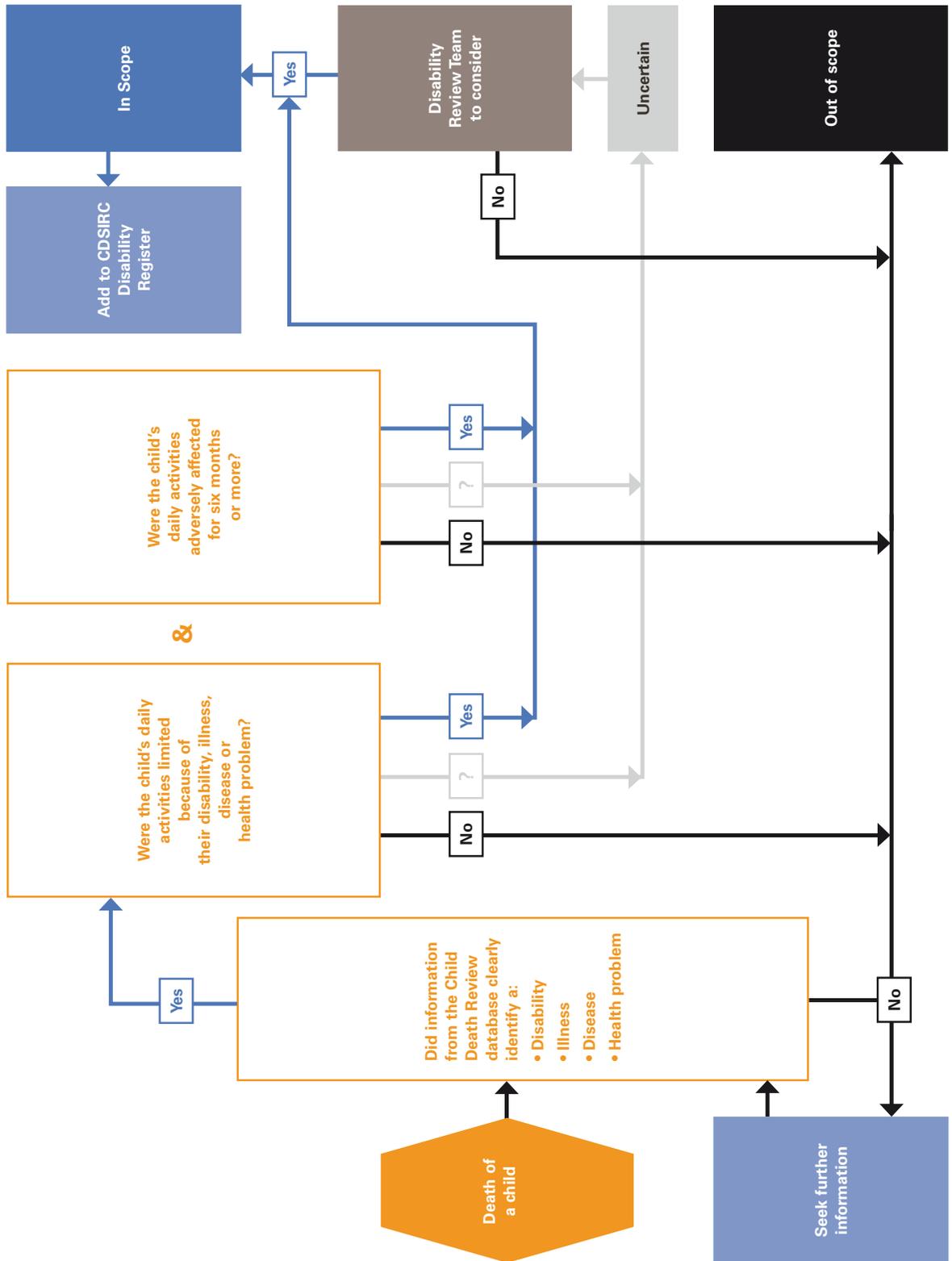
Once the cases had been grouped into the seven categories, a secondary process was applied, which aimed to summarise the main reasons for these children's deaths.

This involved reviewing the information available for each case, to identify the factors that were most proximal to the child's death.

Each case was assigned to a maximum of two categories, as per the list below:

1. Respiratory illnesses (including pneumonia)
2. Cardiac problems
3. Bleeding problems
4. Seizures
5. Drowning
6. Infection
7. Cancer
8. VP shunt malfunctions
9. Other/unknown

Diagram SR1: Disability Register scoping rules



To ensure consistent decisions were made when categorising the cases, the following guidelines were developed and applied:

1. Cases can only be assigned to a maximum of three categories.
2. If there is insufficient information about the circumstances surrounding a child's death, the case needs to be assigned to the 'other/unknown' category.
3. Cardio-respiratory complications need to be assigned to both the 'respiratory illnesses' category and the 'cardiac problems' category.
4. Where a child died from external causes (ie suicide, failure of practice, drowning etc), the case needs to be assigned to the 'other/unknown' category.

These parameters then allowed for data analysis as per Sections 1.3 and 1.4 of this Report.

1.6.6 Quality of information available about each case

The quality of information available about each case ranged from a single statement about the cause of death (eg 'medulloblastoma') obtained from the Death Certificate to information about the circumstances and causes of the death obtained from coronial, health and other records.

For 75 of the 137 cases on the Disability Register (55%) there was additional information from SA Health or Families SA. Of these 75 cases, two were the subject of a Coronial Inquest, six were the subject of an in-depth review by the Committee and a further three are currently under review by the Committee.

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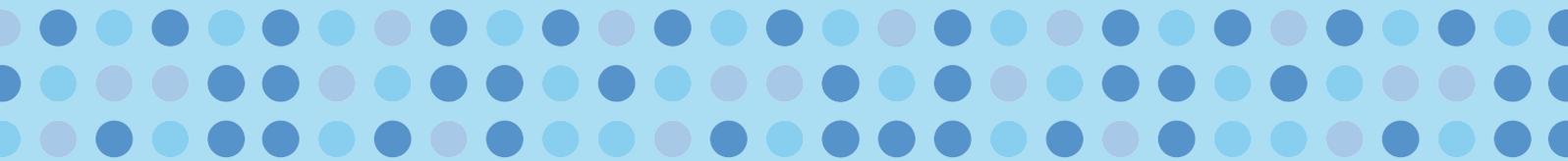
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SECTION 1

CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

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 2005–12 AND IN-DEPTH REVIEWS 2012–13

1.1 Child Deaths South Australia 2005–12

In the eight years between 2005 and 2012, 962 children died in South Australia.

*Table 1: Rates of child death, South Australia 2005–12**

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	119	33.9
2008	120	34.2	111	31.6
2009	130	37.0	125	35.5
2010	119	33.8	117	33.2
2011	107	30.4	102	29.0
2012	106	29.9	101	28.5
2005–12	962	34.2	908	32.3

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 eight years between 2005 and 2012 was 34.2 deaths per 100 000 children. The death rate for resident children was 32.3 deaths per 100 000 children (Table 1).¹⁰

In 2012, 106 children died in South Australia; for five children South Australia was not their usual residence. The death rate for all children

in 2012 was 29.9 deaths per 100 000 children and for resident children the death rate was 28.5 deaths per 100 000 children.

Further demographic information about the deaths of children in South Australia between 2005 and 2012 can be found in Table 2. Comparison of death rates across the eight year period can be found in Table 29 (Section 4.15).

¹⁰ 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 death, South Australia 2005–12*

	2005	2006	2007	2008	2009	2010	2011	2012	2005–2012	RATE ¹ per 100 000 2005–12
TOTAL	135	120	125	120	130	119	107	106	962	34.2
Sex										
Female	58	70	42	47	58	42	49	49	415	30.2
Male	77	50	83	73	72	77	58	57	547	38.0
Age Group										
Infants <1 year	84	64	81	71	72	73	59	63	567	362.3 ²
1–4 years	17	19	15	12	17	14	17	12	123	20.5
5–9 years	6	12	4	12	4	7	11	10	66	8.7
10–14 years	12	6	8	5	13	8	6	8	66	8.3
15–17 years	16	19	17	20	24	17	14	13	140	27.9
Cultural Background										
Aboriginal	17	11	13	11	11	8	12	13	96	96.9
Contact with Families SA³										
Families SA	31	31	29	26	34	31	35	27	244	
Usual Residence										
Outside SA	13	9	6	9	5	2	5	5	54	
Socioeconomic Background (SEIFA IRSD⁴)										
Most disadvantaged SEIFA 5	28	25	37	35	33	35	32	33	258	44.3
SEIFA 4	30	26	27	16	32	28	21	14	194	35.1
SEIFA 3	29	22	20	26	22	24	16	29	188	36.1
SEIFA 2	14	21	17	18	20	20	22	11	143	27.0
Least disadvantaged SEIFA 1	21	17	18	16	18	10	11	14	125	23.1
Remoteness (ARIA+)⁴										
Major City	70	71	81	78	80	77	65	62	584	30.2
Inner Regional	20	14	13	14	27	21	13	12	134	39.0
Outer Regional	16	18	14	12	14	16	21	21	132	38.5
Remote & Very Remote	16	8	11	7	4	3	3	6	58	52.7
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 Death rates for Families SA are not included, see Section 4.11 ⁴ South Australian residents only included. *Source: * Child Death and Serious Injury Review Committee database										

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

STATISTICS – *Child Deaths South Australia 2005–12*

- For the period between 2005 and 2012, the death rate for all children who died in South Australia shows a 2% decrease on average per year ($p=0.05$).
- 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 times more likely to die than non-Aboriginal children (96.9 deaths per 100 000 Aboriginal children, 31.9 per 100 000 non-Aboriginal children).
- In the period 2005 to 2012, 244 (25%) of 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): 44.3 deaths per 100 000 in areas of greatest disadvantage, 23.1 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 major city area, 52.7 deaths per 100 000 children in remote and very remote areas, 30.2 deaths per 100 000 children in major city areas.

1.1.1 Infant Mortality Rates

The infant mortality rate¹¹ for the eight year period between 2005 and 2012 was 3.6 deaths per 1000 live births. There has been a 3% decrease on average per year in infant deaths ($p=0.07$).

In 2012 in South Australia there were 63 deaths of children aged younger than one year; the infant mortality rate was 3.1 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.

Sudden Unexpected Death in Infancy (SUDI)

Between 2005 and 2012 the deaths of 128 infants were classified as sudden and unexpected (See Section 4.5.7 for the definition of SUDI). Over half of these deaths (68 deaths) were unexpected and unexplained at post-mortem; ten of these deaths were attributed to Sudden Infant Death Syndrome (SIDS) and 58 to undetermined causes. Thirty-two of the 128 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.

In this eight year period, 27 deaths resulted from some form of accident, trauma or poisoning, 13 deaths were attributed to accidental causes. Twelve of these 13 were

¹¹ 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).

due to 'sleep accidents' where the infant died from suffocation or asphyxiation in an unsafe sleeping environment. These 12 deaths share many unsafe sleeping risk factors with the 68 infant deaths that were unexpected and unexplained. Six deaths were attributed to a deliberate act that resulted in the death of the infant (including fatal assault, poisoning or suffocation) and five deaths were due to transport incidents. The cause of one sudden and unexpected infant death in 2012 is still unknown.

1.2 Cause of Death and Age

Over the period 2005 to 2012, 648 of the 962 deaths (67.4%) were attributed to illness or disease. The death rate for illness or disease was 23.1 deaths per 100 000 children, compared to 8.3 deaths per 100 000 for deaths attributed to external causes, 2.5 deaths per 100 000 children for deaths attributed to undetermined causes. The death rate attributed to SIDS was 2.8 deaths per 100 000 livebirths for the eight year period and 4.9 deaths per 100 000 livebirths for 2012.

*Table 3: Causes of child death by age group, South Australia 2005–12**

Causes of Death	Infants < 1 year	1–17 years	TOTAL	RATE ¹ per 100 000
2012				
Illness or Disease	57	20	77	21.7
Undetermined Causes	2	3	5	1.4
SIDS ²	1	0	1	
External Causes	1	20	21	5.9
Cause not yet known	2	0	2	
TOTAL	63	43	106	29.9
2005–2012				
Illness or Disease	463	185	648	23.1
Undetermined Causes	58	12	70	2.5
SIDS ²	10	0	10	
External Causes	34	198	232	8.3
Cause not yet known	2	0	2	
TOTAL	567	395	962	34.2

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

² Death rates for SIDS are calculated per 100 000 livebirths. See text.

*Source: Child Death and Serious Injury Review Committee database

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

During this eight 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.¹² In contrast, children older than one year most commonly died from external causes. These causes include deaths in transport incidents, from deliberate acts, suicide and drowning.

The death rates for 2012 follow the same pattern as the death rates for the 2005 to 2012 reporting period; children were more likely to die from illness or disease than from external causes, from SIDS or from an undetermined cause.

1.3 Deaths Due to Illness or Disease

In the eight year period 2005 to 2012, 648 deaths were attributed to illness and disease, with a death rate of 23.1 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 2012 and for comparison the period between 2005 and 2012. Comparison of death rates across the eight year period can be found in Table 29 (Section 4.15).

¹² See Section 4.5.7 for an explanation of 'SIDS' and 'undetermined causes'.

Table 4: Demographics of child death attributed to illness or disease, South Australia 2005–12*

	2012	2005–12	RATE ¹ per 100 000 2005–12
TOTAL	77	648	23.1
Sex			
Female	37	290	21.1
Male	40	358	24.9
Age Group			
Infants <1 year ²	57	463	295.8
1–4 years	5	60	10.0
5–9 years	7	43	5.7
10–14 years	5	41	5.1
15–17 years	3	41	8.2
Cultural Background			
Aboriginal	7	55	55.5
Contact with Families SA³			
Families SA	9	121	
Usual Residence			
Outside SA	3	40	
Socioeconomic Background (SEIFA IRSD)⁴			
Most disadvantaged SEIFA 5	21	165	28.3
SEIFA 4	10	135	24.4
SEIFA 3	21	124	23.8
SEIFA 2	10	96	18.1
Least disadvantaged SEIFA 1	12	88	16.2
Remoteness (ARIA+)⁴			
Major City	46	411	21.3
Inner Regional	9	88	25.6
Outer Regional	14	79	23.0
Remote and Very Remote	5	30	27.3

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 Death rates for Families SA are not included, see Section 4.11.

⁴ South Australian residents only included.

*Source: Child Death and Serious Injury Review Committee database

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

STATISTICS – *Deaths Due to Illness or Disease*

- The death rate due to illness and disease was 23.1 deaths per 100 000 children for the eight year period between 2005 and 2012. Although the death rate has fluctuated over the individual years recorded by the Committee no trend was found ($p=0.73$).
- Over the eight year period, male children had a higher rate of death from illness and disease than female children.
- Infants younger than one year had a higher 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 2012, of the children who died from illness or disease, 121 (18.7%) of these children or their families had had contact with Families SA.
- Aboriginal children were 2.5 times more likely to die from illness and disease than non-Aboriginal children, 55.5 deaths per 100 000 for Aboriginal children, 21.9 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), 28.5 deaths per 100 000 children in areas of greatest disadvantage, 16.2 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: 27.3 deaths per 100 000 in remote and very remote areas, 21.3 deaths per 100 000 children in metropolitan areas.

1.3.1 Causes of death from illness or disease

In the eight year period between 2005 and 2012, 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).

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 2012, the rate of death for males who died from either of these conditions was 16.5 deaths per 100 000 male children, and for females was 14.7 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 33.3 deaths per 100 000 children which is 2.1 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.¹³

13 SA Health South Australian Birth Defects Register Annual Report (2007)
http://www.wch.sa.gov.au/services/az/other/phru/documents/2007_sabdr_annual_report.pdf
 Last accessed October 2013.

Table 5: Causes of child death attributed to illness or disease, South Australia 2005–12*

Causes of Death	2012	2005–12	RATE ¹ per 100 000 2005–12
Certain conditions originating in the perinatal period	34	271	9.6
Congenital malformations, deformations and chromosomal abnormalities	21	168	6.0
Disease of the nervous system	3	59	2.1
Cancer	7	64	2.3
All other causes of illness and disease and cause not yet known	12	86	3.1
TOTAL	77	648	

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

Deaths attributed to nervous system diseases

In the eight year period between 2005 and 2012, there were 59 children who had an underlying cause of death involving the nervous system.

Thirty-eight of the 59 deaths (64%) were in children aged 1–17 years with conditions

including cerebral palsy, neurodegenerative disorders and severe epilepsy. Eighteen of the 57 children (31%) who lived in South Australia lived in regional or remote locations. The rate of death in Aboriginal children was 3.1 times higher than in non-Aboriginal children: 6.1 deaths per 100 000 Aboriginal children compared to 2.0 deaths per 100 000 non-Aboriginal children.

Table 6: Child deaths involving the nervous system, South Australia 2005–12*

Year	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
	5	10	8	4	11	12	6	3	59

*Source: Child Death and Serious Injury Review Committee database

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

Deaths of infants attributed to overwhelming infection

The Committee has noted that a small number of infants younger than one year of age continue to die from overwhelming infections.

*Table 7: Child deaths attributed to overwhelming infection, South Australia 2005–12**

Year	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
	5	1	1	1	4	5	2	1	20

*Source: Child Death and Serious Injury Review Committee database

Male infants were 1.8 times more likely to die from overwhelming infections than females (13 male and 7 female infants). Aboriginal infants were 13.6 times more likely to die than non-Aboriginal infants (6 deaths of Aboriginal infants). Infants living in areas of greatest disadvantage were 3.5 times more likely than those living in areas of less disadvantage to die from an overwhelming infection. Similarly infants living in regional or remote areas were 2.7 times more likely to die from an overwhelming infection than those living in the metropolitan area.

Fourteen of the 20 deaths were sudden and unexpected and therefore classified as SUDI. In 12 of the 20 deaths, an infectious agent was identified as the cause of death: E coli sepsis, meningococcal septicaemia, pneumococcal sepsis, methicillin resistant staphylococcus aureus, streptococcus pneumonia, streptococcus agalactiae, streptococcus pneumonia with respiratory syncytial virus, disseminated adenovirus, cytomegalovirus sepsis and haemophilus influenzae. In eight of the 20 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 and 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 64 deaths due to cancer of various forms, with 7 of these deaths occurring in 2012. For further information on deaths from cancer, see the SA Cancer Registry Annual Report.¹⁴

14 SA Health South Australian Cancer Registry Annual Report (2013) <http://www.sahealth.sa.gov.au/wps/wcm/connect/48188b804fc4c928a01cba5cbc1ea1e9/CancerInSA2009-Epidemiology-20130601.pdf?MOD=AJPERES&CACHEID=48188b804fc4c928a01cba5cbc1ea1e9>
Last accessed October 2013.

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

Of the 648 children who died from illness and disease between 2005 and 2012, 463 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 8).

*Table 8: Causes of infant deaths attributed to illness or disease, South Australia 2005–12**

	2012	2005–12
Sex		
Female	28	211
Male	29	252
Age Group		
Less than 1 day	37	222
1 day to less than 1 week	4	75
1 week to less than 28 days	7	63
28 days to less than 1 year	9	103
Causes of Death		
Certain conditions originating in the perinatal period	34	268
Congenital malformations, deformations and chromosomal abnormalities	17	137
All other causes of illness and disease	6	58
TOTAL	57	463

*Source: Child Death and Serious Injury Review Committee database

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

Details were obtained from Perinatal Death Certificates for all infants who died before 28 days of age. Table 9 shows the number of infants who had a birth weight less than 400 grams and/or a gestation less than 20 weeks.

It should be noted that in 36 of the 360 cases, information about the infant's birth weight was missing. 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.¹⁵

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.¹⁶

*Table 9: Infant deaths < 400grams and/or < 20 weeks gestation, South Australia 2005–12**

Year	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
	13	5	6	11	8	9	3	16	71

*Source: Child Death and Serious Injury Review Committee database

ISSUES – Deaths Due to Illness or Disease

- The Committee wrote to SA Health about support for legislation and monitoring of deaths of babies born to women choosing homebirths in the presence of known risk factors (see Section 2.2.3)
- The Committee continued to monitor progress with the implementation of recommendations about the assessment and discharge of vulnerable infants, (see Section 2.2.1)
- Responses were received to recommendations about the management of severe and life-threatening asthma. The Committee will continue to pursue several issues that have the potential to improve the health of children and young people with this condition (see Section 2.4.2)
- The Committee wrote to the Minister for Disability in November 2012 to provide the Minister with its recommendations about the circumstances of the deaths of children with disability (see Section 2.3.3).
- To further explore indicators of vulnerability in children dying from illness and disease, the Committee reviewed information gathered from the patient records held at the Women's and Children's Hospital for 43 non-coronial deaths. The Committee also sought information from treating hospitals and Families SA on the care of five children where a more detailed scrutiny of the circumstances of their death was warranted.

¹⁵ SA Health *Maternal, Perinatal and Infant Mortality in South Australia, 2010 (2013)*
<http://www.sahealth.sa.gov.au/wps/wcm/connect/f254a2004d467917a067f3f08cd2a4a7/2010+Mortality+Report.pdf?MOD=AJPERES&CACHEID=f254a2004d467917a067f3f08cd2a4a7>
 Last accessed September 2013.

¹⁶ *op. cit.* SA Health *Maternal, Perinatal and Infant Mortality in South Australia, 2010 (2013)*

1.4 Deaths Due to SIDS and Undetermined Causes

In the period between 2005 and 2012, ten deaths were attributed to SIDS and 70 to undetermined causes. The death rate for SIDS was 6.4 deaths per 100 000 live births and the death rate for infants younger than one year attributed to undetermined causes was 37.1 deaths per 100 000 live births (58 deaths).

In 2012, one death was attributed to SIDS and two infant deaths were attributed to undetermined causes. In the eight year reporting period, this is the lowest number of deaths attributed to these causes in this age group. In other years the number has ranged from six to 13 deaths.

In 2012 the Committee reviewed the circumstances and causes of infant deaths classified as accidents between 2005 and 2012. Four deaths formerly classified as accidental were reclassified as undetermined.

STATISTICS – *Deaths Due to SIDS and Undetermined Causes*

- In 2012 the lowest number of deaths attributed to SIDS and undetermined causes for infants younger than one year, was recorded (3 deaths). Although the death rate has fluctuated over the individual years recorded by the Committee no trend was found ($p=0.77$).
- The risk factors present in the deaths of infants from SIDS and undetermined causes have remained consistent over the eight year reporting period, with unsafe sleeping environments continuing to be a common factor in the majority of deaths.
- The rate of death for undetermined causes remains much higher in areas of most disadvantage: 5.5 deaths per 100 000 children in the State's most disadvantaged areas compared to 1.8 deaths per 100 000 children in the State's least disadvantaged areas.

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

*Table 10: Demographics of child death attributed to undetermined causes, South Australia 2005–12**

	2012	2005–12	RATE ¹ per 100 000 2005–12
TOTAL	5	70	2.5
Sex			
Female	2	26	1.9
Male	3	44	3.1
Age Group			
Infants <1 year ²	2	58	37.1
1–17 years	3	12	0.5
Cultural Background			
Aboriginal	1	12	12.1
Contact with Families SA³			
Families SA	3	39	
Usual Residence			
Outside SA	0	0	
Socioeconomic Background (SEIFA IRSD)⁴			
Most disadvantaged SEIFA 5	3	32	5.5
SEIFA 4	0	9	1.6
SEIFA 3	2	11	2.1
SEIFA 2	0	8	1.5
Least disadvantaged SEIFA 1	0	10	1.8
Remoteness (ARIA+)⁴			
Major City	2	43	2.2
Inner Regional	1	12	3.5
Outer Regional	2	11	3.2
Remote and Very Remote	0	4	3.6

¹ Rates for deaths due to SIDS and undetermined causes 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 Death rates for Families SA are not included, see Section 4.11.

⁴ South Australian residents only included.

*Source: Child Death and Serious Injury Review Committee database

Deaths Due to Undetermined Causes

In the eight year period between 2005 and 2012, 12 deaths of children aged 1–17 years were attributed to undetermined causes; three of these 12 occurred in 2012. Of interest, eight of these 12 were between 1–4 years and were found after being placed to sleep. In three deaths, no abnormalities could be determined; in three deaths some mild forms of infection was detected but not thought to have caused the death, and in two deaths subtle cardiac abnormalities were detected but not considered to have caused the death.

Comparison of death rates across the eight year period can be found in Table 29 (Section 4.15).

Undetermined causes, infants younger than one year

Fifty-eight of the 70 deaths attributed to undetermined causes were infants younger than one year; ten were less than 28 days old. Thirty-eight were male. Eleven infants were Aboriginal. In the majority of these 58 deaths, one or more unsafe sleeping practices were identified. In almost half of these deaths, the infant was co-sleeping with a carer or carers.

SIDS, infants less than one year

*Table 11: Child deaths attributed to SIDS, South Australia 2005–12**

Year	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
	3	3	0	0	1	1	1	1	10

*Source: Child Death and Serious Injury Review Committee database

Between 2005 and 2012, ten deaths have been attributed to SIDS. All infants were aged between 28 days and one year. Six were females. One infant was Aboriginal. In each of these cases, there was no post mortem evidence to suggest asphyxiation and/or airway obstruction.

Sudden unexpected death in infants 'during sleep'

The use of the term 'sudden unexpected death in infants' allows the grouping of infant deaths from various causes in ways that help identify

common risk factors in the infant's sleep environment such as pillows, soft bedding and sleeping with parents or siblings. Where a cause of death is not found at post mortem, the death is considered to be 'unexplained' and is attributed to SIDS or an undetermined cause. For other sudden unexpected deaths of infants occurring during sleep there is sufficient evidence at post mortem to determine a cause of death such as suffocation or asphyxiation. Deaths attributed to these latter causes are considered to be 'explained' and are recorded in this report as 'accidents' (See Section 1.5.3).

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

In the eight year period between 2005 and 2012, 80 infants have died suddenly and unexpectedly during sleep, from explained (12 deaths) or unexplained (68 deaths, 10 from SIDS and 58 from undetermined causes) causes and common risk factors in the sleep environment were identified. In 2012, in addition to the

three deaths reported in this section that were attributed to SIDS or an undetermined cause, one accidental death resulted from asphyxiation and occurred whilst the infant was sleeping. Co-sleeping, a common risk factor in undetermined deaths, was the cause of asphyxiation in this death.

ISSUES – *Deaths Due to SIDS and Undetermined Causes*

- The Committee will continue to review the criteria it uses to classify the deaths of infants to SIDS, undetermined and accidental causes.

1.5 Deaths Due to External Causes

In the period between 2005 and 2012, there were 232 deaths of children attributed to external causes with a death rate of 8.3 deaths per 100 000 children. Twenty-one deaths were attributed to external causes in 2012 with a death rate of 5.9 deaths per 100 000 children.

External causes of death encompass deaths from deliberate acts, neglect, suicide, transport incidents, 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 12 provides demographic information about deaths from external causes and Table 13 provides more details about the age of the children who died and the causes of death. Comparison of death rates across the eight year period can be found in Table 29 (Section 4.15).

Table 12: Demographics of child death attributed to external causes, South Australia 2005–12*

	2012	2005–12	RATE ¹ per 100 000 2005–12
TOTAL	21	232	8.3
Sex			
Female	7	91	6.6
Male	14	141	9.8
Age Group			
Infants <1 year ²	1	34	21.7
1–4 years	4	54	9.0
5–9 years	3	21	2.8
10–14 years	3	25	3.1
15–17 years	10	98	19.6
Cultural Background			
Aboriginal	5	28	28.3
Contact with Families SA³			
Families SA	12	80	
Usual Residence			
Outside SA	2	14	
Socioeconomic Background (SEIFA IRSD)⁴			
Most disadvantaged SEIFA 5	7	56	9.6
SEIFA 4	3	48	8.7
SEIFA 3	6	51	9.8
SEIFA 2	1	37	7.0
Least disadvantaged SEIFA 1	2	26	4.8
Remoteness (ARIA+)⁴			
Major City	12	121	6.3
Inner Regional	2	33	9.6
Outer Regional	4	40	11.7
Remote and Very Remote	1	24	21.8

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 Death rates for Families SA are not included, see Section 4.11.

⁴ South Australian residents only included.

*Source: Child Death and Serious Injury Review Committee database

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STATISTICS – *Deaths Due to External Causes*

- For the period between 2005 and 2012, the death rate for children who died in South Australia from external causes shows a 9% decrease on average per year ($p=0.001$).
A decrease over time has been noted in transport deaths (Section 1.5.1).
- For both 2012 and the 2005–12 reporting period, males were more likely than females to die from external causes. Young people aged 15–17 years were 2.4 times more likely to die from an external cause than from illness or disease.
- Over the period 2005–12 Aboriginal children were 3.8 times more likely than non-Aboriginal children to die from external causes, 28.3 deaths per 100 000 Aboriginal children, 7.5 deaths per 100 000 non-Aboriginal children.
- In 80 cases (34.5%), in the eight year period 2005 to 2012, the child or their family 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), 9.6 deaths per 100 000 children in areas of greatest disadvantage compared to 4.8 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, 21.8 deaths per 100 000 in remote and very remote areas, 6.3 deaths per 100 000 children in metropolitan areas.

Table 13 provides details about the deaths attributed to external causes in 2012 and for the years 2005–12.

Transport incidents accounted for 93 deaths (40.1%) attributed to external causes in the eight year period between 2005 and 2012; the majority of these deaths occurred in the 10–17 year age group (65 deaths). All except one suicide death occurred in this age group (29 deaths). In contrast, the majority of accidental deaths were infants younger

than one year of age (13 deaths). The highest number of deaths for children 1–9 years was also transport incidents (23 deaths) and causes such as drowning or a deliberate act which resulted in death.

Further details concerning each of these causes of death can be found in the following sections of the report and further details about causes of death and age can be found in Section 4.14, Tables 27 and 28.

Table 13: External causes of child deaths by age and cause of death, South Australia 2005–12*

Causes of Death	Infants < 1 year	1–9 years	10–17 years	TOTAL
2012				
Transport	0	3	6	9
Accidents	1	0	1	2
Suicide	0	1	4	5
Other causes (drowning, deliberate acts, fire-related deaths)	0	3	2	5
TOTAL	1	7	13	21
2005–2012				
Transport	5	23	65	93
Accidents	13	9	11	33
Deliberate acts	6	12	8	26
Neglect	2	2	2	6
Suicide	0	1	29	30
Drowning	3	17	3	23
Health- system-related adverse events	5	6	3	14
Fire-related	0	5	2	7
TOTAL	34	75	123	232

*Source: Child Death and Serious Injury Review Committee database

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1.5.1 Transport

Between 2005 and 2012, 93 children died in transport incidents. Nine of these deaths occurred in 2012.

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 14: Child deaths attributed to transport incidents by age and sex, South Australia 2005–12**

	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
2012	2	2	5	9	2.5
Sex					
Females	6	13	16	35	2.5
Males	12	8	38	58	4.0
TOTAL	18	21	54	93	3.3

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

STATISTICS – Transport

- For the period between 2005 and 2012, the death rate for transport incidents shows a 7% decrease on average per year ($p=0.09$) 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 (54 deaths – 58.1%).
- Between 2005 and 2012, the highest number of transport deaths (38 deaths) were of young men 15–17 years of age (40.9%).

Transport deaths 2012

Nine children died in eight transport-related incidents in 2012; two young people (driver and passenger) died in one incident. Five of the nine who died in 2012 were males.

Four incidents (5 deaths) occurred on public roads and involved children or a young person as either a pedestrian, a driver or a passenger in the vehicle. All of these incidents occurred in rural areas of the State. Two deaths occurred on private properties and involved a quad bike and motorbike. One death resulted from drowning but occurred while the young person was operating a boat and another young person died in a South Australian hospital following a motorcycle crash in another state.

The lower overall road toll (94) in SA in 2012 (compared with 118 and 103 in 2010 and 2011 respectively) is reflected in the smaller number of deaths (5 deaths) recorded by the Committee in 2012 that occurred on public roadways.¹⁷ The issues about transport crashes that were raised in the Committee's previous report remain relevant to the circumstances of these deaths including:

- Rural location
- Driver fatigue or inattention resulting in the vehicle deviating from the road and subsequently impacting with a fixed object or oncoming vehicle
- Speed
- Not wearing seatbelts

The circumstances of the two crashes involving young people as drivers in 2012 led to the death or serious injury of the driver and/or their passengers and occurred late at night or early in the morning.

In 2011 and again in 2013 the Minister for Road Safety announced the Government's plan to introduce further changes to the State's

graduated licensing scheme that would restrict P1 (novice) drivers under 25 years from:

- Carrying more than one passenger aged 16–20 years, and
- Driving between midnight and 5.00am.

These changes are also highlighted in the South Australian Government's recently released Road Safety Action Plan 2013.¹⁸

Between 2005 and 2012 the Committee recorded two deaths of children as passengers on quad bikes. The Committee considers that:

- Children under 16 should not operate quad bikes – either full size or 'child-size' versions,
- It is not safe to carry passengers on a quad bike,
- All quad bike users should wear a helmet, and
- Quad bikes need crush protection devices.

Two incidents involving boats resulted in the deaths of children between 2005 and 2012. The circumstances of these incidents highlight:

- Issues of alcohol and drug use by boat operators, potentially resulting in impaired judgement and ability,
- The importance of wearing personal flotation devices such as life jackets, and
- The importance of decisions about weather conditions and safety.

Both the South Australian Water Safety Committee and the Department for Planning, Transport and Infrastructure (DPTI) consider trends and emerging issues about safe use of boats. In 2012 a revised edition of the 'Recreational Boating Safety Handbook' was published. This edition addresses the issues highlighted in the circumstances of the deaths reviewed by the Committee. It seeks to heighten awareness of safety issues through a series of 'self-assessment' questions.¹⁹

¹⁸ SA Government *Towards zero together: Road safety action plan 2013–2016* http://www.towardszerotogether.sa.gov.au/_data/assets/pdf_file/0010/113212/7803946_Road_Safety_Action_Plan_2013-2016.pdf Last accessed Sept 2013

¹⁹ SA Government SA (2011) *Recreational boating safety handbook* http://www.sa.gov.au/upload/franchise/Transport,%20travel%20and%20motoring/Boating/RecBtng%20Application%20forms/SA%20Boating%20Handbook_lowres.pdf Last accessed Oct 2013

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ISSUES – *Transport*

- In 2013 the Committee wrote to the Minister for Education and Child Development stating its views about the use of quad bikes by children and requesting that the possibility of legislative change be raised with the Attorney-General. See Section 2.3.5.

1.5.2 Suicide

The Committee has attributed the deaths of 30 young people to suicide in the eight years between 2005 and 2012. Since 2005, there have been three such deaths of children 9–14 years of age.

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. On this basis, the deaths of two children 9–14 years of age continue to be considered by the Committee as suicide deaths, but the Committee awaits further information about the circumstances of these two deaths in order to establish the intent or probable intent of the child.

*Table 15: Child deaths attributed to suicide, South Australia 2005–12**

Year	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
	5	5	1	2	4	4	4	5	30

*Source: Child Death and Serious Injury Review Committee database

STATISTICS – *Suicide*

- Since 2005, there has not been a significant rise in the number of young people between 15 and 17 years of age whose deaths have been attributed to suicide.
- In the seven years between 2005 and 2012, two thirds of the young people whose deaths were attributed to suicide were male and seven young people were Aboriginal (23%).
- Hanging continues to be the most common mechanism of death.

Suicide deaths 2012

Three of the five young people whose deaths were attributed to suicide in 2012 were male. Two of the five young people were Aboriginal. The mechanism of death in all five cases was hanging and all events occurred at the young person's place of residence.

Until a Finding is made by the Coroner in each case, the Committee has a limited amount of information available to it about the circumstances of these deaths.

ISSUES – Suicide

- The Committee has undertaken a preliminary analysis of 11 suicide deaths. It considers this analysis as Stage 1 in a three stage process seeking to identify key issues for intervention and prevention. See Section 1.7.2.

1.5.3 Accidents

In the eight year reporting period, a total of 33 deaths have been the result of accidents. Two deaths were the result of accidents in 2012.

Accidents exclude deaths attributed to transport incidents, fires or drowning.

Accidents most commonly include suffocation, strangulation and choking, falls and poisoning.

In 2012 the Committee reviewed the circumstances and causes of 0–1 year old deaths between 2005 and 2012 that were classified as accidents. Four deaths formerly classified as accidents were reclassified as undetermined.

*Table 16: Child deaths attributed to accidents, South Australia 2005–12**

	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
Infants < 1 year	3	4	2	1	1	1	0	1	13
1–17 years	1	3	6	4	1	2	2	1	20
Total	4	7	8	5	2	3	2	2	33

*Source: Child Death and Serious Injury Review Committee database

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Accidental deaths, infants less than one year

Twelve of the thirteen accidental deaths of infants were attributed to causes such as suffocation, asphyxiation (including mechanical and postural asphyxiation) and smothering. Seven of the thirteen were males.

The circumstances of these deaths highlight:

- The importance of all carers, including fathers, receiving information about infant safe sleeping, and
- The importance of a safe sleeping place for infants every time they are placed to sleep.

Accidental deaths, children 1–4 years

Between 2005 and 2012, seven infants aged 1–4 years died from accidental causes. The circumstances of these deaths most commonly involved entrapment resulting in neck compression and hanging.

- Two children were caught in blind cords when placed in their cot next to a window.
- Other entrapment hazards included a bike helmet, a shopping trolley and open filing cabinet drawers.

Accidental deaths, young people 15–17 years

Over the eight 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.
- Five of these deaths involved risk-taking behaviours.
- The prior or proximal use of cannabis was noted in five cases of accidental death. In two cases, the young person died as a result of falling from a high place; in three cases the young person died after ingesting or inhaling lethal amounts of prescribed medications, other volatile substances (LPG, butane) and/or alcohol.

ISSUES – Accidents

The Committee supports SIDS and Kids Safe Sleeping messages²⁰ and highlights:

- Safe sleeping messages need to be conveyed to all infant carers, including fathers.
- Infants need a safe place to sleep for every sleep.
- Toddlers are curious and mobile; they need supervision and safe places to play and explore that are free from entrapment hazards.
- Kidsafe's Home Safety Checklist²¹ can be used to alert carers to any potential hazards in a child's home environment.

20 <http://www.sidsandkids.org/safe-sleeping> Last accessed Oct 2013

21 Kidsafe SA Inc (2010) *Home safety checklist for parents of children 0–4 years of age* <http://www.gtp.com.au/kidsafesa/newsfiles/4986%20checklist%200-4%20FS%20V2proof%20Final.pdf> Last accessed Oct 2013

1.5.4 Deliberate acts and Neglect

Between 2005 and 2012, 26 deaths have been attributed to 'deliberate acts that resulted in the death of a child.' Six deaths have been attributed to fatal neglect.

In previous years the Committee has reported on fatal assault and neglect or fatal assault,

neglect and other non-accidental causes of death. In 2013, the Committee considered the various definitions of fatal assault that have been used by other death review teams and determined that its definition would be:

'a deliberate act that results in the death of an infant or child.'

Table 17: Child deaths attributed to a deliberate act or neglect, South Australia 2005–12*

Causes of Death	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
Deliberate act	2	5	1	5	6	2	3	2	26
Neglect	2	2	0	0	1	0	0	1	6

*Source: Child Death and Serious Injury Review Committee database

This definition has the scope to cover means such as assault, suffocation and poisoning; it does not include deaths from transport incidents or those attributed to suicide. It does not rely on a determination of the intent of the alleged perpetrator or an understanding of their 'state of mind'. Section 4.5.4 gives greater details about the issues that were considered in developing this definition. Two cases were reviewed and re-classified as accidental deaths.

The definition of neglect remains the same and 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.

Of the 26 children who died as the result of a deliberate act, 16 were male. Of the six deaths attributed to neglect, there were equal numbers of males and females. Nearly one half of the deaths resulting from a deliberate act (12 deaths) were 0–4 year old males.

Deliberate acts and the age of the child

Seventeen of the 26 deaths resulting from a deliberate act occurred in the 0–4 year old age group; three deaths were children aged 5–14 years and six deaths were young people 15–17 years.

Six of the 17 deaths of 0–4 year olds resulted from inflicted head injuries. Almost equal numbers died from other causes including inflicted abdominal injuries, incineration, suffocation, stabbing and poisoning. All of these young children were killed by people known to them. In eight cases, mothers were the alleged perpetrators of these acts. Bearing in mind that more than one person could be alleged to have perpetrated these acts, four fathers were also considered as alleged perpetrators.

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Two de facto partners were identified as alleged perpetrators and in five cases it could not be established which of the people caring for the child had committed the deliberate act that resulted in their death.

Of the eight cases that went to trial, two adults were convicted of murder and two of manslaughter. Four adults were convicted of criminal neglect and four were found not guilty by reason of mental incompetence; one case was dismissed.

The deliberate acts that resulted in the deaths of the nine children 4–17 years of age involved

head injuries (3 cases); stab wounds (4 cases) shotgun wounds and poisoning. In seven of these cases the alleged perpetrator(s) were known to the child or young person. In eight cases that went to trial, there have been various outcomes including convictions of murder, manslaughter or aggravated assault. Two cases were acquitted.

Five of these nine deaths were young women aged 10–17 years. Four of these young women were killed by an alleged male perpetrator known to them and four had some kind of previous relationship with the alleged perpetrator.

STATISTICS – *Deliberate acts and Neglect*

- Seventeen of the 26 deaths attributed to a deliberate act resulting in the death of an infant or child were young children 0–4 years old.
- Male children 0–4 years old are at greatest risk of deliberate acts of harm resulting in their death; 11 of the 26 deaths attributed to a deliberate act were males 0–4 years old.
- Mothers have been most commonly identified as the alleged perpetrator of deliberate acts of harm to children in the 0–4 age group. In eight of these 26 deaths, mothers were one of the alleged perpetrators.
- Five of the 26 deaths were young women 10–17 years old. Four were allegedly killed by a male perpetrator known to them.
- Between 2005 and 2012, six children have died from neglect.

Neglect

There have been six deaths attributed to neglect in the eight year period between 2005 and 2012. Two infants under one year were not provided with adequate or appropriate nourishment. The four older children (4–14 years) did not receive timely medical treatment for a medical condition or injuries. One perpetrator has been sentenced; four others (in relation to two cases) are currently facing charges of either manslaughter or criminal neglect. A prosecution was not pursued in three other cases.

Families SA (or in one case, its interstate equivalent) had received notifications about these six children or their siblings. In four cases, the first notification was made by hospital staff when the child was born. Notifications about neglect were common in these cases. The ability of the parent(s) to care for the child and/or their siblings had prompted these notifications; especially concerns about the parent(s)' history of alcohol and drug use, domestic violence and/or transience, the mental or physical health of parents, and the parents' intellectual disability.

For the two children of school age, concerns were also expressed about non-attendance at school. Both the Committee and the Coroner have commented on the issue of school non-attendance as a signal for investigative action and the Committee has made ongoing

recommendations about the ways in which the child protection system assesses and responds to ongoing 'low level' notifications of neglect, most recently in its recommendations about the case of six seriously injured children (see Section 1.7.1).

ISSUES – *Deliberate acts and Neglect*

The Committee's recommendations continue to focus on:

- The ways in which the child protection system responds to notifications of neglect.
- Chronic non-attendance at school as a reason for investigative action by both the child protection system and the education department.

1.5.5 Drowning

In the eight year period between 2005 and 2012, 23 children have drowned in South Australia.

Sixteen of these deaths were children 0–4 years old (70%); four children were aged between 5–9 years; the remaining three deaths were children 10–17 years old. Eight drownings occurred in private swimming pools.

Thirteen young children aged 0–4 years drowned in their home environment: seven young children drowned in private swimming pools; a further six 0–4 year olds drowned in fish ponds, buckets or a water tank. The three other deaths in this age group occurred in waterways such as rivers and lakes.

*Table 18: Child deaths attributed to drowning, South Australia 2005–12**

Year	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
	2	5	4	2	3	2	4	1	23

*Source: Child Death and Serious Injury Review Committee database

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STATISTICS – Drowning

- Of all children 0–17 years, the youngest age group of 0–4 year olds continues to be the most likely to drown.
- These young children are more likely to drown in their home environment.

The circumstances of the seven drownings of 0–4 year olds in private swimming pools involved:

- lapses in safety precautions – the pool gate was deliberately or accidentally left open, or
- non-compliance with legislative requirements for fencing; one inflatable pool was not fenced; one pool gate was not self-closing; one home owner had chosen not to comply with South Australian pool fencing requirements.

The Coroner held an inquest into the death resulting from non-compliance with fencing requirements.²² The Coroner concluded that the swimming pool owner had chosen not to comply with South Australian legislation and that there was no system in South Australia for monitoring of compliance with this legislation.

The Coroner made the following recommendation:

12.2. I recommend that the Hon John Rau MP, Deputy Premier, Attorney-General and Minister for Planning, Industrial Relations and Business Services and Consumers give consideration to the facts established in these findings and whether it is appropriate to establish a regular system of swimming pool safety inspections such as exists in Western Australia.

Subsequent to this Recommendation, the Attorney-General's department sought public comment about the legislative framework for swimming pool safety which included issues about monitoring compliance with legislation. The Committee contributed to this paper (see Section 2.3.4).

ISSUES – Drowning

- Lapses in safety precautions and non-compliance with legislative requirements about swimming pool safety are major contributors to the deaths of young children in domestic swimming pools.
- The Coroner has recommended that the Attorney-General consider a system of regular swimming pool safety inspections. The Attorney-General has sought public opinion about monitoring compliance with swimming pool legislation. The results of this consultation are pending.

²² SA Coroner Finding of Inquest 2013
<http://www.courts.sa.gov.au/CoronersFindings/Lists/Coroners%20Findings/Attachments/541/EDDLESTON%20Byrce%20Ashton.pdf> Last accessed Oct 2013

1.5.6 Fire-related deaths

Seven fire-related deaths were recorded in the eight year period between 2005 and 2012; none in 2012. Four of these deaths were associated with the Port Lincoln bush fires in 2006 and have been the subject of a Coronial Inquest.²³ 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.

1.5.7 Health-system-related events

One health system related death was recorded in 2012. Fourteen deaths were attributed to these causes in the period 2005 to 2012.

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 eight year period between 2005 and 2012, 244 children died whose families had had contact with Families SA in the three years before their death. The death rate for this period was 8.7 deaths per 100 000 children. In 2012, the death rate was 7.6 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 protection 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.

Tables 19 and 20 provide further details about these deaths. Comparison of death rates across the eight year period can be found in Table 29 (Section 4.15).

²³ SA Coroner Finding of Inquest 2007
In <http://www.courts.sa.gov.au/CoronersFindings/Lists/Coroners%20Findings/Attachments/310/Wangary%20Fires%20Inquest%20-%20MODIFIED%20and%20FINAL%20February%202008.pdf> Last accessed Oct 2013

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*Table 19: Demographics of child death and contact with Families SA, South Australia 2005–12**

	2012	2005–12	RATE ¹ per 100 000
TOTAL	27	244	8.7
RATE per 100 000	7.6		
Sex			
Female	11	96	7.0
Male	16	148	10.3
Age Group			
Infants <1 year ²	13	120	76.7
1–4 years	4	40	6.7
5–9 years	2	18	2.4
10–14 years	1	24	3.0
15–17 years	7	42	8.4
Cultural Background			
Aboriginal	10	60	60.6
Usual Residence			
Outside SA	1	5	
Socioeconomic Background (SEIFA IRSD)³			
Most disadvantaged SEIFA 5	13	89	15.3
SEIFA 4	5	68	12.3
SEIFA 3	4	42	8.1
SEIFA 2	2	25	4.8
Least disadvantaged SEIFA 1	2	15	2.8
Remoteness (ARIA+)³			
Major City	14	137	7.1
Inner Regional	1	31	9.0
Outer Regional	9	49	14.3
Remote and Very Remote	2	22	20.0

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

STATISTICS – *Contact with Families SA*

- The death rate for children whose families had had contact with Families SA was 8.7 deaths per 100 000 children for the eight year period between 2005 and 2012. Although the death rate has fluctuated over the individual years recorded by the Committee no trend was found ($p=0.93$).
- Infants younger than one year old have the highest death rate of all ages. The Australian Institute of Health and Welfare (AIHW) reported that in 2011–12, 0–1 year olds were subject to the highest rate of substantiation of child protection concerns, in South Australia and nationally.²⁴
- Over the eight year period, Aboriginal children whose families had had contact with Families SA in the three years before their death were 8.9 times more likely to die than non-Aboriginal children, 60.6 deaths per 100 000 for Aboriginal children, 6.8 per 100 000 for non-Aboriginal children. In 2011–12, the AIHW reported that ATSI children in South Australia were 11 times more likely to be the subject of a substantiated notification of child abuse or neglect, and the rate of ATSI children subject to care and protection orders was nearly ten times the rate for non-Aboriginal children in South Australia and nationally.²⁵
- Illness or disease accounts for the greatest number of deaths from 2005 to 2012 (50%) for these children.
- 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), 15.3 deaths per 100 000 children in areas of greatest disadvantage compared to 2.8 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 major city area, 20.0 deaths per 100 000 children in remote and very remote areas compared to 7.1 deaths per 100 000 in major city areas.

Contact with Families SA and causes of death

In the eight year period between 2005 and 2012, the number of children dying from illness and disease (121 deaths) was higher than the number dying from external causes (80 deaths) or from SIDS and undetermined causes (41 deaths). The death rates reflect these differences. See Table 20.

The majority of deaths from illness and disease were infants less than one year old who died from conditions occurring in the perinatal

period, predominantly those conditions associated with extreme prematurity.

Of the deaths attributed to external causes over this eight year period, most notable are the number of young people 10–17 years of age who were known to Families SA and died in transport incidents (18 deaths) or who committed suicide (15 deaths). Table 15 shows that 30 young people have died as a result of suicide in the eight year period between 2005 and 2012; half of this number had some form of contact with Families SA in the three years preceding their death.

²⁴ AIHW 2013. Child protection Australia 2011–12. Child welfare series no. 55. Cat. no. CWS 43. Canberra: AIHW. <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129542752>
Last accessed Oct 2013

²⁵ *Ibid*

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

Thirty four infants less than one year old died from SIDS or an undetermined cause; there were usually risk factors for unsafe sleeping practices identified in the circumstances of the deaths of these infants. Tables 10 and 11 show that in total

over this eight year period, 68 infants less than one year died from SIDS or an undetermined cause; thus half of the infants who have died from these causes had some form of contact with Families SA in the three years before their death.

*Table 20: Child deaths and contact with Families SA by age and cause of death, South Australia 2005–12**

Causes of Death	Infants < 1 year	1–9 years	10–17 years	TOTAL	RATE ¹ per 100 000
2012					
Illness or Disease	8	1	0	9	2.5
SIDS & Undetermined Causes	2	2	0	4	1.1
External Causes	1	3	8	12	3.4
Cause not yet known	2	0	0	2	
TOTAL	13	6	8	27	7.6
2005–2012					
Illness or Disease					
Conditions in the perinatal period	43	0	0	43	1.5
Congenital and chromosomal abnormalities	19	5	2	26	0.9
Cancers	0	9	5	14	0.5
All other illness or disease	12	12	14	38	1.4
Illness or Disease – Total	74	26	21	121	4.3
SIDS & Undetermined Causes – Total					
	34	6	1	41	1.5
External Causes					
Transport	1	5	18	24	0.9
Deliberate acts	2	6	2	10	0.4
Accidents	6	4	5	15	0.5
Suicide	0	0	15	15	0.5
Neglect	1	2	2	5	0.2
All other external causes	0	9	2	11	0.4
External Causes – Total	10	26	44	80	2.8
Cause Not Yet Known	2	0	0	2	
TOTAL	120	58	66	244	8.7

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

Contact with Families SA 2012, the nature of vulnerability and causes of death

The concerns prompting notifications to Families SA in 2011, recorded in the 2011–12 Annual Report, were about financial difficulties, domestic violence, parental alcohol and drug use and parental mental health problems – all of which raised concerns about the neglect of children. In 2012, in the 27 cases where the child or their family had had some form of contact with Families SA in the three years before their death, there were few changes to the types of issues prompting notifications. Domestic violence, parental alcohol and drug use, homelessness or transience and financial problems were the issues that most frequently generated concerns about parental capacity to care for children, leading to their neglect. In 2011–12, the AIHW reported that 44.6% of substantiated notifications in South Australia were about neglect and 27.4% were about emotional abuse.²⁶

With regard to the nature of vulnerability and causes of death, in 2012 more children who had had contact with Families SA in the previous three years died from external causes (12 deaths) than from illness or disease (nine deaths) or SIDS and undetermined causes (four deaths).

Most notable in the 12 deaths from external causes in 2012 were four deaths of young people attributed to suicide and four to transport incidents. These young people were the subject of notifications about truancy, homelessness or transience and frequently concerns about domestic violence, alcohol and drug use and homelessness in their family had prompted notifications about neglect.

In infants under one year, four deaths were attributed to SIDS or undetermined causes in 2012.

Risk factors for sudden and unexpected infant deaths present in the circumstances were the alcohol and/or drug use of parents, co-sleeping with tired and/or intoxicated parents and the presence of pillows or other bedding likely to lead to asphyxiation. Eight of the 27 deaths were of infants less than 28 days old, seven of whom died from conditions associated with their premature birth. Only one of these infants was the subject of a notification to Families SA at birth. Notifications of neglect for siblings were common in these families, as were concerns about domestic violence and parental alcohol and drug use. In four cases there was a long history of contact with Families SA for one or both parents and in four cases other siblings had been placed in alternative care arrangements.

Systemic issues about Families SA and service delivery are identified in the Committee's in-depth reviews. See Section 1.7.1 for this year's review and the associated recommendations and Section 2 for information about the key service delivery issues the Committee has been monitoring.

1.6.2 Aboriginal children

Ninety-six Aboriginal children died in South Australia between 2005 and 2012; a death rate of 96.9 deaths per 100 000 Aboriginal children.

Thirteen Aboriginal children died in 2012. The death rate in 2012 was 103.6 deaths per 100 000 Aboriginal children. This rate of death is 3.8 times the rate for non-Aboriginal children in 2012.

Nearly two-thirds of the 96 Aboriginal children who died in this eight year period had some form of contact with the child protection system in the three years preceding their death.

Tables 21 and 22 provide more information about the deaths of Aboriginal children. Comparison of death rates across the seven year period can be found in Table 29 (Section 4.15).

26 AIHW 2013. Child protection Australia 2011–12. Child welfare series no. 55. Cat. no. CWS 43. Canberra: AIHW. <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129542752> Last accessed Oct 2013

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*Table 21: Demographics of Aboriginal child death, South Australia 2005–12**

	2012	2005–12
TOTAL	13	96
RATE¹ per 100 000	103.6	96.9
Sex		
Female	4	40
Male	9	56
Age Group		
Infants <1 year	8	55
Infant Mortality Rate ²	13.0	11.5
1–4 years	0	7
5–9 years	2	6
10–14 years	0	8
15–17 years	3	20
Contact with Families SA³		
Families SA	10	60
Usual Residence		
Outside SA	0	18
Socioeconomic Background (SEIFA IRSD)⁴		
Most disadvantaged SEIFA 5	8	46
SEIFA 4	3	19
SEIFA 3	0	5
SEIFA 2	2	7
Least disadvantaged SEIFA 1	0	1
Remoteness (ARIA+)⁴		
Major City	3	31
Inner Regional	1	1
Outer Regional	6	23
Remote and Very Remote	3	23

¹ Death rates for Aboriginal children have been calculated using the Estimated Resident population of Aboriginal children aged younger than 18 years. See Section 4.11

² The Infant Mortality Rate is calculated per 1000 live births. See Section 4.11

³ Death rates for Families SA are not included, see Section 4.11.

⁴ South Australian residents only included.

*Source: Child Death and Serious Injury Review Committee database

STATISTICS – Aboriginal Children

- For the period between 2005 and 2012, the death rate for all Aboriginal children who died in South Australia shows a 3% decrease on average per year ($p=0.4$) but no average decrease for Aboriginal children who were resident in South Australia ($p=0.88$)
- Aboriginal children were 3.0 times more likely to die than non-Aboriginal children (96.9 deaths per 100 000 Aboriginal children compared to 31.9 for non-Aboriginal children).
- Aboriginal infants younger than one year had a higher rate of death than non-Aboriginal infants in the period 2005–12 (11.5 deaths per 1000 Aboriginal infants compared to 3.4 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 55 of the 96 Aboriginal children who died between 2005 and 2012 was illness or disease (57.3%). The cause of death for seven of the 13 Aboriginal children who died in 2012 was also illness or disease.

*Table 22: Aboriginal child death by age and cause of death, South Australia 2005–12**

Causes of death	Infants < 1 year	1–9 years	10–17 years	TOTAL
2012				
Illness or Disease	7	0	0	7
SIDS & Undetermined Causes	1	0	0	1
External Causes	0	2	3	5
TOTAL	8	2	3	13
2005–2012				
Illness or Disease	40	7	8	55
SIDS & Undetermined Causes	12	1	0	13
External Causes	3	5	20	28
TOTAL	55	13	28	96

*Source: Child Death and Serious Injury Review Committee database

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

Between 2005 and 2012, forty of the 55 deaths attributed to some kind of illness or disease were infants younger than one year (72.7%). 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.

Thirteen deaths were attributed to SIDS or undetermined causes. The 12 infants less than one year who died from these causes were male and, of these 12 families, nine had contact with the child protection system in the three years preceding the infants' deaths.

Between 2005 and 2012, transport incidents accounted for 11 of the 28 deaths from external causes; nine of these young people were male and were 10–17 years of age; two of these deaths occurred in 2012. Seven of these young people, or their families, had had contact with

child protection services in the three years preceding their deaths.

In the eight year reporting period, the deaths of seven young Aboriginal people have been attributed to suicide; two of these deaths occurred in 2012.

Aboriginal children who were not resident in South Australia

In the eight year period between 2005 and 2012, 18 Aboriginal children were not normally resident in South Australia at the time of their death. Thirteen of these children were normally resident in the Northern Territory. The majority of these children died in South Australian hospitals from illness or disease. 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.

ISSUES – Aboriginal Children

- The association between death in transport incidents, young Aboriginal men and the nature of contact with the child protection system needs to be explored.
- Families SA workers have a role to play in providing safe sleep information to Aboriginal families with infants and should have access to information about safe sleeping specifically developed for Aboriginal families.

1.6.3 The impact of Socioeconomic Disadvantage – SEIFA IRSD

Table 2 highlights the distribution pattern of socioeconomic disadvantage and death. Approximately 50% of the children who died lived in the State's most disadvantaged areas (SEIFA 4 and 5) compared to 13.8% of deaths that occurred in the least disadvantaged area of the State (SEIFA 1). Rates of death, which take into account the population of children in each quintile, were also highest in SEIFA 4 and 5 (35.1 and 44.3 deaths per 100 000 children) compared to SEIFA 1 (23.1 deaths per 100 000 children).

The impact of disadvantage on death is accentuated in the SEIFA IRSD for the two vulnerable groups of children (Tables 19 and 21). 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. Sixty-five of the 96 Aboriginal children who died were resident in South Australia's most disadvantaged areas.

For the period between 2005 and 2012, the number of deaths in the least disadvantaged area (SEIFA 1) decreased by 7% on average per year ($p=0.05$) and by 5% in one of the more disadvantaged areas (SEIFA 4 ($p=0.06$)). In the area of most disadvantage there was a small increase on average in the number of deaths noted (2% SEIFA 1 ($p=0.4$)).

The Committee will continue to monitor and analyse these trends in child deaths associated with disadvantage, especially in relation to the downward trend occurring in the State's least disadvantaged areas (SEIFA 1).

*Table 23: Child deaths by SEIFA quintile, South Australia 2005–12**

	2005	2006	2007	2008	2009	2010	2011	2012	2005–2012
SEIFA 5	28	25	37	35	33	35	32	33	258
SEIFA 4	30	26	27	16	32	28	21	14	194
SEIFA 3	29	22	20	26	22	24	16	29	188
SEIFA 2	14	21	17	18	20	20	22	11	143
SEIFA 1	21	17	18	16	18	10	11	14	125

*Source: Child Death and Serious Injury Review Committee database

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

1.6.4 The impact of Geographical Remoteness – ARIA+

The Accessibility and Remoteness Index of Australia or ARIA+ 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.²⁷ The categories are: major city, inner regional, outer regional, remote and very remote.

The higher rate of deaths in remote and very remote areas (52.7 deaths per 100 000 children in rural and remote areas compared to 30.2 deaths per 100 000 in major city areas) suggested that services are harder to access in these areas (Table 2).

Table 24 shows the number of deaths in each ARIA+ category, by year.

*Table 24: Child deaths by ARIA+, South Australia 2005–12**

	2005	2006	2007	2008	2009	2010	2011	2012	2005–2012
Major city	70	71	81	78	80	77	65	62	584
Inner regional	20	14	13	14	27	21	13	12	134
Outer regional	16	18	14	12	14	16	21	21	132
Remote and Very Remote	16	8	11	7	4	3	3	6	58

*Source: Child Death and Serious Injury Review Committee database

1.7 In-depth Reviews 2012–13

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 systemic issues which might give rise to 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 2012–13 the Committee completed one in-depth review about six children with serious injuries. Another substantial body of work completed in the 2012–13 period was the preliminary analysis of 11 cases of suicide. Summaries of the review and the preliminary analysis are provided in this section.

1.7.1 In-depth review: Six children with serious injuries

On 22 June 2008, a young child was taken to a metropolitan hospital by his mother. He had life threatening injuries. The following day the child's five siblings were located and admitted to hospital. They too had physical injuries, but of a less serious nature. It is now known that their injuries were the result of chronic neglect and severe physical abuse.

²⁷ See Section 4.8 for more details.

Prior to June 2008, little was known about these six children. They had come to South Australia from another State, but it was not possible to be precise about when they came. It was later learned that they had been living in a four bedroom house in a suburb of Adelaide with up to 15 other children and as many as six adults, including the mother of the six children, the father of five of the children, M (the mother of most of the other children in the house), a half-sibling of M (who was also the father of the sixth child), another half-sibling of M, and the partner of this latter half-sibling.

The six children were taken into the custody of the Minister. They remained in hospital for about a month. On discharge they were housed together in the community. They remained in this placement beyond June 2009, the end date set for the Committee's review. The long term outcomes for each child did not form part of the review.

Allegations of abuse and neglect of these six children were investigated by South Australia police. All six adults were prosecuted. Five were found guilty and sentenced to imprisonment for their offences against the children. A further adult was found not guilty by reason of mental incompetence.

Immediately following the hospitalisation of the six children, the then Minister for Families and Communities, the Honorable Jay Weatherill MP, directed the Committee to undertake a review of the case. Minister Weatherill set the broad parameters for the scope of the review. He requested that the Committee:

'examine the contacts between the family and government and non-government agencies, and the communication between agencies as a result of these contacts.'

In accordance with its legislation, the Committee began its review process in November 2011, once all of the criminal proceedings in relation to the six adults had been finalised. The review critically examined the quality and effectiveness of interventions provided by Government and non-Government agencies on behalf of the children from the time they were thought to have arrived in South Australia to 30 June 2009. The review sought to understand the systemic factors in the circumstances leading to the serious injury of the children and the factors that determined the quality of their care from 22 June 2008 when the first child was taken to hospital.

In October 2012, the Committee provided its recommendations to the Minister for Education and Child Development. In May 2013, the *South Australian Government response to recommendations regarding the case of six children with serious injuries referred by the former Minister for Families and Communities under Section 52N(2) of the Children's Protection Act* was published.²⁸ This document stated that:

In the months since the CDSIRC completed its review, Government agencies have been working together to address the recommendations and ensure that a comprehensive response is provided so that the community is reassured that everything is being done to prevent similar cases happening again.'

A summary of the issues arising from the review and associated recommendations are provided here.

28 SA Government (2013) *response to recommendations regarding the case of six seriously injured children referred by the former Minister for Families and Communities under Section 52N(2) of the Children's Protection Act 1993* <http://www.decd.sa.gov.au/aboutdept/files/links/GovernmentCDSIRCResponse.pdf> Last accessed September 2013.

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

1.7.1 In-depth review: Six seriously injured children *(continued)*

Submission Date October 2012

Issues Arising from the Review

Cultural background

Service providers must demonstrate appropriate cultural sensitivity and competence in their work with Aboriginal families. However, issues such as overcrowding, poor living conditions or chronic truancy must be addressed adopting the same standards for all children irrespective of their cultural background.

The ‘neglect of neglect’

There is a real risk that children living in over-crowded and poor conditions where they are not going to school, in the care of adults who may be avoiding scrutiny by welfare and other government agencies, will suffer significant emotional, developmental and social harm. The effects of this harm can be profound, pervasive and long-term. There is also a real risk that in such an environment children will suffer physical abuse. If and when that risk becomes reality, the consequences can be grave.

It is imperative that an effective child protection system has the will, the capacity and the resources to carry out an investigation into a case which presents with such indicators of neglect. Given it is known that neglect and physical abuse often go hand-in-hand, child protection investigations of neglect should be given higher priority.

Neglect of education is significant for a number of reasons. Most obviously it hampers the child’s overall development including their social development. The Coroner has noted that there is also the risk of ‘more sinister’ things occurring and that investigation is essential in such cases.²⁹

The Committee is aware that as a result of the Coroner’s concerns DECD has given this issue a high priority and new guidelines are in place to deal with non-attendance in more effective ways. The Committee has no doubt that chronic non-attendance at school, especially of younger primary school children, should be seen as neglect and dealt with as such in a timely manner.

Interagency collaboration and information sharing

The Committee understands that in State agencies there is now a far greater awareness of the importance of information-sharing and that there are guidelines³⁰ in place for that to occur, but information-sharing must not be seen as an end in itself. Information-sharing should be such that it leaves no room for doubt about the true state of affairs with regard to children’s safety and wellbeing.

It is in the nature of people’s dealings with State agencies that different agencies will know different things about a family’s situation. Unless all agencies know the full picture, agree on a plan of action and take that action, there is the real risk that problems which impact adversely on a child’s development will not be addressed as they should be.

There is a need for interagency collaboration in cases of neglect, either by using existing multi-agency forums or through a specifically convened forum for sharing information. Housing SA, DECD, SA Health, SA Police and Families SA should all participate in such collaborative efforts.

29 SA Coroner Finding of Inquest 2009: <http://www.courts.sa.gov.au/CoronersFindings/Lists/Coroners%20Findings/Attachments/414/ROBERTS%20Jarrad%20Delroy.pdf>
Last accessed September 2013.

30 Ombudsman SA (2008) *Information sharing guidelines for promoting safety and wellbeing*
http://www.ombudsman.sa.gov.au/wp-content/uploads/information_sharing_guidelines.pdf
Last accessed September 2013.

1.7.1 In-depth review: Six seriously injured children *(continued)*

Submission Date October 2012

Emergency responses and long-term planning

When government agencies are required to respond to the needs of children who have suffered significant trauma, both in an emergency and on a longer term basis, there must be an overarching response plan developed. In undertaking this planning, the needs of the children must be at the front and centre of all decision-making. The response should incorporate long-term planning so that at the point of discharge from hospital there is an individual plan for each child and an effective case management structure in place that monitors and responds to the needs of each child. Appropriate resourcing must be provided. Strong leadership that fosters inter-agency collaboration and effective accountability and review processes must be considered in the implementation of these plans.

Recommendations

Cultural background

The Committee recommends reinforcing existing good practice standards such that:

- All agencies apply the same standard of care for Aboriginal children as for non-Aboriginal children.
- Intervention occurs in culturally appropriate ways which ensure that the consideration of risk and safety issues for Aboriginal children is no different to that given to non-Aboriginal children.
- All agencies build workforce capacity to provide culturally responsive services.
- All agencies have effective employment strategies in place to support the employment, supervision and professional development of Aboriginal workers.

The involvement of Housing SA

It is recommended that:

- Housing SA provide for large families appropriate housing with adequate amenities such as toilets and bathrooms to avoid overcrowding, squalor and the risk of neglect.
 - All Housing SA staff receive Child Safe Environment training. This training should reflect best-practice standards including the risk factors associated with neglect and contain some 'face-to-face' component.
 - Housing SA staff responsible for conducting home visits receive additional training and support about indicators of poor living conditions, neglect and domestic violence, and the role of Housing SA in child protection.
 - When Housing SA receives complaints about poor living conditions, Housing SA staff actively investigate whether children are living in these houses and initiate appropriate child protection responses.
 - Housing SA staff are included in local information-sharing forums or networks where integrated, inter-agency responses are planned.
-

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

1.7.1 In-depth review: Six seriously injured children *(continued)*

Submission Date October 2012

Recommendations *(continued)*

The involvement of the Department for Education and Child Development

It is recommended that:

- DECD work with the Australian Government to develop mandatory transfer protocols for schools to ensure that appropriate information is shared between States about children, particularly those at risk.
- DECD strengthen the reporting process from schools about children who fail to attend school once enrolled.
- DECD strengthen the 'whereabouts unknown process' for children who have not attended school for 20 consecutive school days.

The involvement of Families SA

It is recommended that:

- Families SA review the priority and resources assigned to notifications of neglect in light of the research about the seriousness of the impact of neglect on children and the frequent co-existence of physical abuse.
 - Where there are notifications of neglect Families SA, in line with child-centred practice, as a starting point, sight children to confirm their wellbeing.
 - Families SA use its existing legislative powers to involve SAPOL if necessary to ensure that children are sighted.
 - Where persistent school non-attendance is evident, Families SA ascertain who the children are, where they are living and where they are attending, or should be attending, school.
 - Families SA develop information-sharing processes between States for families at risk, through the National Framework for the Protection of Children, to ensure that agencies share information about the wellbeing of children at risk of harm.
 - Families SA articulate its case management approach with children in care and consider the development of more robust policies and procedures to guide its frontline staff about child- focused case management.
 - This approach should emphasise the importance of recording decisions made.
 - This approach should include appropriate practice support.
-

1.7.1 In-depth review: Six seriously injured children *(continued)*

Submission Date October 2012

Recommendations *(continued)*

The involvement of the Health System

It is recommended that:

- GPs be reminded through their medical risk insurers, the Australian Health Practitioners' Registration Authority and the Royal Australian College of General Practitioners of their mandated responsibilities under the Children's Protection Act 1993.
- All health staff in hospitals and community health services complete Child Safe Environment training. This training should reflect best-practice standards including the risk factors associated with neglect and should contain some 'face-to-face' component.

The three week hospital period and discharge

It is recommended that:

- The Minister for Education and Child Development lead the development of an overarching emergency response plan in consultation with all other relevant agencies. This plan should ensure that each agency is capable of providing an immediate response to cases which involve a large number of children with urgent and intensive child protection, forensic, health, housing, education, therapeutic and care needs.
- The emergency response plan should place each child's needs as the first priority and incorporate an awareness of the need to minimise any further damage to each child by the competing demands of various systems.

Such a plan should include at least the following features:

- Nomination of a lead agency to manage the implementation of the emergency response.
 - Nomination of senior officers within each relevant agency who will be responsible for that agency's actions under the plan.
 - The emergency response plan needs to be adequately resourced and have:
 - An ability to call in or divert qualified and experienced workers from each agency to provide high quality and experienced assessment and services to each child.
 - Draft service agreements in readiness to be used where external services must be engaged.
-

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

1.7.1 In-depth review: Six seriously injured children *(continued)*

Submission Date October 2012

Recommendations *(continued)*

The three week hospital period and discharge *(continued)*

- The emergency response plan should ensure that, during the initial phase, at least the following tasks are attended to:
 - Identification and establishment of protocols for the day to day logistical arrangements for each child.
 - Medium term strategies for each child in relation to all of their needs including placement, health, education and therapeutic needs.
 - Examination of the progress of, and outcomes for, each child at set periods, through monitoring and review.
 - Ensuring that the best interest of each child is a central consideration in any decision making about contact with parents while an investigative process is underway. The complex relationships of the children with each other should also be considered.
 - Assessing and responding to each child’s therapeutic needs in a way that is responsive to that child.
 - Establishing the group of service-providing agencies that will plan for longer-term strategies for each child and monitoring the readiness of those strategies for implementation.
 - Setting an end date for the emergency phase and ensuring that, by the end date, longer-term strategies for each child are developed and resourced so that the children may move into longer-term placement, therapy, health and education arrangements.
 - As with disaster-planning responses, there should be a comprehensive de-briefing and evaluation so that lessons can be applied in future situations.
 - In cases where there is a high level of media interest, development of a communication strategy that focuses on the vital task of protecting the privacy of children.
-

1.7.1 In-depth review: Six seriously injured children *(continued)*

Submission Date October 2012

Recommendations *(continued)*

Planning for children's care and accommodation after discharge

It is recommended that:

- Concurrent with the emergency response, a group made up of representatives from service-providing agencies be established to develop longer-term strategies for each child including their placement, health, education and therapeutic needs.
This group should:
 - Be led by the agency assuming case management for each child.
 - Examine each child's progress and outcomes at set periods.
 - Keep a record of its decisions and actions in relation to each child.
 - Provide therapeutic oversight of accommodation and care options by making recommendations about therapeutic interventions and behavioural strategies and monitor progress in these areas.
 - The agency assuming case management should attend to the following tasks for each child:
 - Develop individual case plans for each child within a timeframe that prevents further harm to the child.
 - Appoint sufficient case managers to ensure that each child's needs are known and accommodated.
 - Ensure that the therapeutic needs of each child are attended to, with therapy services tailored to the needs of each child, and delivered within a timeframe that prevents further harm to the child.
 - Ensure that the accommodation and care is provided by suitably qualified and experienced staff. Current senior and experienced Families SA residential care staff would ideally be diverted to establish such accommodation prior to any handover to any other providers.
 - Ensure each child has a key worker within the accommodation setting to ensure that the child's needs are appropriately met and advocated for.
 - Engage in the case management practices of monitoring and reviewing.
 - Evaluation of the long-term response and progress of the children should be undertaken to ensure these response systems are continually improved.
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SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

1.7.1 In-depth review: Six seriously injured children *(continued)*

Submission Date October 2012

Recommendations *(continued)*

Service agreements

It is recommended that:

- The needs of children drive the contractual decision-making.
 - If contractual accommodation and care arrangements are required for each child, then as part of the longer-term planning for the children's needs, Families SA have draft service agreements in readiness. These agreements should address the roles and responsibilities of both parties. Such service agreements should specify:
 - A process of thorough assessment at the point of referral to ensure clarity about the level of complexity of the care required and the capacity of the contractor to provide this level of care.
 - The qualifications and experience expected of staff.
 - The training, support and supervision staff will receive, and from whom.
 - The levels of management and oversight that will be provided both by the contractor and by Families SA in particular as it relates to the implementation, monitoring and evaluation of each child's individual case plan.
 - During the development of contractual arrangements:
 - Families SA provide a case plan for each child to the contractor.
 - Non-government care and accommodation providers be required to show evidence of the ways in which they are implementing, monitoring and evaluating case plans including processes that enable staff to engage in reflective practice that assists them to evaluate whether they are achieving the case plan goals.
 - Families SA ensure processes are in place to monitor the provision of services by the contractor and that these monitoring processes are child-centred and outcome-focussed.
 - In any case where children come into the care of Families SA as a result of persistent trauma, abuse or neglect, Families SA have contracting and licensing processes ready to enable clear understanding of roles, responsibilities and contractual arrangements.
-

In accordance with its legislation, the Committee has responsibility for monitoring the implementation of its recommendations. Section 3 of this report provides further information about the Committee's monitoring activities.

1.7.2 Preliminary analysis: Suicide and young people

A preliminary analysis of the suicide deaths of 11 young people all aged between 15–17 years was undertaken. Nine of these young people were male and two of these nine males were Aboriginal. Five lived in some of the State's most disadvantaged areas. The mechanism of death for nine of the 11 young people was hanging and most commonly the event occurred in the young person's home.

Initially, analysis of the information available about each young person – which included coronial, health, mental health and education records – confirmed what is already well known about young people and suicide ie a range of risk factors were present in their lives, configured differently for each young person but in themselves not reliable predictors of suicide. Recommendations about prevention based on the identification of risk factors is limited to population-based measures such as schools-based psychological well-being, skills training programs and public awareness campaigns and more targeted interventions for 'at-risk' groups such as those who have self-harmed or have been screened and identified as at-risk.³¹

In order to make the most of the depth of information available to the Committee and to utilise this information to identify points of intervention and prevention for suicide, a life chart approach was used to map each young person's life across time and life domains (Fortune, Stewart, Yadav and Hawton, 2007).³²

The Committee considered this analysis to represent the first of a three stage process. In Stage 2 feedback will be sought from stakeholders who are also working to prevent youth suicide. In Stage 3 the Committee will write a report with recommendations about suicide prevention and young people based on the outcomes of the analysis of cases and feedback from stakeholders. The review will conclude in 12 month's time when the report will be submitted to the Minister for Education and Child Development.

Summary of the preliminary analysis

Consistent with the work of Fortune et al, three life chart groups were identified:

- Group One – six young people with multiple and complex life challenges occurring since early childhood,
- Group Two – three young people with emerging mental health issues, and
- Group Three – two young people with few (if any) life history concerns.

At this point in the analysis, bearing in mind the small numbers involved, the following intervention and prevention points were identified:

Group One

Prevention and intervention points for Group One occur throughout life and include:

- Early childhood – where targeted interventions for vulnerable families can assist with attachment and early trauma issues
- Early primary and middle primary school years – when learning problems are identified and further supports outside of school are needed to encourage home-based support for these children. It is quite likely that child protection agencies will be involved in service provision to these families at some point so they can facilitate such supports.

³¹ Hawton, K. Saunders, K and O'Conner, R (2012) Self-harm and suicide in adolescents. *The Lancet*, 379, 2373-2382.

³² Fortune, S. Stewart, A, Yadav, K. and Hawton, K (2007) Suicide in adolescents: using life charts to understand the suicidal process. *J Affect Disorders*, 100, 199-210.

SECTION 1: CHILD DEATHS SOUTH AUSTRALIA 2005–12 AND IN-DEPTH REVIEWS 2012–13

- Late primary school – where seeking out a ‘middle school’ option may be a better way to achieve a supported transition to high school
- Transition from primary school to high school – where these children with identified learning problems should have an individual or negotiated education plan that recognises their learning difficulties and reinforces the strategies necessary to support them
- If and when disengagement from school occurs – support services could be available for these young people through youth specific programs, bearing in mind that these young people are highly likely to require support in other areas of life. (For example their learning difficulties throughout school may mean that they need help to build life skills; their problems at home may mean that they need help to find and keep stable accommodation; their difficulties in making and keeping relationships with peers may mean that they are socially isolated). There is also the potential for the involvement of alcohol and drug services and the juvenile justice system. Coordination between services is essential within a well developed case management framework.

Group Two

Prevention and intervention points for Group Two focus on opportunities to build on and strengthen areas where these young people have been or remain engaged – through family, school or service providers.

The families of these young people may face some challenges, and require support, or may already be receiving support. Providers of adult mental health services need to be proactive in ensuring that clients with children are receiving appropriate support services for their families. Programs such as those run or proposed by

Children of Parents with Mental Illness (COPMI) may support young people who have parents with mental health issues.

Similarly, when young people come into contact with mental health services, these services need to ensure that they extend provision of support to the young person’s family, if not through their services, then through other means. Assertive outreach with these young people is essential, as they or their family may choose not to continue to use or return for further help.

It is with this group that models of mental health support such as EPPIC (Early Psychosis Prevention and Intervention Centres) are most appropriate, noting that they would not ordinarily suit the needs of young people in Groups 1 or 3.

It was noted that schools were able to recognise and support these young people when mental health issues affected their learning. Ideally, integration between school and mental health services and engagement of parents/carers would be of greatest assistance to young people at this time.

These young people may also be early school leavers and enter the workforce.

The importance of access to youth specific services is highlighted by the issues identified in the lives of these young people, some of whom attributed enormous significance to events in their romantic relationships; they struggled to work through these highly challenging and emotional events. In suicide notes and texts they identified these events as ‘tipping points’ for their decision to commit suicide.

Group Three

The intervention and prevention points for Group Three must be viewed with some caution because there were only two young people in this group and broadly speaking, these young people had very few, if any, indicators in their life histories of issues or potential challenges that would lead them to commit suicide.

It would seem that the best possible intervention points for these young people and their friends, would be knowledge of immediately accessible and available 'crisis' support through internet, telephone or face-to-face services that may help them through the critical hours when they appear to determine their course of action. Some of the population-based prevention programs may in fact have helped others, who could have been in this group, to choose such options.

The two young people in this group signalled their intention to commit suicide through text messages to friends, which also raises the issue of post-suicide support for the friends of these young people.

Questions that arise from this preliminary analysis include whether the life chart groups adequately account for:

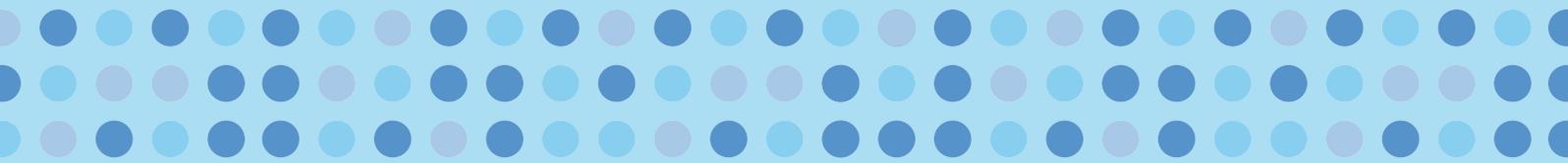
- The life experiences of Aboriginal young people, or young people from culturally and linguistically diverse backgrounds – are the intervention and prevention points for such young people able to be meaningfully derived from the current configuration of the life charts?
- Will the ratio of young people placed into each group remain relatively stable, with the majority placed in Group 1, or is the sample of 11 young people in this analysis unrepresentative of young people who commit suicide?
- Are there further refinements of the life chart methodology that are required if meaningful intervention and prevention points are to be derived from them?

The work in the proposed second and third stages of the review will seek to provide answers to these questions.

1.8 In-depth Reviews in Progress and Planned

The Committee has a number of reviews in progress including reviews relating to:

- The deaths of very young infants whose parents have been under the Guardianship of the Minister.
- Ongoing analysis of deaths attributed to suicide since 2007.
- Deaths due to intentional or accidental use of alcohol, drugs or other substances.
- Deaths of children with disability including deaths from drowning and those with high care needs.
- Deaths of children with VP shunts

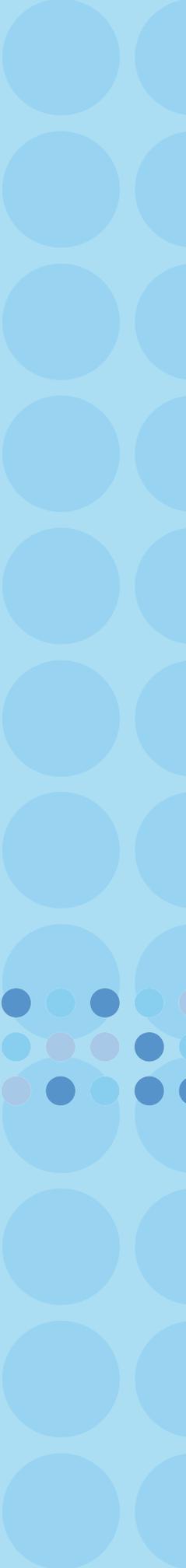


SECTION 2

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 2012–13 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 Committee has continued to monitor progress being made towards identifying and supporting vulnerable families, including broadening the reach of the Aboriginal birthing programs and the safety of home birthing. Maintaining agency and community awareness about infant safe sleeping, including product safety, also fell within the scope of monitoring activities in this reporting year.

2.2.1 Discharge of infants from hospital and the universal contact visit (UCV)

The Committee's 2011–12 review about 14 infants who died suddenly and unexpectedly, three of whom did not receive the UCV before their death, recommended that Families SA and SA Health strengthen antenatal engagement with vulnerable families and co-ordination of services to vulnerable families after discharge of the infant from hospital. The importance of SA Health finding out more about those families who do not receive a UCV was also highlighted in this review.

In 2012–13 information was sought from SA Health about progress with the common discharge process for vulnerable infants.

SA Health indicated that in 2012 extensive consultation had occurred between SA Health, birthing hospitals and Families SA and a protocol had been developed between SA Health and Families SA. Where an unborn child is identified as 'at risk', the Protocol requires notification to Families SA from 20 weeks gestation. This protocol also requires 'person-to-person' hand-over of high risk infants at discharge and requires that the removal of newborns from parental care must follow an informed and planned procedure. Despite the extensive consultation and development period, the Committee noted that, as of April 2013, the Protocol was yet to receive endorsement from each agency and implementation was pending at the time of this Report.

The Committee also wrote to SA Health about the changes to the referral process so that high risk families could receive higher priority for a UCV. This process involved the use of 'priority information forms' and care plan modelling leading to decisions about risk and provision of a UCV 1–2 weeks after discharge. The Committee provided SA Health with a 'service snapshot' of seven cases of sudden unexpected death in infancy of vulnerable infants. Service provision difficulties resulted in failure to receive a universal contact visit (four infants) and delay in the provision of the UCV within 14 days to families identified as high risk. The Committee once again urged SA Health to consider the analysis of cases where infants failed to receive a UCV so that services to vulnerable infants could be improved.

2.2.2 Metropolitan Aboriginal family birthing program

An update on the implementation of the Metropolitan Aboriginal family birthing program was provided by SA Health. It stated that:

- Since 2010, 17 Aboriginal Maternal Infant Care workers have been trained,
- In 2011–12 the mothers of 70 Aboriginal infants received some of their antenatal, birthing and post natal care from the Aboriginal Family Birthing program; approximately 11% of the total number of Aboriginal infants born, and³³
- The program would be evaluated through a joint collaboration between two research institutes that specialise in the health of women and babies. No dates were given for this review.

2.2.3 Home birthing

The Committee noted the deaths of several infants in the previous three years where a homebirth was planned in high risk circumstances. Following the release of SA Health's consultation paper *Proposal to protect midwifery practice in South Australia*³⁴ the Committee wrote to the Minister for Health supporting the introduction of legislation that would ensure women receive antenatal, intrapartum and post natal care from a medical practitioner who has undertaken education and training in obstetrics, or a registered midwife. The Committee supports the recommendations made by the Deputy Coroner in 2012 following his inquest into home birthing.³⁵

³³ The average number of infants born in 2010 and 2011 was 650, based on figures provided by SA Health's Pregnancy Outcomes Unit about Aboriginal infant births.

³⁴ SA Health (2013) *Proposal to protect midwifery practice in South Australia* <http://www.sahealth.sa.gov.au/wps/wcm/connect/1c2208804e23ae2c80988f8ba24f3db9/ProtectingMidwiferyConsultationPaper-PolicyLegislationUnit-HSD-20130108.pdf?MOD=AJPERES&CACHEID=1c2208804e23ae2c80988f8ba24f3db9> Last accessed Oct 2013

³⁵ SA Coroner Finding of Inquest 2012 <http://www.courts.sa.gov.au/CoronersFindings/Lists/Coroners%20Findings/Attachments/531/Home%20Birthing%20-%20SPENCER-KOCH%20Tate%20and%20HOBBS%20Jahli%20Jean%20and%20KAVANAGH%20Tully%20O'iver.pdf> Last accessed Oct 2013

2.2.4 Infants and safe sleeping

The final meeting of the SA Health Safe Sleeping Advisory Committee was held in May 2013. This Committee was established in 2009. Key government and non-government agencies were represented on the Committee. The most notable achievement was the release of the South Australian Safe Infant Sleeping Standards in 2011.³⁶ As part of the dissemination strategy, Kidsafe SA and SIDS and Kids SA provided face-to-face training for 754 SA Health staff across 37 sites. 'Easy read' and Aboriginal information safe sleeping brochures and a 'flip chart' were developed and distributed. An e-learning web-site was developed and made available to all SA Health staff.

With the conclusion of the Safe Sleeping project:

- The governance and updating of the infant safe sleeping guidelines will become the responsibility of the SA Health Child Health Clinical Network who will review them each year.
- KidSafe SA and SIDS and Kids SA will have an ongoing commitment to responding to queries about the Safe Sleeping Guidelines and providing face-to-face training as requested, but there is no provision for ongoing systematic training updates for health professionals about infant safe sleeping.
- Funding for hosting the e-learning website could not be secured at the end of the project.

³⁶ SA Health (2011) *South Australian Safe infant sleeping standards* <http://www.sahealth.sa.gov.au/wps/wcm/connect/a965e20048a319a3bafcf7675638bd8/4858+Safe+Sleeping+Standards.V9.2.PROOF.PDF?MOD=AJPERES&CACHEID=a965e20048a319a3bafcf7675638bd8> Last accessed October 2013.

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

2.2.5 Mattress testing

In June 2013 the Committee facilitated negotiations between SA Health and SA Police to progress work on testing a device for determining mattress softness.³⁷ The Committee agreed to monitor the outcomes of this process for the next two years.

2.3 Better Outcomes for Children

The Committee has monitored and commented on major legislative, policy and program reforms occurring in 2012–13 which will have both short and long term impacts on the provision of services to children and their families.

The Committee has also continued to monitor and comment on issues affecting the safety of children including swimming pool legislation and quad bike safety.

2.3.1 Worker confidence, competence and case management

The Committee has monitored progress relating to recommendations about practice issues in child protection work, in particular, issues about the quality of case management and child-centred engagement, assessment and service delivery. It has also received information about improvements to the systems that support and promote the skill and expertise of the workforce. These improvements include changes to supervisory roles and structures to better support frontline staff.

Monitoring these issues has been pre-empted by the 'Families SA Redesign.' This redesign acknowledges that the child protection system that has evolved in South Australia no longer meets the needs it was designed to address. The Committee has continued its regular

meetings with Families SA. Committee members attended briefings about the Redesign.

The Committee understands that the Redesign will change the way that child protection services operate by:

- Diverting families to local, targeted support,
- Increasing access to services,
- Providing care and support in a family context, and
- Providing safe and nurturing out-of-home care environments.

The Redesign addresses issues about the competency and skill of practitioners through the adoption of 'Solution Based Casework' as the framework for the provision of services to children, young people and their families.

The Redesign is predicted to take two to three years to implement.

Across a number of departments, the Committee has noted the introduction of policy approaches that acknowledge the degree of complexity in the lives of children and families, and how this can magnify vulnerability and limit the capacity of parents to care for children. Both the Department for Education and Child Development (DECD) and the Department for Communities and Social Inclusion (DCSI) have outlined case management approaches that require coordinated agency and inter-agency efforts that should result in greater continuity and consistency in service provision.^{38, 39} In both DECD and DCSI this is embedded in the 'place-based' approach to engaging individuals and communities and in DECD this is articulated in the 'one child, one plan' project.

37 Somers, R (2013) An Overlooked Hazard of Crib Design Skews Our Perception of Sudden Unexpected Infant Deaths. *American Journal of Public Health*, Vol. 103, No. 5, pp. e2-e2. <http://ajph.aphapublications.org/doi/full/10.2105/AJPH.2012.301192> Last accessed Oct 2013

38 SA Department for Communities and Social Inclusion (2012) *Feature: Safe communities, healthy neighbourhoods* http://www.dcsi.sa.gov.au/__data/assets/pdf_file/0010/9010/feature-2012-3.pdf Last accessed Oct 2013

39 SA Department for Education and Child Development *One child, one plan* http://www.decd.sa.gov.au/mediacentre/a8_publish/modules/news_64_new/details.asp?ID=1477 Last accessed Oct 2013

2.3.2 The child's voice and views

The Committee has made recommendations about the importance of ensuring that a child's needs are central to any decisions made, or actions taken, in relation to them. Both Families SA and DECD have said that they are '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 August 2012 the Minister for Education and Child Development released a discussion paper outlining proposed new child development legislation.⁴⁰ The proposed legislation aimed to encourage a partnership approach to supporting the health and wellbeing of South Australia's children. The establishment of a Child Development Council, Regional Trusts for children and young people, and a Foundation for children and young people were outlined.

The Committee's view was that the introduction of such legislation would provide a great opportunity to give South Australia's children and young people the best possible start in life. It advocated for a broad mandate for the Child Development Council that would consider the health and wellbeing of all children, not just those most vulnerable, and requested access to the draft legislation as soon as it was available. The Committee provided its views through meetings and correspondence with the Minister for Education and Child Development.

In July 2013 it was announced that the proposed legislation would establish a South Australian Commissioner for Children and Young People, in addition to several other changes to the original proposal.⁴¹

The Committee's view was that the Commissioner should be an advocate for the rights of South Australia's children and young people. The proposed legislation should have as its foundation the United Nations' *Convention on the Rights of the Child* such that the Objects, Principles and Statutory Duties reflect these rights. It should ensure that the voice of children is fostered and heard.

The final draft of the legislation was not available at the time of writing.

2.3.3 Children with disability

The Committee has monitored major systemic changes to service delivery for children with disability through the implementation of the National Disability Insurance Scheme (DisabilityCare Australia). The Committee has asked questions about access to services by Aboriginal families, those who live in rural and remote areas, children living in difficult-to-engage families, those with a parent who has a disability and children with severe disability living with vulnerable families. The Committee has received information from the Minister for Communities and Social Inclusion and from representatives of State and Australian government agencies responsible for the launch and implementation of the Scheme in South Australia.

The Committee remains concerned about service provision issues for the most vulnerable children with disability and their families. It views with interest the current work of the Council for the Care of Children who have completed one in a series of consultations with the families of children with disability about their expectations of and initial experiences with DisabilityCare Australia.

40 SA Government (2012) *New child development legislation: Every chance for every child* http://www.edlawreform.sa.gov.au/files/pages/files/Discussion_Paper_5.pdf
Last accessed Oct 2013

41 SA Education and Child Development Legislation Reform; Consultation on the child development and wellbeing Bill (2013) <http://www.edlawreform.sa.gov.au/pages/default/Home/?reFlag=1>

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

The first consultation involved 23 families of 0–5 year old children who, having attended information sessions about the service, were 'still very unclear about what DisabilityCare Australia would actually provide' and who had 'more questions than answers' about the service.⁴²

In the previous reporting period a review into the death of a child with significant disability (See Section 1.7.4) raised issues about case management, service co-ordination and ensuring that the voice and views of children with disability are heard.

Disability SA, Families SA and the education sector (DECD) both expressed the view that each child should have their own case manager and/or key worker and that the best outcomes for children were achieved if there was continuity of service from one person. Each agency stated that it had case management processes in place and clarification between agencies occurred about roles and responsibilities. Families SA would be the lead organisation in cases where there were child protection matters. Disability SA said that in 2012 a Child and Youth Directorate was formed and services were separated from services to adult clients.

Disability SA and DECD referred to current implementation of the 'team around the child' approach. This approach was described as one which ensured families with 'multiple and complex needs' had a key worker who was the focal point for all contact and who involved the child and the family in all decision-making. Partnership between agencies was noted as central to this approach.

The responses from these agencies demonstrated that each now has policies and guidelines that should promote best

practice in case management, inter-agency collaboration and will seek, and listen to, the voice and views of children.

The Committee will continue to monitor and comment on the implementation of these policies and guidelines in the cases it reviews. The importance of service provision to these most vulnerable children is underscored in the special report about children with disability that is contained in this Annual Report (See *Special Report: Deaths of children with disability*). In coming years, the Committee's monitoring activities in this area will be strengthened by this work.

2.3.4 Swimming pool legislation

The Committee provided comments to the Department of Planning, Transport and Infrastructure's *Proposals to improve the legislative framework for swimming pool safety – April 2013*.⁴³ As a result of the feedback received from the Committee and other stakeholders, Planning SA is considering:

- Reviewing and consolidating compliance options for swimming pools, as these currently vary depending on the age of the pool or the date the application for approval was submitted.
- The introduction of mandatory swimming pool inspections via:
 - Appropriately qualified inspectors and certification of compliance,
 - A data base of swimming pools, and
 - Adequate local council policies for inspections.

42 Council for the Care of Children (2013) *Hype Hope and Possibilities*, Disability Care Australia Project. http://www.childrensa.sa.gov.au/assets/documents/Hype%20Hope_Possibilities_2013.pdf, last accessed Oct 2013.

43 SA Government Consultation on building matters (2013) <http://www.sa.gov.au/subject/Housing,+property+and+Hand/Customer+entry+points+and+contacts/Industry+professional+entry+point/Building+industry+professionals/Consultation+on+building+matters> Last accessed Oct 2013

The Committee supports efforts within SA Government to promote, enforce and monitor isolation pool fencing including regular inspection for maintenance of safety features.

2.3.5 Quad bike safety

The Committee is of the view that the deaths of children in quad bike crashes are preventable. The Chair wrote to the Minister for Education and Child Development requesting that the issue of legislative change be raised with the Attorney General such that children under 16 years be prohibited from using quad bikes, either as drivers or passengers, and that laws about safety measures such as compulsory helmet use and crush protection devices be considered.

2.4 Better Outcomes for Young People

In its 2011–12 report the Committee pursued issues of chronic school non-attendance and suicide prevention. The Committee's views about the negative impact that chronic school non-attendance can have on a child's health and wellbeing are set out in the discussion of issues arising from its review of six seriously injured children. Recommendations were made about this issue and progress with the implementation of these recommendations will be monitored (Section 1.7.1).

In this reporting period the Committee submitted a preliminary analysis of 11 cases of suicide. This analysis used a life charts approach to identify points for intervention and prevention of youth suicide. Stages 2 and 3 of this review will result in further recommendations being made about suicide prevention and young people. Analysis of SA Health's Suicide Prevention Strategy will be undertaken to see if it reflects the key issues arising from the review (Section 1.7.2).

2.4.1 Homeless and at-risk young people

DCSI and DECD provided responses to recommendations about cross-agency planning to strengthen the effectiveness of case management for young people who are homeless. Both agencies accepted the Committee's recommendation for the development of a framework to address the needs of homeless young people or those at risk of homelessness with high and complex needs. It was said that this would be achieved through the establishment of regional collaborations between DCSI and DECD, a formal framework for referrals between specialist homelessness services and through the establishment of complex case management groups that would provide a multi-agency response to homeless young people. The Committee has asked for the timeframes and evaluation strategies for each of these activities. Clarification has also been sought about how the use of a new case management system (Homeless to Home) will improve outcomes for young people.

DECD also provided a listing of location-based actions and programs it has in place for vulnerable young people at risk of homelessness. Reference was made to a collaboration between DCSI and DECD which aimed to provide better support to students who were using 'homelessness' services by sharing information about these students and offering further educational supports to them. Reference was also made to data collection about students who self-identified as homeless. The Committee has asked for further information about these projects as no evaluation or outcome data was provided.

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

2.4.2 Young people and asthma management

In 2011–12 the Committee made recommendations about the management of severe and life-threatening asthma in children, with particular regard to the challenges this posed for families whose access to resources and services might be limited by their social vulnerability. These recommendations addressed the roles and responsibilities of SA Health, Families SA, DECD and general practitioners to help children and their families to successfully manage severe and life-threatening asthma.

Policy responses were received from each of these government agencies. The Committee observed that successful implementation of these policies relied on collaboration between the family, the health care provider and the school and that such collaboration may not always be achieved.

Based on these responses, the Committee will continue to pursue issues such as the importance of providing the child and their family with the support necessary to actively engage them in the management of their child's asthma through home-based programs; the referral of children hospitalised in intensive care and high dependency units to a respiratory medicine consultant, and the possibility of free ambulance cover to children with severe and life-threatening asthma.

2.4.3 Young people and safety issues

The Committee sought confirmation from the Department for Planning, Transport and Infrastructure (DPTI) about infrastructure changes in particular locations where young people had died. In relation to a transport crash in 2009 on Military Road Harrogate, signage warning about the condition of the road was installed. In relation to bridge infrastructure, DPTI now requires Southern Expressway contractors to design structures that 'do not permit easy or unauthorised access' – for example access via ledges and overhanging structures. Changes in each of these locations may help to prevent further deaths.

2.5 Better Outcomes for Children Under the Guardianship of the Minister

In 2013 the Minister for Education and Child Development announced increases in funding and changes to the delivery of out-of-home care. The Committee views this change in the way that services are provided as a positive step and one that has the potential to address a number of its key concerns about the continuity and quality of care for children under Guardianship. These changes form part of the Redesign of child protection services and have the same 2–3 year implementation timeframe.

In this reporting period the Committee's review of six seriously injured children addressed issues about contracting-out of residential care services. Recommendations about these issues were prompted by concerns about the ability of residential care staff to meet the needs of highly traumatised children (Section 1.7.1).

2.6 Continuing the Contribution to Systemic Change

In January 2013 the Honorable Jennifer Rankine MP became the Minister for Education and Child Development, responsible for the Department for Education and Child Development (DECD). DECD incorporates child protection services and primary and population health services for families (the universal contact visit, family home visiting and Child and Family Health Services) in addition to education.

In 2013 DECD launched *Brighter Futures* which outlined a platform for structural change in this department that seeks to integrate services across its expanded role.⁴⁴ Included in its five aims are improved health and wellbeing outcomes for children and young people; better family and carer support and a commitment to the views of young people shaping the policies and practices that affect them. The Families SA Redesign and the changes to the delivery of out-of-home-care fall within this change agenda.

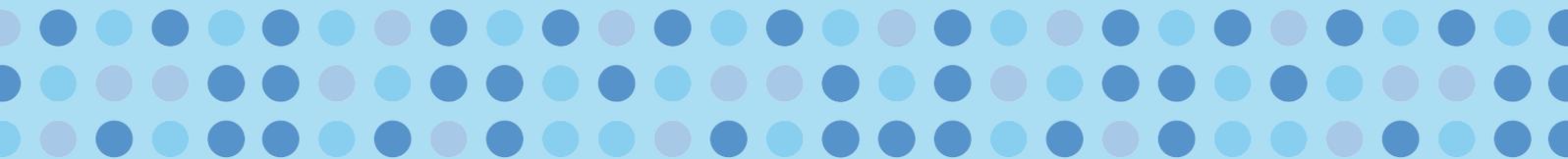
In June 2013 the report of the independent education inquiry (the Debelle report)⁴⁵ was released and in July the roll out of the National Disability Insurance Scheme for 0–5 year olds began in South Australia. Consultation has been conducted about a bill to establish a Commissioner for Children and Young People and a Child Development Council.

The Committee's role is to comment on and monitor the ways in which these changes are translated into the delivery of services to children and their families, as they arise in the reviews of the circumstances and causes of child deaths or serious injuries and trends or patterns in these deaths. Such change may take several years to impact significantly on child protection practices or the case management of children with disability, as will the ways in which the intention to 'hear' the voice and views of children and young people is put into practice.

The Committee is ideally placed to monitor the impact of these changes.

⁴⁴ SA Department for Education and Child Development (2013) *Brighter futures: From blueprint to action* <http://www.decd.sa.gov.au/docs/documents/1/BrighterFuturesFBTA.pdf>
Last accessed Oct 2013

⁴⁵ Debelle, B.M. (2013) *The edited report of the Independent Education Inquiry 201-2013*
SA Attorney-General's Department <http://www.decd.sa.gov.au/educationinquiry/files/links/DebelleInquiry.pdf> Last accessed Oct 2013



SECTION 3

COMMITTEE MATTERS 2012–13

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

Children’s Protection Act, 1993



SECTION 3: COMMITTEE MATTERS 2012–13

3.1 Legislation and Purpose

The Child Death and Serious Injury Review Committee was established by the *Children's Protection Act, 1993* (the *Act*)⁴⁶ 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).⁴⁷ 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.

3.2 Committee Matters 2012–13

The Committee met ten times in 2012–13. Each member belongs to one of the four screening teams (see Diagram 1) and each of these teams met as required.

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 each child death in South Australia and identifying systemic issues which should be addressed through the review process.

- Undertaking in-depth reviews of deaths and serious injuries to identify systemic issues and make 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.

3.2.1 Governance

The Committee reports to the Minister for Education and Child Development who has responsibility for the administration of the *Act*.

The Committee's administrative, financial and human resource management has been overseen by the Department for Education and Child Development.

3.2.2 Improving procedures, knowledge and skills

The Committee has continued to extend the range of regular exchange of information through its recently developed protocols between the Committee and the Coroner's Domestic Violence Review Officer, and the SA Health Maternal, Perinatal and Infant Mortality Committee.

In December 2012 the Committee held its biennial Planning Meeting. The Committee made decisions about the actions it will take to improve the ways in which it identifies cases for review, incorporates serious injury into its work, reports on the deaths of children with disability and presents information in the Annual Report.

⁴⁶ Children's Protection Act, 1993

⁴⁷ Layton, R.A., (2003) *Our best investment: A State plan to protect and advance the interests of children*, South Australia: Department of Human Services.

Based on the decisions made at this session the following work was undertaken:

- A review priority tool was developed that provides a systematic basis for the selection of cases for review. It poses a series of key questions based on criteria for review and allows these to be assigned a high or low priority. It then suggests a number of actions that can be taken according to the assigned priorities. See Diagram 2.
- A member with expertise and experience working with children with disability was appointed to the Committee to provide advice and guidance about the best way forward in this area. A part-time senior project officer was employed to support this work and a section about the deaths of children with disability has been included in this Annual Report.

Prompted by the difficulties encountered in assigning certain cases a category of death, the Committee undertook a review of its definition of fatal assault. This category of death has been renamed and redefined. The utility of this new category will be reviewed in 12 month's time. See Section 4.5.4. Using this new definition two deaths were reclassified as accidental.

The classification of all deaths of infants less than one year that had been classified as 'sleep accidents' or undetermined/unascertained were reviewed. Four deaths formerly classified as accidents were re-classified as undetermined.

The Secretariat has continued to improve the ways in which it records and analyses information. The Committee's database of deaths can now automatically identify when more than one death has occurred in a family.

3.2.3 Supporting partnerships

The Chair met with the Minister for Education and Child Development to discuss issues arising from the Committee's work. The Committee continues to hold regular and productive meetings with

Families SA, the Coroner, Chief Executives and Ministers as required.

The Committee has responded to requests for data about the deaths of non-resident children from its counterparts in Queensland, Northern Territory, NSW and Victoria. It has contributed to the reporting of national child death statistics that are collected and published in the Annual Report of Child Deaths by the Queensland Commission for Children and Young People.⁴⁸

The Committee provided the Council for the Care of Children with information about the suicide deaths of young people to advance discussions with the Minister for Health about models of mental health care for young people.

3.2.4 Building the Committee's profile

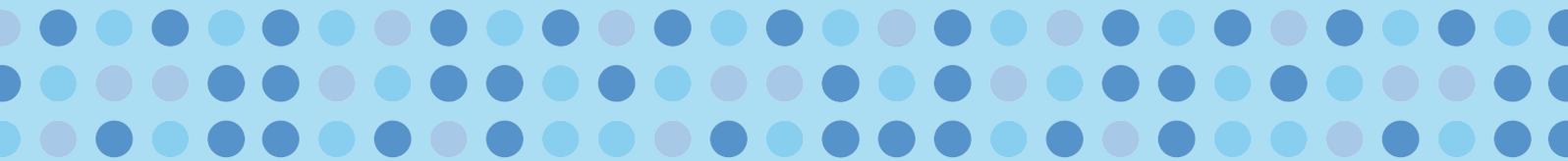
The Committee has presented at two conferences in this reporting year:

Gursansky D. and Watts S. *Future directions for Child Death Review Committees, Where will we be in five years time?*, Workshop 3rd Australasian Conference on Child Death Inquiries and Reviews-Strengthening and Developing Practice Sydney, August 2012

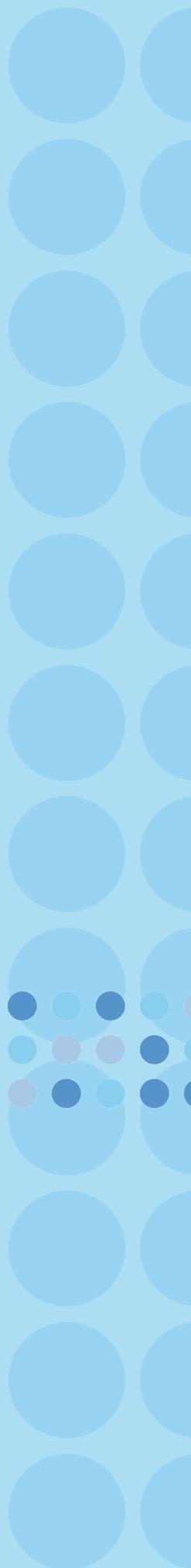
Gursansky, D. *Child protection: whose business is it?* Introductory address Rising to the practice challenge. Conference. Adelaide, September 2012

The Chair represented the Committee at the annual meeting of the Australian and New Zealand Child Death Review and Prevention Group in February 2013. The Committee supports the ANZCDR&PG's efforts including liaison with the Australian Government to secure support and funding for a national database of child deaths and working towards commonly agreed data collection items for infant deaths including sudden unexpected deaths in infancy.

⁴⁸ Queensland Commissioner for Children and Young People and the Child Guardian (2012) *Annual report: Deaths of children and young people Queensland 2011-12*
http://www.ccyprg.qld.gov.au/pdf/publications/reports/annual_report_dcyp_2011-2012/Annual_Report-Deaths_of_Children_and_Young_People_Qld_2011-12.pdf



SECTION 4
METHODOLOGY



SECTION 4: METHODOLOGY

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 2012 – 30 June 2013 whereas in Sections 1.1 – 1.6 the numbers of deaths referred to are based on the calendar year: 1 January 2012 – 31 December 2012. 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 Office of Births Deaths and Marriages 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.

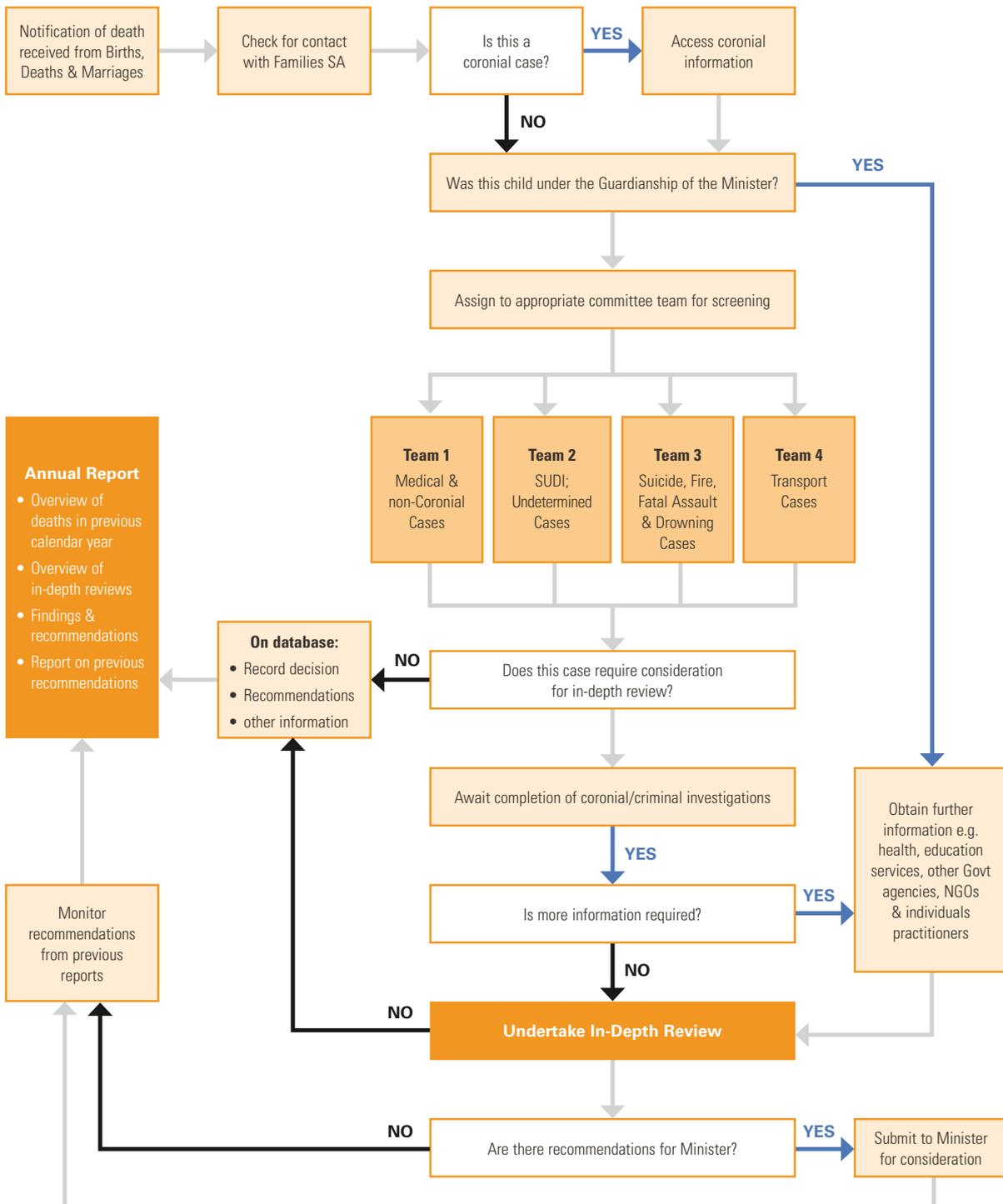
The number of deaths the Committee reports on each year is based on information received from the Office of Births, Deaths and Marriages. The Committee reports on the number of deaths each year that have been registered with the Office of Births, Deaths and Marriages. This figure includes infants whose 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 death⁴⁹ of a child aged younger than 18 years of age.

A further protocol outlines the exchange of information between the Committee and the Domestic Violence Research Officer, attached to the Coroner's Office.

4.2.3 Release of information from Government agencies

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

A further protocol outlines the exchange of information between the Committee and the SA Health Maternal, Perinatal and Infant Mortality Committee.

4.3 In-Depth Review Process

Deaths screened by the Committee are 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. These cases are assigned a category of death eg illness or disease, SUDI, transport, deliberate acts etc. and the details are kept on the Committee's database until required for inclusion in the relevant Annual Report. These cases may be included in reviews in later years where features from cases over a number of years suggest that there may be systemic issues that can be addressed, 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

⁴⁹ Deaths that are reportable to the Coroner are those indicated in Part 1 of the SA Coroner's Act 2003 <http://www.legislation.sa.gov.au/LZ/C/A/CORONERS%20ACT%202003/CURRENT/2003.33.UN.PDF> Last accessed Oct 2013

- **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 decreases 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 Education and Child Development, 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 Education and Child Development at the conclusion of each in-depth review. 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 2005–12* 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 below.

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.

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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 A deliberate act

In previous years the Committee characterised 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). In 2012 this definition was reviewed and a new approach to the Committee's category of 'fatal assault' is to be trialled for the next 12 months:

'a deliberate act that results in the death of an infant or a child.'

There can be a range of different intents involved in a deliberate act that results in the death of a child but the definition does not seek to establish what that is in each case. They might include:

- An act intended to improve the child's wellbeing eg the administration of a drug to medicate the child,
- An act intended to change the child's behaviour eg to hit a child to quieten them,
- An act intended to harm or seriously injure, or
- An act intended to kill.

While the state of mind of the perpetrator may play a significant role in the act that results in death, the definition does not seek to establish what the state of mind is in each case. Some of these states of mind including for instance post natal depression and psychosis, may result in a judicial finding of 'mental incompetence' for the perpetrator, but this finding does not preclude a death being placed in this category.

There will be some cases where it is not possible, on the basis of the information available, to be certain that the death of a child resulted from a deliberate act although there may be some circumstantial evidence or pathology that raises this as a probability, for example the death of a child from head injuries that could have been sustained from either an accidental fall or from being assaulted. In these cases, upon a reading of all of the available information, a decision will be made on the basis of the most likely explanation for the death. The case will be assigned a 'p' (probable) to flag this issue.

4.5.5 Neglect

The Committee defines 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.⁵⁰ 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).

50 NSW Child Death Review Team (2003) *Fatal assault and neglect of children and young people* NSW Commissioner for Children and Young People (p 15)

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 25). 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 incidents, drowning and deliberate acts. 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 25: 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 (ie 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 (eg 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.

*Krous, H. F., Beckwith, J. B., Byard, R. W., Rognum, T. O., Bajonowsky, T., Corey T., Gutz, E., Hanzlik, R., Keens, T. G. and Mitchell, E. A. (2004) Sudden infant death syndrome and Unclassified infant deaths: A definitional and diagnostic approach. *Paediatrics*, 114, 234 – 238.

4.6 Aboriginal and Torres Strait Islander Status

The information received from the Office of Births Deaths and Marriages 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 ATSI status, this indicator will be used.

4.7 Usual Place of Residence

The information received from the Office of Births Deaths and Marriages 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 Office of Births Deaths and Marriages 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.⁵¹ 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 to goods, services and of 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)⁵² 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.

51 AIHW (2004) *Rural, regional and remote health: a guide to remoteness classifications*. AIHW Cat no PHE 53, Canberra: AIHW <http://aihw.gov.au/WorkArea/DownloadAsset.aspx?id=6442459567> Last accessed October 2013

52 ABS *SEIFA Indexes 2011* <http://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001>. Last accessed October 2013

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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 Australian Bureau of Statistics (ABS) population projections.⁵³ 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. (12 212 Aboriginal children – 2006 Census, 12 551 Aboriginal children – 2011 Census). This figure is based on the 2006 and 2011 Census and has been adjusted by the ABS to take into account the under reporting of Indigenous status.⁵⁴ For the death years 2005–2008 the 2006 Census estimate is used and for 2009–12 the 2011 Census is used.

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 2012 there were 20 508 live births in South Australia (provided as provisional data on 1 October 2013).

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 2005–12 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.

⁵³ Australian Bureau of Statistics (2012) *Deaths Australia* <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3302.02011?OpenDocument> Last accessed Oct 2013

⁵⁴ 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.⁵⁵

ICD-10 coding of deaths has been undertaken by the National Centre for Health Information Research and Training in Brisbane under a contractual arrangement.

ICD-10 coding of causes of death for the years 2005–12 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 26 details the ICD –10 causes of death from 2005–12. The totals for each cause and year represent the current information available from the Committee's 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.

⁵⁵ WHO ICD-10 Second Edition, 2005, 4. Rules and guidelines for mortality and morbidity coding.
http://www.who.int/classifications/icd/ICD-10_2nd_ed_volume2.pdf
Last accessed Oct 2013

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*Table 26: Child deaths by ICD –10 chapter, South Australia 2005–12**

ICD-10 Chapter Description	Number of deaths per year				TOTAL	RATE 2005–2012 ¹
	2005–2006	2007–2008	2009–2010	2011–2012		
Illness or Disease (Natural Causes)						
Certain infections and parasitic diseases (A00-B99)	4	2	8	3	17	0.6
Neoplasms (C00-D48)	18	19	10	17	64	2.3
Endocrine, nutritional and metabolic diseases (E00-E90)	6	5	6	7	24	0.9
Diseases of the nervous system (G00-G99)	16	12	23	9	60	2.1
Diseases of the eye and adnexa (H00-H59)	1	0	0	0	1	0.04
Diseases of the circulatory system (I00-I99)	4	4	6	6	20	0.7
Diseases of the respiratory system (J00-J99)	5	3	8	5	21	0.7
Diseases of the digestive system (K00-K93)	2	1	0	1	4	0.1
Diseases of the musculoskeletal system and connective tissue (M00-M99)	2	1	1	0	4	0.1
Certain conditions originating in the perinatal period (P00-P96)	67	76	68	64	275	9.8
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	45	46	41	39	171	6.1
Illness or Disease	170	169	171	151	661	23.5
SIDS and Undetermined Causes						
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	18	18	24	17	77	2.7
External Causes						
Transport-related (V01-V99)	28	29	24	15	96	3.4
Falls (W00-W19)	1	2	1	2	6	0.2
Exposure to inanimate mechanical forces (W20-W49)	2	4	1	0	7	0.2
Accidental drowning and submersion (W65-W74)	6	4	5	6	21	0.7
Other accidental threats to breathing (W75-W84)	9	7	5	7	28	1.0
Exposure to smoke fire and flames (X00-X09)	2	0	1	1	4	0.1
Accidental poisoning by exposure to noxious substance (X40-X49)	1	3	1	2	7	0.2
Accidental exposure to other unspecified factors (X58-X59)	0	0	2	0	2	0.1
Intentional self harm (X60-X84)	3	2	8	2	15	0.5
Assault (X85-Y09)	9	4	5	4	22	0.8
Event of undetermined intent (Y10-Y34)	6	2	1	0	9	0.3
Medical devices associated with adverse incidents (Y70-Y82)	0	1	0	3	4	0.1
External Causes – Total	67	58	54	42	221	7.9
Cause not yet known				3	3	
ALL DEATHS – TOTAL	255	245	249	213	962	34.2

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 2012, 962 children died. Approximately two-thirds of these deaths were 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 incidents.

4.14 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 2005–12, 39.2% of deaths were of children younger than 28 days old (377 deaths). The male to female ratio was 1.2:1. Twenty-six infants were Aboriginal.

The majority of deaths were from illness and disease. Two hundred and forty-one infants died from various conditions originating in the perinatal period – the time between late pregnancy and the weeks after birth. One hundred and seven 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 19.8% of the deaths in the period 2005–12 (190 deaths). The male to female ratio was 1.3: 1. Twenty-nine infants were Aboriginal.

The deaths of 30 infants were related to congenital or chromosomal abnormalities and 27 deaths were associated with conditions originating in the perinatal period. Fifteen infants died from diseases of the nervous system and 28 from external causes. Fifty-eight infants died from undetermined causes or SIDS.

Children aged 1–4 years

In 2005–12, 12.8% of children who died were between one and four years of age (123 deaths). The male to female ratio was 1.6:1. Seven children were Aboriginal.

Sixty children died from illness or disease with 18 deaths attributed to cancer, 14 to diseases of the nervous system and 12 to birth defects.

Fifty-four children died from external causes including 13 deaths in transport incidents, 13 deaths from drowning and 11 deaths from a deliberate act such as assault, poisoning or suffocation.

Children aged 5–9 years

Sixty-six children (6.9%) who died in the period 2005–12 were aged between five and nine years. There were equal numbers of males and females. Six children were Aboriginal. Forty-three children died from illness or disease including 19 deaths from cancer. Twenty-one deaths were attributed to external causes including ten in transport incidents.

Children aged 10–14 years

Sixty-six deaths in the period 2005–12 (6.9%) occurred in children aged between ten and 14 years. Eight children were Aboriginal. The 41 deaths from illness or disease included 12 deaths from cancer and 10 deaths from nervous system diseases such as epilepsy. Twenty-five deaths were attributed to external causes including 11 from transport incidents.

Children aged 15–17 years

One hundred and forty deaths (14.6%) in the period 2005–12, 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 20 children were Aboriginal. Fifty-four young people died in transport incidents. The deaths of 27 young people were attributed to suicide. The causes of the 41 deaths attributed to illness or disease included cancer and respiratory system disease such as asthma.

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*Table 27: Child death, cause of death and sex from 0–4 years, South Australia 2005–12¹**

	Female	Male	Total
Children <28 days			
Certain conditions originating in the perinatal period	102	139	241
Congenital malformations, deformations and chromosomal abnormalities	58	49	107
Other Illness or Disease	6	6	12
ILLNESS or DISEASE – Total	166	194	360
SIDS & UNDETERMINED – Total	4	6	10
EXTERNAL – Total	4	2	6
Cause not yet known	1	0	1
TOTAL	175	202	377
Children 28 days – 1 year			
Congenital malformations, deformations and chromosomal abnormalities	17	13	30
Certain conditions originating in the perinatal period	9	18	27
Diseases of the nervous system	6	9	15
Certain Infectious and parasitic diseases	3	8	11
Diseases of the circulatory system	3	4	7
Diseases of the respiratory system	2	3	5
Other Illness or Disease	5	3	8
ILLNESS or DISEASE – Total	45	58	103
SIDS & UNDETERMINED – Total	22	36	58
Transport	2	1	3
Accidents	6	6	12
Deliberate acts	3	3	6
Other External Cause	3	4	7
EXTERNAL – Total	14	14	28
Cause not yet known	1	0	1
TOTAL	82	108	190
Children 1–4 years			
Cancer	8	10	18
Endocrine, nutritional and metabolic diseases	3	3	6
Diseases of the nervous system	3	11	14
Congenital malformations, deformations and chromosomal abnormalities	5	7	12
Other Illness or Disease	3	7	10
ILLNESS or DISEASE – Total	22	38	60
UNDETERMINED – Total	5	4	9
Transport	2	11	13
Drowning	8	5	13
Accidents	2	5	7
Deliberate acts	2	9	11
Other External Cause	6	4	10
EXTERNAL – Total	20	34	54
TOTAL	47	76	123

¹ Based on ICD-10 codes

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

Table 28: Child death, cause of death and sex from 5–17 years, South Australia 2005–12¹*

	Female	Male	Total
Children 5–9 years			
Cancer	11	8	19
Diseases of the nervous system	4	4	8
Congenital malformations, deformations and chromosomal abnormalities	4	3	7
Other Illness or Disease	4	5	9
ILLNESS or DISEASE – Total	23	20	43
UNDETERMINED – Total	1	1	2
Transport	6	4	10
Other External Cause	3	8	11
EXTERNAL – Total	9	12	21
TOTAL	33	33	66
Children 10–14 years			
Cancer	5	7	12
Diseases of the nervous system	5	5	10
Other Illness or Disease	11	8	19
ILLNESS or DISEASE – Total	21	20	41
Transport	7	4	11
Other External Cause	7	7	14
EXTERNAL – Total	14	11	25
TOTAL	35	31	66
Children 15–17 years			
Cancer	4	9	13
Diseases of the nervous system	2	4	6
Congenital malformations, deformations and chromosomal abnormalities	2	3	5
Other Illness or Disease	5	12	17
ILLNESS or DISEASE – Total	13	28	41
UNDETERMINED – Total	0	1	1
Transport	16	38	54
Suicide	9	18	27
Other External Cause	5	12	17
EXTERNAL – Total	30	68	98
TOTAL	43	97	140

¹ Based on ICD.10 codes

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

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4.15 Trends in Child Death Rates

Death rates for all of the major categories of death and for vulnerable groups of children across the eight year reporting period are shown in Table 29.

Over the eight year reporting period, death rates for all children, resident children and infants under one year of age have decreased by a small percentage on average per year. The rate of death for Aboriginal children has also decreased.

The death rate for deaths from external causes has shown a significant decrease (9% on average per year) in the eight year reporting period. Much of this decrease can be attributed to a decrease in the death rate for transport incidents (7% decrease on average per year ($p=0.09$)) over the years 2005 to 2012.

The death rate for children whose families had had contact with Families SA in the previous three years has fluctuated over the years 2005 to 2012 but no trend was found.

*Table 29: Trends in child death rates¹, South Australia 2005–12**

Year	All ²	Res ³	IMR ⁴	I&D ⁵	Undet <1 year ⁶	Ext ⁷	FSA ⁸	ATSI ⁹
2005–2012	34.2	32.3	3.6	23.1	37.1	8.3	8.7	96.9
2005	38.7	34.9	4.6	25.2	27.7	10.9	8.9	139.2
2006	34.3	31.7	3.4	19.7	37.5	11.7	8.9	90.1
2007	35.7	33.9	4.1	23.4	56.1	9.1	8.3	106.5
2008	34.2	31.6	3.6	24.5	30.3	7.4	7.4	90.1
2009	37.0	35.5	3.6	25.3	30.4	8.2	9.7	87.6
2010	33.8	33.2	3.7	22.7	65.4	7.1	8.8	63.7
2011	30.4	29.0	2.9	21.9	39.6	5.7	10.0	95.6
2012	29.9	28.5	3.1	21.8	9.8	5.9	7.6	103.6
p value	0.05	0.18	0.07	0.73	0.77	0.001	0.93	0.4

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 undetermined causes in infants aged less than one year per 100 000 livebirths

⁷ Death attributed to external causes including deliberate acts, neglect, suicide, transport incidents, 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

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