

# A preliminary analysis of mortalities in the child intervention system in Alberta

Alberta Centre for Child, Family and Community Research

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The Alberta Centre for Child, Family and Community Research (ACCFRC) was asked to provide an analysis of Alberta Human Services' child mortality data.

The ACCFRC analyzed the data for children who died while receiving intervention services between 1999 and 2012. This document provides the results of those analyses.

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## ACCFCR

The Alberta Centre for Child, Family and Community Research (ACCFCR) is a not-for-profit charitable corporation. The Centre was established to support and disseminate research knowledge and evidence on policy issues related to improving the well-being of children.

The Centre is involved in a number of initiatives focused on the well-being of children and youth in Alberta. For example, the Centre is currently supporting the Ministry of Human Services in the development of a *Child Intervention Services Quality Framework* for the Child and Family Services Council for Quality Assurance.

The Child and Youth Data Laboratory (CYDL) is managed by the Centre. The CYDL studies issues, policies and practices affecting Alberta's children, by linking and analyzing cross-ministry administrative data.

## Why does this document exist?

Alberta Human Services has developed a five-point plan for improving Alberta's child intervention system. The Child Intervention Roundtable is being held as part of that plan. The Roundtable will consider issues surrounding investigations and data on deaths of Albertan children.

Human Services has expressed the goal of establishing a more transparent and accountable reporting system. Such a system will help ensure better outcomes for the children and youth of Alberta. This is a goal that is shared by the ACCFCR.

As a leader in supporting, conducting, and disseminating research on child well-being, the ACCFCR was asked by Alberta Human Services Minister Bhullar to participate in the roundtable. In particular, the ACCFCR was asked to examine the Ministry's data on deaths of children who were known to intervention services.

This document presents the results of ACCFCR's analysis and interpretation of the mortality data for the child intervention system. Advice is provided on appropriate next steps for research, data collection, and reporting practices.

## What is in this document?

Characteristics of children in families receiving intervention services are reviewed briefly. This is followed by a description of child intervention system in Alberta, and a profile of the

children it serves. Mortality data are then described. There is a discussion of what the data tell us, and suggestions for next steps are made.

## What do we know about children whose families are receiving intervention services?

Children whose families are receiving child intervention services differ from other children in ways other than receipt of the services. Issues across a wide range of challenging domains are known to be present in these children's lives.

The Alberta Incidence Study of Reported Child Abuse and Neglect (AIS-2008) (McLaurin et al., 2013) described the characteristics of Albertan children, caregivers, and homes in substantiated cases of abuse and neglect in 2008. At the time of entry into the intervention system, 52% of children had at least one concern in the areas of physical, emotional, or cognitive health or behaviour.

The most common concerns were academic difficulties (27% of cases), depression/anxiety/withdrawal (21%), intellectual/developmental disability (20%), aggression (18%), attachment issues (16%), ADD/ADHD (13%), and fetal alcohol syndrome/fetal alcohol effects (10%). Alcohol abuse or drug/solvent abuse were each found in 6% of cases. The rate of substantiated maltreatment was more than five times higher for Aboriginal children than for non-Aboriginal children.

Other studies showed similar characteristics for maltreated children. Poor physical health at entry into care has been documented in numerous studies (see review by Kufeldt, Simard, Vachon, Baker, and Andrews, 2000).

Lange, Shiel, Rehm, and Popova (2013) completed a systematic review documenting the high prevalence of fetal alcohol syndrome and fetal alcohol spectrum disorder in child welfare systems.

Fuchs, Burnside, Marchenski, and Mudry (2010) found high rates of intellectual and mental health disabilities among children in child protection in Manitoba in 2004. Smith et al. (2011) noted that maltreated children in British Columbia were more likely to identify as lesbian, gay, or bisexual than other children.

Primary caregivers of maltreated children also share some common characteristics. In the Alberta Incidence Study (McLaurin et al., 2013), primary caregivers were often victims of domestic violence (52% of cases), had few social supports (46%), had mental health issues (36%), abused alcohol (33%), or abused drugs/solvents (25%). One in eight (12%) of the primary caregivers had themselves lived in foster care or a group home at some point.

The households in which maltreated children live in at the time of entry into intervention services have elevated rates of dependence on social assistance or other income benefits, low socio-economic status, and presence of household hazards (such as drug paraphernalia, accessible weapons, or unhealthy/unsafe conditions); frequent moves are also common (Leschied, Chiodo, Whitehead, and Hurley, 2006; McLaurin et al., 2013).

Aboriginal families in the child welfare system face many challenges. Aboriginal families have less stable housing, greater dependence on social assistance, parents who are younger, more parents who were maltreated themselves as children, and higher rates of substance abuse than Caucasian families (Trocmé, Knoke, and Blackstock, 2004).

A British Columbia report on mortality of children in care (British Columbia Office of the Provincial Health Officer, 2001) reminds us that the life circumstances of children in child welfare systems are such that they are at increased risk of death before they enter child welfare: “All children have the right to survive, grow, and develop to their full potential. Yet, most children who come into care are already economically disadvantaged, are medically fragile or severely disabled, or have been injured psychologically or emotionally – factors that put them at increased risk of dying at a young age.” (British Columbia Office of the Provincial Health Officer, 2001, p. 2).

A 2006 update of the same report (British Columbia Office of the Provincial Health Officer & Ministry of Health, 2006) notes that children in care who die are most often 0 to 4 years of age, are more likely to be male than female, and have higher rates of death from both natural and external causes than the general population. Excess deaths (death

rates higher than the general population) were most often caused by congenital anomalies, sudden infant death syndrome (SIDS), suicide, and diseases of the nervous system.

American data indicate that children who die while in child welfare systems are more likely to suffer from neglect or physical abuse than other types of abuse; they are often young children (under 4 years of age). Parents are the most common perpetrators of deaths of children in child welfare systems; often, the perpetrators are young, have a low level of education, are low socio-economic status, suffer from depression, and have trouble coping with stressful situations (Child Welfare Information Gateway, 2013). There have been some studies that look at the experiences of Alberta’s maltreated children once they are in the intervention system. Alberta Education and Human Services are collaborating on an initiative called Success in School for Children and Youth In Care—Provincial Protocol Framework (PPF). Compared to those in the general population, children and youth in care are more likely to drop out of school and do poorly on achievement tests, and are less likely to complete high school. This initiative supports children and youth in care, toward the goal of improved school outcomes and higher high school completion rates. Details can be found on Alberta Education’s web site (Alberta Education, 2014).

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(British Columbia Office of the Provincial Health Officer, 2001, p. 2).

ACCFRCR's Child and Youth Data Laboratory (CYDL) studied 12 to 17 year old youth receiving intervention services in 2008/09 (CYDL, 2012). Key social and demographic indicators for these youth, as well as their use of other Alberta government services (education, health, social supports, justice system involvement) were examined with cross-ministry linkage of administrative data (administrative data is data collected by ministries as part of provision of services, such as demographic information and details of services provided).

Compared to Albertan youth not receiving intervention services, youth who received intervention services were more likely to live in the lowest socio-economic status neighbourhoods, to perform below educational expectations, to have a mental health condition, to have five or more physician visits, to visit emergency rooms or be hospitalized, to receive services from Family Support for Children with Disabilities, or to be in the justice and correctional systems, and were slightly more likely to be registered in the K-12 education system. Almost half of youth receiving intervention services were Aboriginal.

Upcoming data from the current CYDL project will include Child Intervention Services clients from 0 to 22 years of age over a six-year time span. Data will be linked over a wide range of service usage. This will create a more complete description of interactions with different systems of care, including timing and intensity of service use.

## Data sources

Data analyses in this document were based on data from Child Intervention Services. Data from Alberta Health was also used to provide context in the form of population-level data.

Child Intervention Services provided number of children receiving services by year, age, gender, Aboriginal status, and type of service received (Not In Care or In Care; see following section). Child Intervention Services also provided numbers of deaths by year, age, gender, Aboriginal status, type of service received, and manner of death.

The Surveillance and Assessment Branch of Alberta Health provided number of people living in Alberta by year, age, and gender, from the Alberta Health Care Insurance Plan Population Registry. The Surveillance and Assessment Branch also provided number of deaths in Alberta by year, age, and gender, from the Service Alberta Vital Statistics Deaths Database. These data sources were used to provide context on pages 8 and 10 of this document.

## Alberta's child intervention system

Child intervention services in Alberta are governed by the *Child, Youth and Family Enhancement Act* (2000). Generally, children 0 to 17 years of age are assisted under the Act, but limited services are provided to young adults as well. Human Services' Child Intervention Services carries out an investigation when there is information that a parent or guardian is unwilling or unable to ensure the well-being of a child (when maltreatment by someone other than a parent or guardian is suspected, investigation is carried out by the police).

Child abuse is considered to be any maltreatment that results in injury or harm, and includes neglect, emotional injury, physical abuse, or sexual abuse. Most of the cases that are referred directly to Human Services, or through persons such as school staff, medical personnel, or child care providers, are dealt with by providing Early Intervention services, such as support on issues in parenting, healthy lifestyles, family violence, etc.

When there is reason to believe that a child's well-being is at risk, however, a file is "opened" and families receive services either through the Family Enhancement Program or Child Protective Services. In this document, "child intervention services" or "intervention services" refer to both the Family Enhancement Program and Child Protective Services.

Family Enhancement services allow lower-risk families to avoid Child Protective Services. Children remain in their parents or guardians' care and parents or guardians enter into an enhancement agreement. Child Intervention Services staff work closely with the family to supervise and monitor them.

Child Protective Services are required when families will not voluntarily enter into an enhancement agreement, and when greater supervision in the home is required or a child needs to be removed from the home to ensure his or her safety and well-being. If the child remains in the home, there is close supervision by a caseworker, and there may be requirements by the court for the parents or guardians to seek counseling or treatment or attend parenting classes.

When this type of arrangement fails to ensure the safety and well-being of a child, he or she is removed from the home (with the support of the courts only) and placed "in care" — foster care, kinship care (with relatives), or group care. This can be done on a temporary basis (maximum 15 to 18 months), or permanently (adoption or private guardianship) as a last resort. A small number of children come into care because their parents are deceased and no one else is available to care for them.

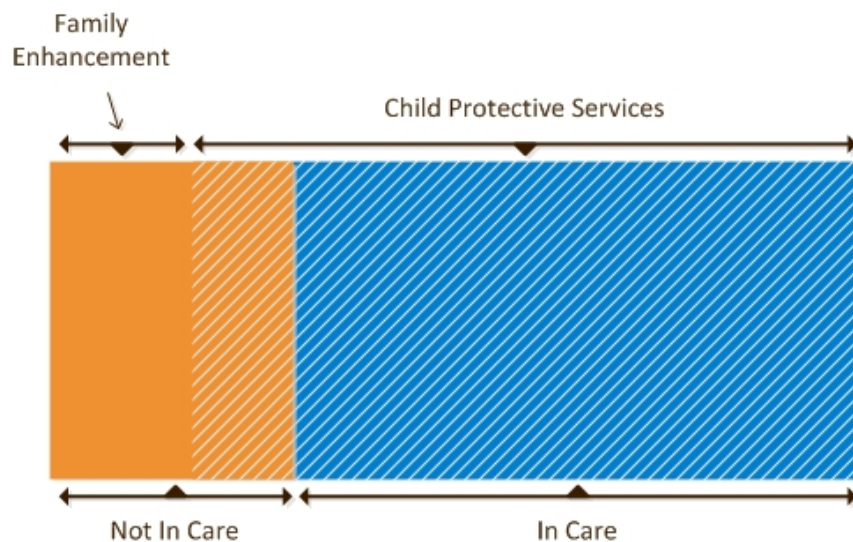
Files are "closed" when families are successfully reunified, or when children are placed into adoption or private guardianship.

Youth who are 16 years of age or older and live independently can also access assistance from Child Intervention Services, such as placements, health care, financial support, life skill development, and access to health, education and employment support.

The analyses contained in this document focus on those children who had “open files” because their safety or well-being were at risk; Early Intervention services clients are not included. This means that the analyses included only children in the Family Enhancement Program and Child Protective Services.

The children from these two programs are categorized as either “In Care” (those who are in the care of the government, in foster care, kinship care, or group care, whether permanently or temporarily; all of these children are Child Protective Services clients) or “Not In Care” (those who remain in their parents’ home, whether under the Family Enhancement Program or Child Protective Services).

The diagram below shows how In Care/Not In Care status is related to the Family Enhancement and Child Protective Services programs. The analyses of child death data in Alberta that appear later in this document use the In Care/Not In Care distinction.



# What do we know about the children in Alberta’s child intervention system?

Child Intervention Services primarily serves 0 to 17 year olds, and the analyses that follow are limited to this age group.

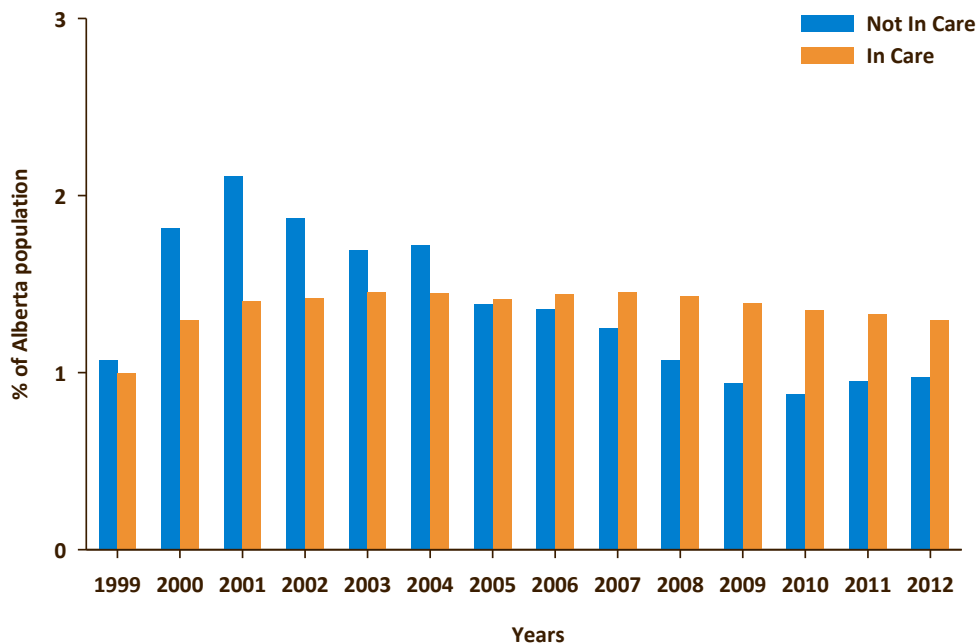
Children were only counted once per year *within* each type of program (even if they received that type of service more than once in the year), but they were counted once each in both Not In Care and In Care if they appeared in both in the same year. This means that the number of children Not In Care cannot be added to the number of children In Care to get the total number of children, because those children who were both Not In Care and In Care in the same year would be counted twice in that total.

Children were counted in each year that they received services, so the total counts of children summed over the years do include some children who were counted more than once.

Between 1999 and 2012, there were between 7,217 and 16,100 children 0 to 17 years of age receiving Not In Care services, and between 7,590 and 11,630 receiving In Care services each year (see Table 1).

Figure 1 shows these numbers as percentages of the total Alberta population. Between one and two percent of Albertan children were receiving Not In Care or In Care services in each calendar year.

**Figure 1. Percentage of Albertan children (0 to 17 years) who received child intervention services by year, 1999-2012**





Many of these children received services more than once in a given year, or continued receiving services across years (data on re-entry or duration in the system was not available for this document).

The size of the population served varied over time, with decreases in the Not In Care population from 2001 to 2010. There have been many policy and legislative changes during the study period, affecting investigations, interventions, and reporting systems. Alberta has also seen substantial demographic changes during those years.

The combined effect of all of these factors is a variable number of children receiving services from year to year. A complete understanding of these time trends, considering all of the relevant factors, is beyond the scope of this document. Nevertheless, changes to policy and practice over time, as well as demographic shifts, are critical factors. A thorough documentation of these changes is necessary to contextualize mortality rates over time.

Children were assigned to age groups for the analyses in this document. Because Child Intervention Services primarily serves 0 to 17 year olds, the five-year age groups ending at 19 years of age, commonly used by Statistics Canada and other agencies, are not appropriate for the current analyses.

Infants (under one year of age) were grouped alone (these children are also called "0 years old" in tables and figures).

The other children were grouped as follows: 1 to 5 year olds (preschool children), 6 to 12 year olds (elementary school children), and 13 to 17 year olds (teenagers).

As shown in Table 2, for 1999 to 2012 combined the percentage of the child intervention population that was female varied between 46% and 50% for all age groups, for both Not In Care and In Care children, with the exception of 13 to 17 year olds Not In Care. In that case, 56% of the children were female.

Also shown in Table 2, between 1999 and 2012, about 6% of the child intervention population consisted of infants. The percentage of 1 to 5 and 6 to 12 year olds in the Not In Care population was higher than in the In Care population. Conversely, a greater percentage of In Care than Not In Care children were teenagers. In other words, the Not In Care population was generally younger than the In Care population.

Aboriginal children are over-represented in the child intervention system. While Aboriginal children made up about 9% of the Alberta population of children aged 0 to 19 years in 2006 (Statistics Canada, 2008), they comprised 34% of the Not In Care children and 58% of the In Care children 0 to 17 years of age for 1999 to 2012 combined (see Table 7).

## Child mortality in Canada and in Alberta

Statistics Canada data (Statistics Canada, 2013) show that between 1999 and 2011 in Canada, child mortality rates were consistently highest for infants (ranging between 479 and 545 per 100,000 population during that time period), followed by 15 to 19 year olds (36 to 51 per 100,000), 1 to 4 year olds (17 to 26 per 100,000), 10 to 14 year olds (11 to 16 per 100,000), and 5 to 9 year olds (8 to 14 per 100,000). The Statistics Canada data for Alberta show similar patterns, with somewhat higher rates for infants and 15 to 19 year olds in Alberta than in Canada during that time period.

Available data from Alberta Health (see page 5 for data source details) enabled calculation of mortality rates for the age groups used in this document (which are slightly different from the ones used by Statistics Canada). For 1999 to 2012 combined, the infant mortality rate using this data source was 585 per 100,000 infants. The rate for 13 to 17 year olds was the second highest rate, at 53 per 100,000. The rate for 1 to 5 year olds was 23 per 100,000, and the rate for 6 to 12 year olds was 11 per 100,000. The pattern is similar to that for the Statistics Canada data with slightly different age groups.

Statistics Canada data for 1999 to 2011 (Statistics Canada, 2013) show that for 0 to 19 year olds, males had higher mortality rates than females overall. The same pattern is found with Alberta Health data. There was an overall mortality rate of 58.2 per 100,000 for males 0 to 17 between 1999 and 2012, and 46.7 for females 0 to 17 during that time period. The differences between males and females were primarily among infants and 13 to 17 year olds (data not shown).

In Canada, leading causes of death for infants are medical (congenital malformations/deformations/chromosomal anomalies, disorders related to short gestation and low birth weight, and maternal complications of pregnancy) (Statistics Canada, 2012).

For children one to nine years of age, accidents (unintentional injuries), and medical conditions (cancer and congenital conditions) are the leading causes. Unintentional injuries are also the leading cause for 10 to 14 year olds and 15 to 19 year olds. Cancer and suicide are second and third most common causes for 10 to 14 year olds, while suicide and then cancer are second and third for 15 to 19 year olds (Statistics Canada, 2012).

Aboriginal populations are known to have higher rates of infant mortality than the rest of the population, as well as higher rates of injury death throughout childhood (Health Co-Management Secretariat, 2010).

## Child intervention mortality in Alberta

When there is a death of a child whose case is in the investigation stage (a file has not yet been opened) or who is receiving intervention services (that is, a child with an open file), information about the death is available to Child Intervention Services.

For deaths of children who had a closed file (i.e., they were reunified with their families or were under permanent guardianship), or who had prior or current involvement with Child Intervention Services but were over 18 years of age at the time of death, information about the death is not automatically available to Child Intervention Services.

There is no legal requirement to report to Child Intervention Services the deaths of persons who are not receiving services from Child Intervention Services. Nevertheless, Child Intervention Services may learn about the death, for example when a caseworker has dealings with other family members, through inter-agency contact, or when a media report appears. Child Intervention Services captures that information when it is

available; in some cases, Child Intervention Services even has information about deaths of children who had no prior involvement with them, but may have had family members who were involved.

It is not appropriate to make any generalizations about these types of deaths, as so many of the deaths in these categories are in fact unknown to Child Intervention Services. Systematic (and therefore complete) collection of data on these categories of deaths by Child Intervention Services is not currently possible.

Table 3 lists the number of deaths in each of the categories of involvement with Child Intervention Services. There were 741 deaths between 1999 and September 2013 of children that were in some way known to Child Intervention Services. There was no prior involvement with Child Intervention Services for 66 of these children. Files had been closed for 291 children, and 50 children were over 18 years of age at the time of their death.

**Table 3. Categories of child deaths known to child intervention services, 1999 to 2012 and 1999 to 2013**

Category	Number of deaths up to Dec 31, 2012	Number of deaths up to Sept 30, 2013
File closed at time of death - child had prior involvement	291	291
In Care	143	149
Intake & Investigation (Involvement)	40	41
Intake & Investigation (No involvement)	58	60
No prior involvement	66	66
Not In Care - child with parents	80	84
Over 18 at time of death	48	50
Total	726	741

There were 101 deaths among children who were in the investigation stage in the system (i.e., in the intake and assessment process). 60 of these deaths were as a result of the illness or injury that caused Child Intervention Services to begin investigating, and 41 deaths among investigated children occurred as the result of an incident or illness that happened after the investigation was initiated. Importantly, whether the children involved in these investigations had actually been maltreated had not yet been established at the time of their deaths. That means that the deaths for this group include both maltreated and non-maltreated children; it is inappropriate to refer to the entire group as maltreated, or to calculate a mortality rate for this group and refer to it as a mortality rate for maltreated children.

The following analyses include deaths from 1999 to 2012; data for 2013 were not finalized for the full year at the time of the preparation of this report. Analyses were limited to the 223 deaths in the Not In Care and In Care groups of children. This is because data for other categories of children were incomplete (including the *no prior involvement*, *closed file*, or *youth over 18* categories) or contained children whose maltreatment status was not established (*no prior involvement*, *intake and assessment*).

The analyses in this document are preliminary. Analyses include year of death, age, gender, Aboriginal status (Aboriginal or non-Aboriginal), and manner of death. Manner of death is categorized as medical (natural), accidental, suicidal, homicidal, undetermined (when it is unclear which of the other categories should be used), and pending (when a report on manner of death has not yet been received).

These manners of death are defined by the Office of the Chief Medical Examiner (OCME; Office of the Chief Medical Examiner, Alberta Justice, 2009). See Appendix A for full descriptions of manners of death. Note that the OCME categories include “Unclassified” deaths; no deaths in the child intervention system between 1999 and 2012 were Unclassified, so that category does not appear in the analyses.

Manner of death is different from cause of death. For example, in a suicide by hanging, the manner of death is suicide but the cause of death is asphyxiation. Comparisons of manners and causes of death are not straightforward. Causes of death are more commonly reported in statistical data on deaths than are manners of death.

All rates are per 100,000 children. For example, in 2010, there were 7,217 children who were Not in Care at least once during the year, and 4 of those children died that year:  $(4/7,217) \times 100,000 = 55.4$ ; the Not In Care rate was 55.4 per 100,000 children. Similarly, there were 11,083 children In Care at least once in 2010; 13 of them died, for a rate of  $(13/11,083) \times 100,000 = 117.3$  deaths per 100,000 children In Care.

The reader is cautioned that, in many cases, extremely small numbers of cases are being presented. Rates per 100,000 children are provided in each case. However, *with small numbers, rates are subject to wide fluctuation*. For example, if a rate is based on only 2 cases in a year, then just 2 more cases in that year would double the rate. If a rate is based on 100 cases, 2 more cases in the year would have a small effect on the rate.

*Comparisons between rates should be interpreted with caution.*

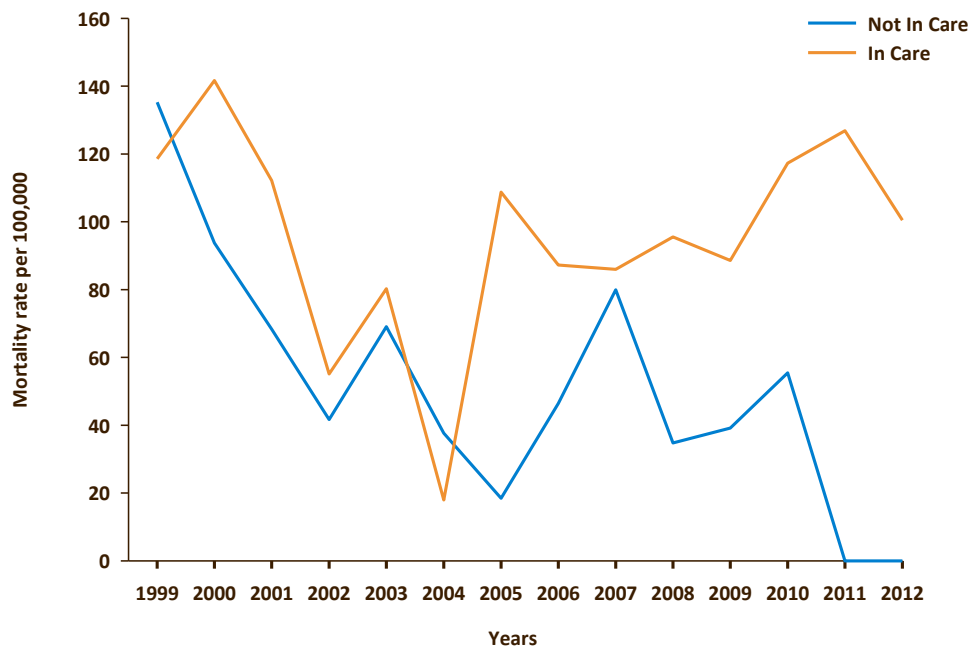
## Mortality rates by year

Figure 2 (see Table 4 for details) shows the overall mortality rates for children Not In Care and In Care.

As can be seen in Figure 2, rates fluctuated from year to year, as is expected with rare events like death. A change of only a few deaths can affect the rate substantially. Overall, however, rates did not show a consistent increasing or decreasing trend over time. Mortality rates for both Not In Care and In Care were higher for 1999 and 2000 compared with subsequent years. There were no Not In Care deaths in either of 2011 or 2012; data from a few more years are required to determine whether this is in fact a decreasing trend.

In almost every year, death rates were higher for In Care than Not In Care. The In Care death rate for 2004 was lower than for other years. This is likely due to random variation; there is no known reason for this one-year decrease.

**Figure 2. Alberta Child Intervention mortality rate by year and type of intervention service, children aged 0 to 17 years, 1999-2012**



## Mortality rates by age group

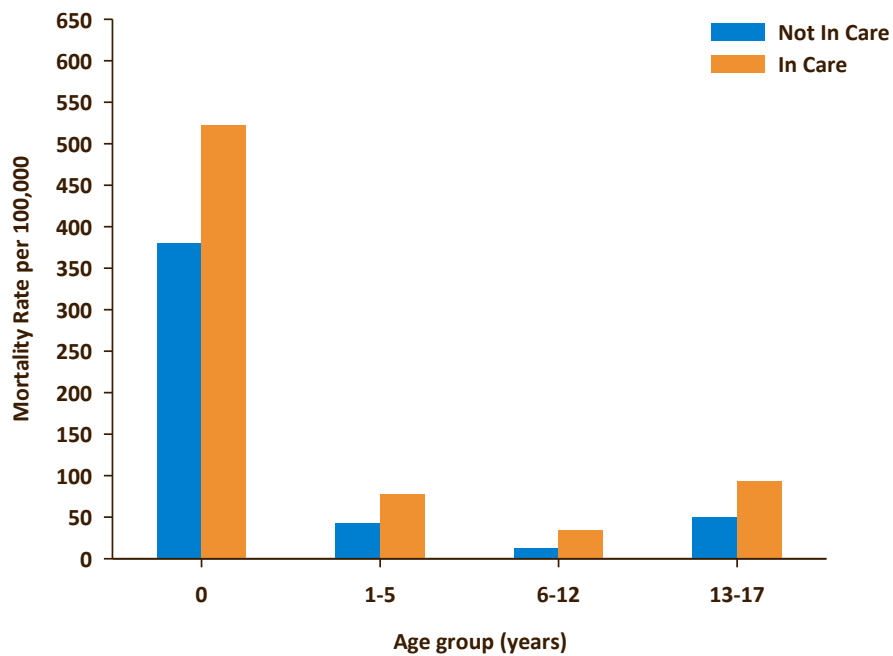
Figure 3 (see Table 5 for details) shows the mortality rates for different age groups of children. These rates, and all of the rates appearing in tables and figures from this point on, include the deaths for all years from 1999 to 2012 added together. The reader is reminded that children who received services in multiple years were counted in each year that they appeared.

Infants (under one year of age) were grouped alone. The other years were grouped as follows: 1 to 5 year olds (preschool children), 6 to 12 year olds (elementary school children), and 13 to 17 year olds (teenagers).

Consistent with Canadian and Albertan data from other sources (see page 10), the highest mortality rates were for infants, followed by teenagers, then 1 to 5 year olds and 6 to 12 year olds.

In each age group, the mortality rates were higher for children In Care than Not In Care, which is not surprising given the higher levels of risk experienced by children receiving In Care services.

**Figure 3. Alberta Child Intervention mortality rate by age group and type of intervention services, 1999-2012**



## Mortality rates by age group and gender

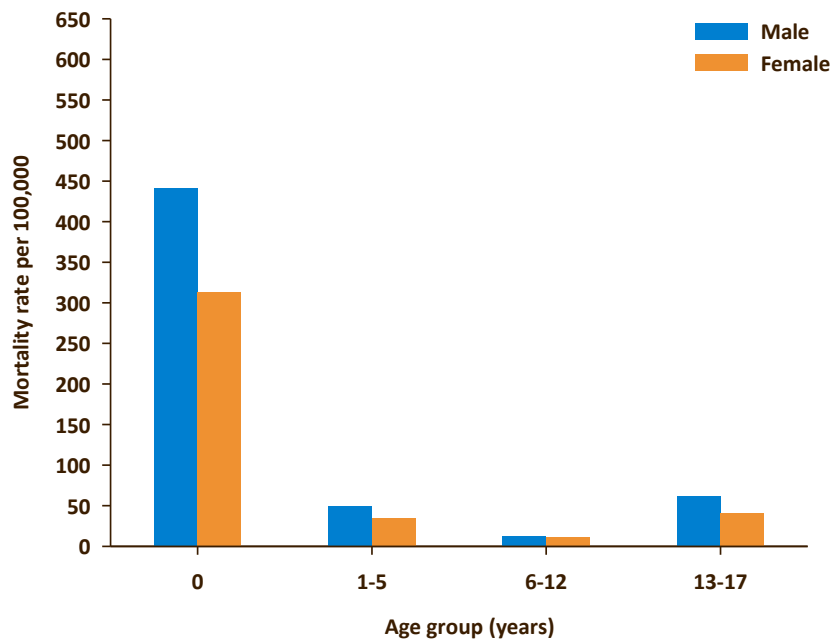
Figures 4a and 4b (details in Table 6) show mortality rates by age group as well as Not In Care/In Care status, for male children (Figure 4a) and female children (Figure 4b).

Both males and females show the same pattern as found in Figure 3: mortality rates were highest for infants, and second highest for teenagers, followed by 1 to 5 year olds and then 6 to 12 year olds.

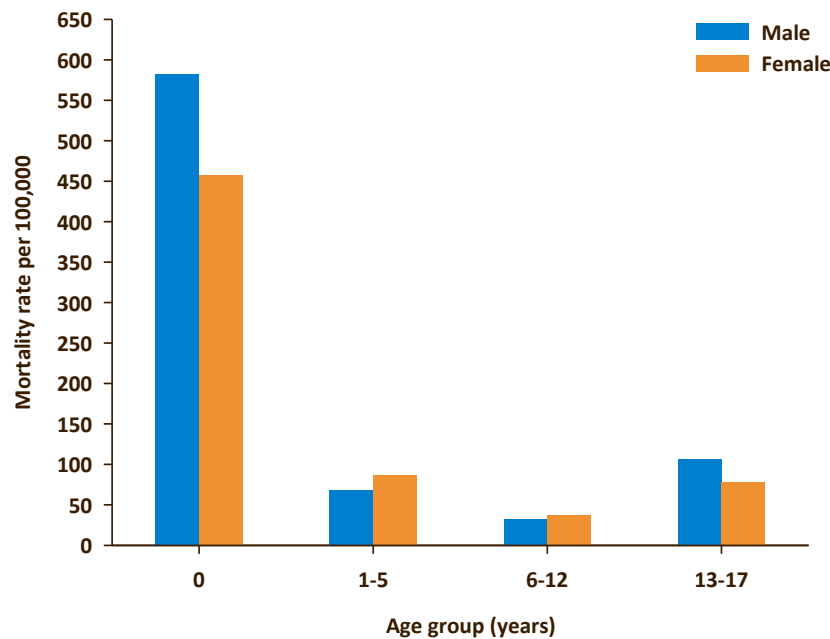
There is a general pattern of higher rates for males, as was found in other data sources for Canada and Alberta (see page 10). There are two exceptions to this pattern; for 1 to 5 and 6 to 12 year olds In Care, the rates for males were not higher than for females.

## Mortality rates by age group and gender (figures)

**Figure 4a. Alberta Child Intervention mortality rate by age group and gender, for children Not In Care, 1999-2012**



**Figure 4b. Alberta Child Intervention mortality rate by age group and gender, for children In Care, 1999-2012**





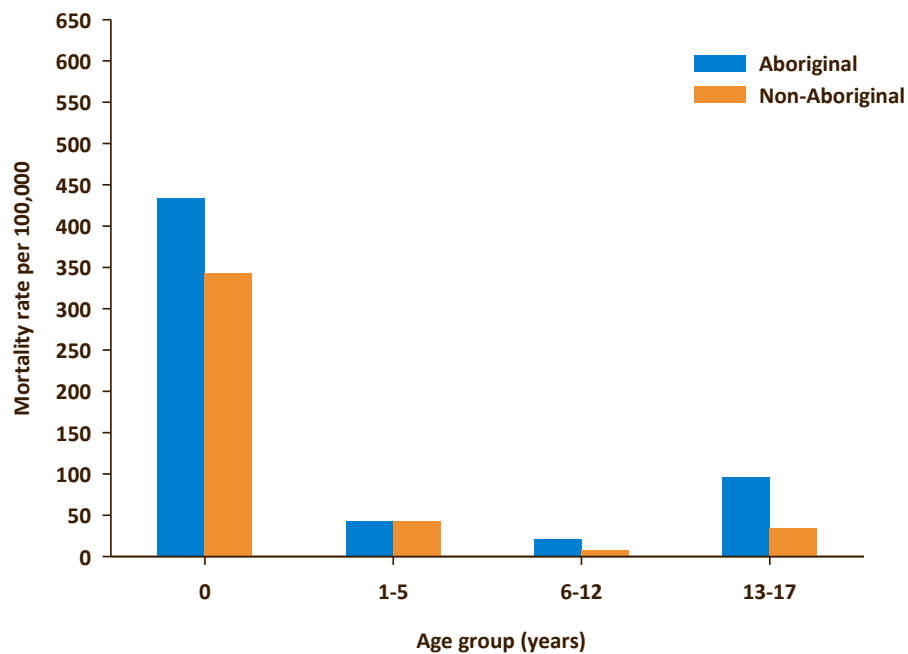
## Mortality rates by age group and Aboriginal status

Figures 5a and 5b (details in Table 7) provide mortality rates by age group and Aboriginal status; Figure 5a shows Not In Care rates and Figure 5b shows In Care rates. Mortality rates were notably highest for Aboriginal children In Care; 98 out of the total 223 child deaths being studied in this document were among Aboriginal children In Care. For children either Not in Care or In Care, mortality rates were higher in almost every age group for Aboriginal children than for non-Aboriginal children.

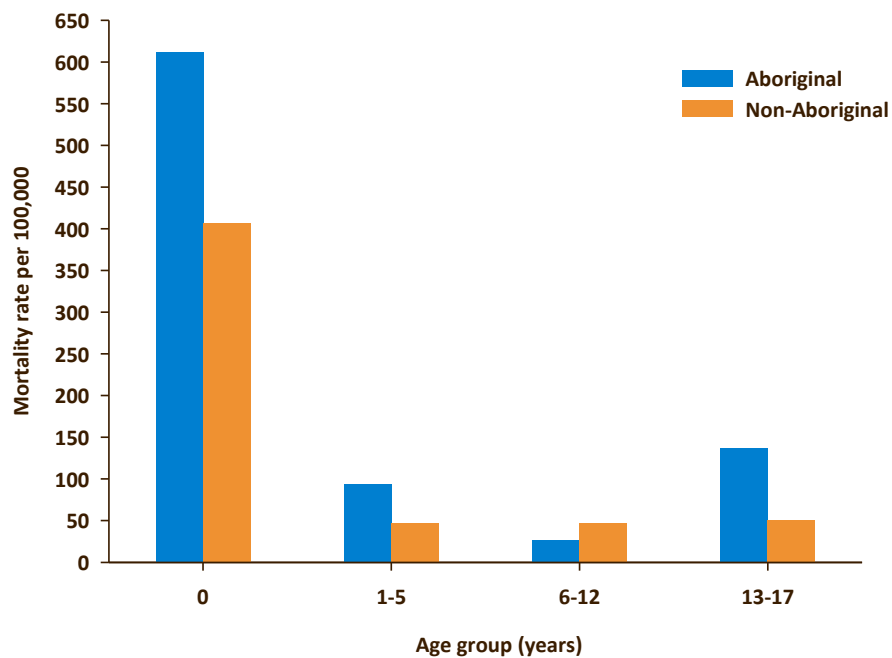
While the rates for the Aboriginal children Not In Care and In Care followed the expected age group pattern (highest for infants, then teenagers, then 1 to 5 year olds, then 6 to 12 year olds), the rates for the non-Aboriginal children in both Not In Care and In Care were *not* elevated for teenagers compared with the 1 to 12 year olds. This unexpected finding may be anomalous, given the low overall numbers of deaths, but this pattern warrants further study.

## Mortality rates by age group and Aboriginal status (figures)

**Figure 5a. Alberta Child Intervention mortality rate by age group and Aboriginal status, for children Not In Care, 1999-2012**



**Figure 5b. Alberta Child Intervention mortality rate by age group and Aboriginal Status, for children In Care, 1999-2012**



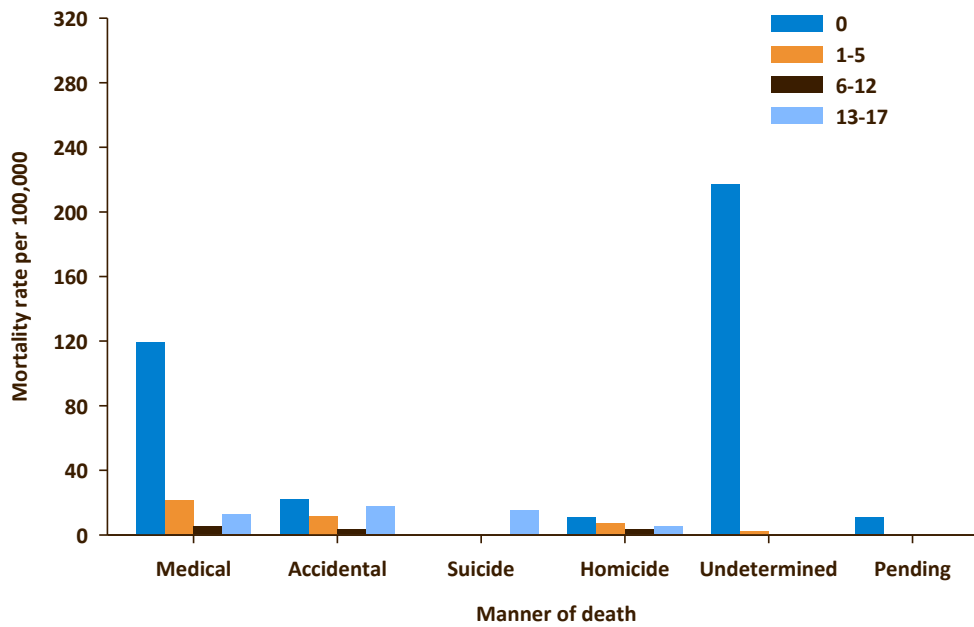
## Mortality rates by age group and manner of death

Figures 6a and 6b (see Table 8 for details) show data on mortality rates by age group and manner of death; Figure 6a provides rates for Not In Care and Figure 6b contains In Care data. Medical and undetermined deaths dominated the infant deaths; medical deaths were particularly dominant in the In Care infant deaths. Unlike the general population (see summary of leading causes of death by age group in Canada on page 10), medical deaths were the most common in every age group in the In Care population, and in every age group in Not In Care except 13 to 17 year olds. In the general population, accidents are the leading cause for all age groups except for infants (Statistics Canada, 2012).

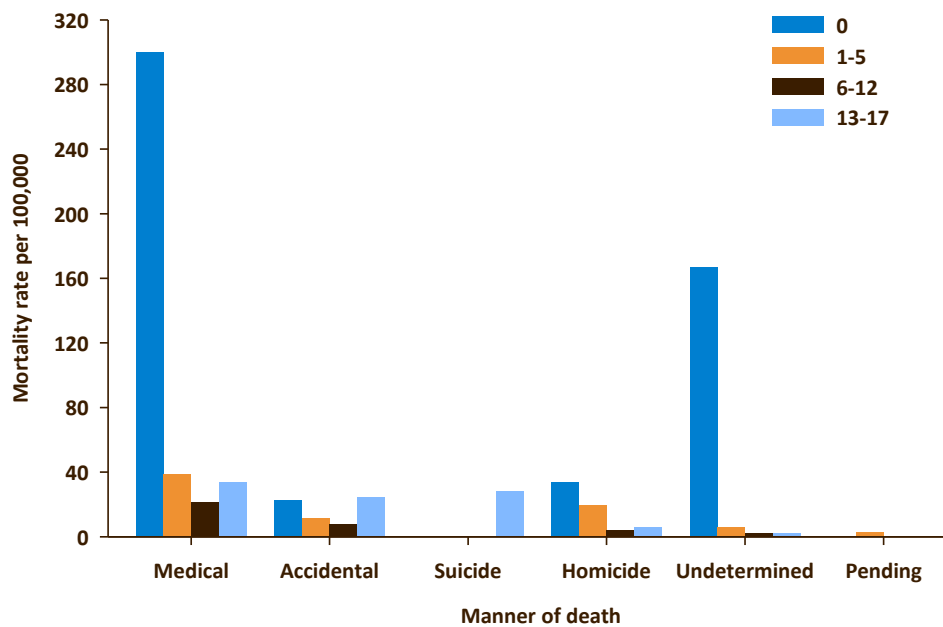
Prior to 2010, the undetermined category included deaths from sudden infant death syndrome (SIDS); in other years, those deaths were generally classified as medical. A possible focus for further research would be to clarify changes in SIDS diagnosis and reporting policies across years. SIDS deaths could then be examined across the years to see more clearly how those rates varied and influenced the rates for medical and undetermined infant deaths.

## Mortality rates by age group and manner of death (figures)

**Figure 6a. Alberta Child Intervention mortality rate by manner of death and age group, for children Not In Care aged 0 to 17 years, 1999-2012**



**Figure 6b. Alberta Child Intervention mortality rate by manner of death and age group, for children In Care aged 0 to 17 years, 1999-2012**



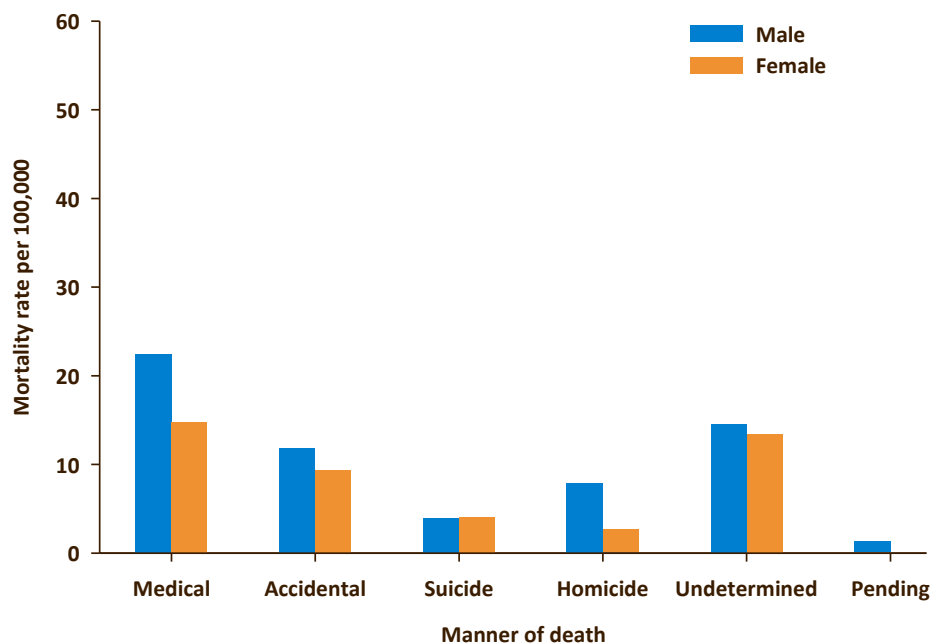
## Mortality rates by gender and manner of death

Figures 7a and 7b (see Table 9 for details) provide data on mortality rates by gender and manner of death; Appendix A contains descriptions of manners of death categories. Figure 7a provides rates for children Not In Care and Figure 7b contains rates for children In Care. In most cases, mortality rates were higher for males than for females. The two exceptions were In Care medical mortalities and In Care homicides, with higher rates for females.

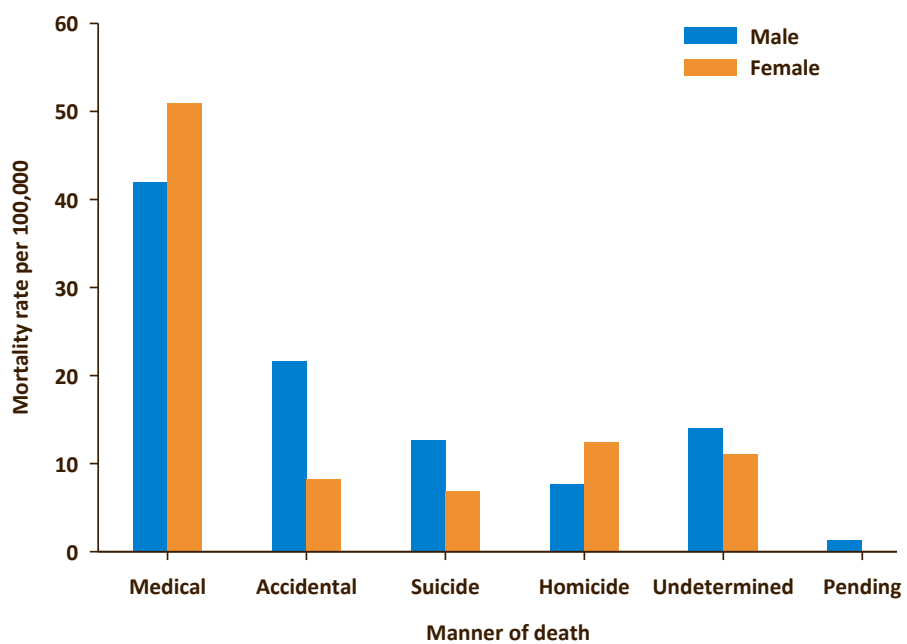
Medical deaths were the most common in both groups, and the medical mortality rates were elevated In Care. Suicide rates were higher In Care compared with Not In Care, as were accidental deaths for males only. For a substantial number of deaths, the manner of death was undetermined. Further data on causes of death in these cases would be desired in understanding determinants of death for children receiving intervention services.

## Mortality rates by gender and manner of death (figures)

**Figure 7a. Alberta Child Intervention mortality rate by manner of death and gender, for children Not In Care aged 0 to 17 years, 1999-2012**



**Figure 7b. Alberta Child Intervention mortality rate by manner of death and gender, for children In Care aged 0 to 17 years, 1999-2012**

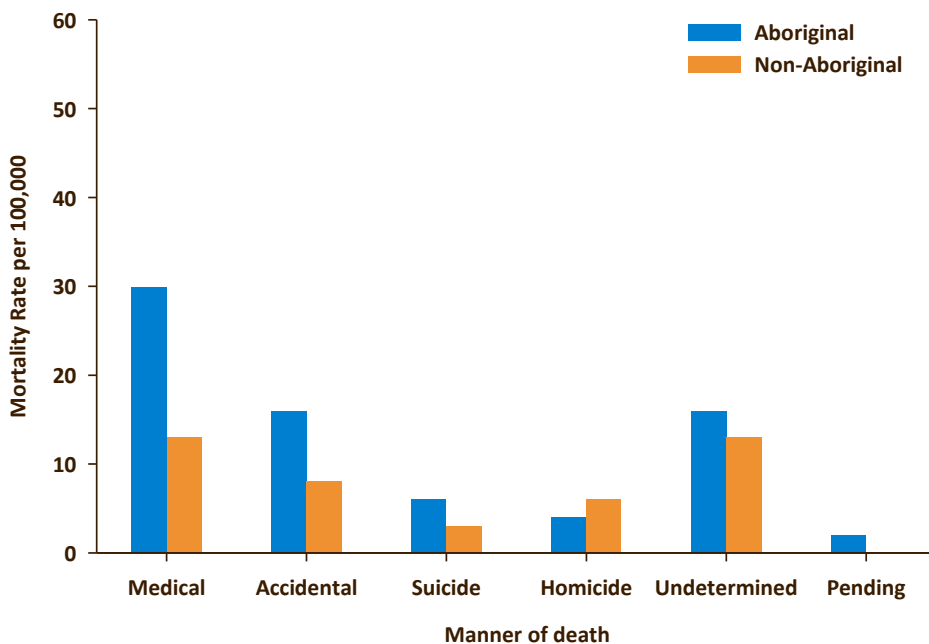


## Mortality rates by Aboriginal status and manner of death

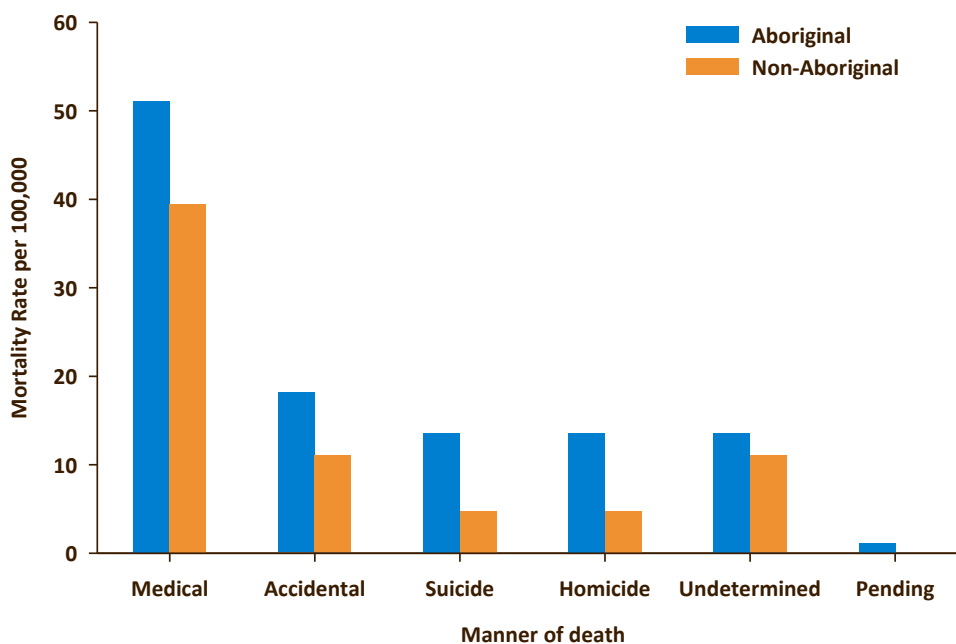
Figures 8a and 8b (see Table 10 for details) show mortality rates by Aboriginal status and manner of death for Not in Care (Figure 8a) and In Care (Figure 8b) children. While patterns in manner of death are similar for Aboriginal and non-Aboriginal children, mortality rates for Aboriginal children are higher in almost every case than for non-Aboriginal children (Not In Care homicide rates were not higher for Aboriginal children).

## Mortality rates by Aboriginal status and manner of death (figures)

**Figure 8a. Alberta Child Intervention mortality rate by manner of death and Aboriginal status, for children Not In Care aged 0 to 17 years, 1999-2012**



**Figure 8b. Alberta Child Intervention mortality rate by manner of death and Aboriginal status, for children In Care aged 0 to 17 years, 1999-2012**





## What do all of those numbers tell us?

The reader is reminded that these analyses are preliminary. More detailed data and further analyses are needed before greater depth of understanding can be reached.

The population of children receiving intervention services between 1999 and 2012 had similar patterns of mortality to the overall population of Canadian and Albertan children (as found in other data sources, summarized on page 10):

- Mortality rates were highest in infants and second highest in teenagers.
- Males had higher rates of mortality than females across most comparisons.

These similarities in patterns indicate that Child Intervention Services clients and the general population aged 0 to 17 years shared some similar underlying risks of death, though obviously risks of some types were elevated for children who required intervention services.

Manners of death for all Albertan or all Canadian children were not available for comparison to child intervention data. Consequently, it is not possible to compare children receiving intervention services to the general population in terms of manners of death.

Given leading causes of death data for Canada, however, it appears that medical death rates were elevated in children receiving intervention services who were one year of age and older.

While not directly comparable to manner of death, causes of death in Statistics Canada data do include accidental deaths, suicides, and homicides (Statistics Canada, 2012a). A survey of the rates in these categories for children in Canada is suggestive of higher rates than the Canadian population for children receiving intervention services. Further research using more comparable indicators is required, however.

Aboriginal children were much more likely than non-Aboriginal children to enter the intervention system, and had higher rates of mortality than non-Aboriginal children once they were in the system. This is a known concern in child intervention systems in many jurisdictions, and speaks to the many challenges faced by Aboriginal populations in Alberta and the rest of Canada.

Interpretation of these and other mortality rate patterns for children in Child Intervention is not straightforward. A number of cautions are in order. Many of the rates reported here are based on small numbers of cases, and are subject to more variation than rates based on larger numbers. Service provision varied over time, according to policy and legislative changes. Reporting practices also varied over time, including policies on collecting mortality data for children who were no longer in the system, or who had never received services from the system.

Child-specific factors should also be considered. Children receiving intervention services are at increased risk of mortality due to the circumstances of their lives, yet the interventions may provide support and stability and therefore a reduction in risk. The risk at entry to intervention, and the potential reduction in risk afforded by interventions, varies from case to case. It is difficult to make generalizations about a population of children that is so diverse, with so many factors contributing to outcomes. A child-centered approach to data collection would include the experiences of their lives within the system, such as duration of stay and number of placements.

With the above caveats in mind, a few effects in the data are clear. Males have higher rates of mortality than females. Aboriginal children have elevated mortality rates. Teenagers in the intervention system, like those in the general population, are vulnerable to accidental deaths and suicide. Infants (and children in other age groups) have high rates of medical causes of death.

These are the groups of children for which particular efforts must be made to better understand determinants of mortality. Many of the factors associated with maltreatment and mortality in these groups of children are potentially modifiable, such as substance use, parental age, parental education, domestic violence, unsafe living conditions, and low socio-economic status. Modifications to intervention practices should be considered as well.

A critical part of understanding and preventing child mortalities is to improve reporting and monitoring practices, and to support research into key factors. This kind of approach will allow optimal knowledge mobilization of all available information.

## Where do we go from here?

The present review and analyses are far from comprehensive. They were undertaken in a short period of time, and should be seen as a way to add context and broader perspective to an evolving story and to a commitment to improvement. A more comprehensive review of the data is in order, as is further research on the factors associated with child mortality in the Child Intervention system in Alberta. Data collection, linkage, reporting, and collaboration amongst a variety of stakeholders are key components for moving forward.

There are some specific analyses that could be undertaken in the short term to enhance data-informed decisions. These are outlined below:

- Understanding of the mortality rates presented in this document would benefit from the addition of further data, which is available within the Child Intervention system but could not be included, given time constraints:
  - Many children receive multiple child intervention services, for varying amounts of time. Patterns of service use over time, as well as duration of those services, are valuable data for understanding mortality rates.
  - Children were counted more than once if they received services in the same program in different years. Analyses in which children are only counted once should also be undertaken, to understand patterns of mortality when only unique children are counted.
  - Further study of causes of death would be beneficial in understanding mortalities with undetermined manners of death.
  - Changes over time in sudden infant death syndrome (SIDS) diagnosis and reporting policies should be documented. The contribution of SIDS deaths to the rates of medical and undetermined infant deaths could then be better understood.
- There were a few unexpected findings in the data that should be investigated further:
  - Mortality rates for Not In Care and In Care children were elevated for 1999 and 2000; this is likely due to policy and practice variations, but the associated factors should be clarified. In fact, time trends in policies, legislation, and reporting practices should be documented across the system, as contextual background to mortality data.
  - The In Care mortality rate for 2004 was lower than for surrounding years. Further investigation as to any known cause for this should be carried out.
  - The mortality rates for non-Aboriginal children in both Not In Care and In Care were *not* elevated for teenagers compared to other age groups. This effect was not expected, and should be studied to determine why it is the case.

In the longer view, maltreated children are best served by an intervention system that understands the family and kinship support system as well as possible, including both the determinants of behaviours and the outcomes that result. Comprehensive longitudinal data collection with consistent and standardized reporting is essential; so too are routine monitoring practices that identify trends and issues. Data linkage should be employed wherever feasible, to enrich available information and reduce duplication and inconsistency. These approaches work best within a collaborative framework with a strong connection to the research community, enabling innovation and best practices to inform policy and practice.

The best possible information must be collected in the most helpful manner. Data collection principles include:

- Collection of a standardized minimum dataset for each child and family in the system
  - Given the complexities of child intervention cases and the urgent need for action, data collection can vary from case to case. Specification of a standard set of indicators for each case is an important step in ensuring that data gaps do not occur. The content of this dataset should be informed by a comprehensive review of the literature on child maltreatment and mortality.
- Collection of population-wide and appropriate comparison data wherever possible
- Routine collection of indicators in a digital format so that timely analysis is possible
- Database design based on data needs, rather than data being fit to existing structure
- Dedication of adequate resources to data collection processes

Reporting is another critical aspect for child maltreatment and mortality data. Reporting principles include:

- Regular public reporting as part of the business plan
- Annual reports with standardized indicators that are updated each year
- Online, manipulable versions of databases that provide information on key aspects of the intervention system as well as mortality
- Special reports on arising issues, produced in a timely manner
- Routine, ongoing surveillance and monitoring, so that trends are noticed and issues are identified and can be acted upon in a timely manner
- Quality assurance from an independent body, for practice as well as reporting
- Contextualization, to minimize the likelihood of misinterpretation

Collaboration at a number of levels is essential:

- A strong system for creating and mobilizing knowledge into policy and practice should be in place. This involves collaboration at all levels within the intervention system, and between the intervention system and its many partners, including families, researchers, policy analysts, practitioners, specialists, and advocacy organizations, to name a few.
- Collaboration with other ministries and agencies, including linkage of data, could significantly enhance knowledge about children and their experiences intervention systems and other systems (such as health, education, and justice).
- Steps should be taken to standardize reporting of child intervention mortalities across jurisdictions within Canada.

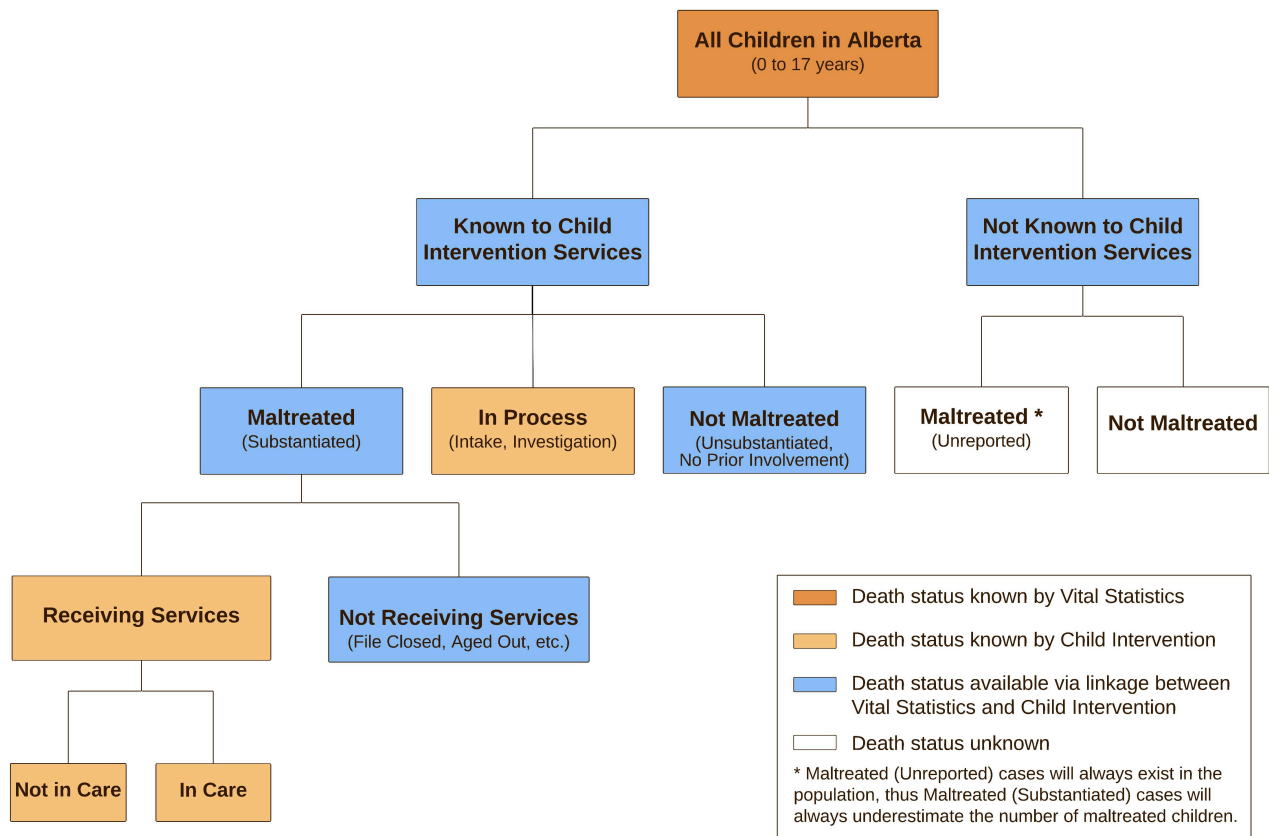
## Collaboration via data linkage

Below is a more detailed example of one possible way to improve our understanding of mortalities in the Child Intervention system without having to collect new data. Rather, better use of existing data sets can be enabled by collaboration.

There is a legal requirement that every death in Alberta must be registered; a Medical Certificate of Death is filled out by a physician or the medical examiner and is added to the Vital Statistics deaths database. Vital Statistics data, maintained by Service Alberta, contain demographic information on all deaths, such as age and gender, as well as details such as time and cause of death.

If data linkage between Child Intervention data and Vital Statistics data was enabled, a much more complete picture of deaths of children known to the intervention system would be possible. This is illustrated in the following diagram.

**Improving Child Death Data Capture and Monitoring: For what groups of children *do* we have death data, and for what groups of children *could* we have death data if data were linked?**



*Note.* Each box represents a group of children, categorized by whether they are known to Child Intervention Services, maltreated or not, and receiving services or not. In any group, a child can be known to be alive, known to be deceased or have his/her death status be unknown.

The diagram categorizes all children living in Alberta. Each box represents a group of children, categorized according to whether they are known to Child Intervention Services, whether they were maltreated, and what kinds of services they are receiving. For each of the categories, a child may be living, deceased, or his or her status may be unknown.

Notably, complete data on who is living or deceased is only available to Child Intervention Services for those children to whom they are currently providing services (orange boxes). Vital Statistics data, on the other hand, provide death status for every child (dark orange box), although whether these children are known to Child Intervention Services is not specified in Vital Statistics data.

Data linkage between Child Intervention Services data and Vital Statistics death data would provide information on deaths in all of the categories in the blue boxes (deaths for everyone are available from Vital Statistics, and Child Intervention Services data provides information on child intervention involvement). Such linkage would provide the follow-up over time that is not possible for Child Intervention Services, but occurs as a result of death registrations in Vital Statistics (essentially, all residents of Alberta are “followed-up” by Vital Statistics until death). The death status for all children known to Child Intervention Services would be available.

It is important to remember that children not known to Child Intervention Services represent the vast majority of Albertan children. For these children, death status could be known via linkage between Vital Statistics and Child Intervention Services (if they are not in Child Intervention Service’s database, they are “not known”). However, by definition, the maltreatment status of those children is not known (any maltreated children in this group have not been reported as maltreated). This is reflected in the white boxes in the diagram. Thus, there are some maltreated children whose deaths would not be captured by Child Intervention Services because their maltreatment was not reported.

If linkage between Vital Statistics and Child Intervention Services data were implemented, comparisons not currently possible would be enabled. For example, mortality rates for children currently receiving intervention services and those not currently receiving services could be compared, as could those between children known to intervention services who were maltreated and those who were not maltreated. Mortality rates comparing children known to intervention services and those not known to intervention services could also be compared. It is even theoretically possible to estimate maltreatment status in the population of children who are not known to intervention services. This could be accomplished with linkage to health service use data. Visits to physicians or emergency rooms, or hospitalizations, could be examined to look for diagnoses of maltreatment.

The increased knowledge gained from data linkage would be a clear improvement over the current situation and would undoubtedly increase our understanding of critical factors in mortality rates for children known to Intervention Services. This is a further example of the increased understanding of children’s lives that is possible if all available sources of data are utilized.

## Appendix A. Manner of death.

From Office of the Chief Medical Examiner, Alberta Justice (2009). Annual Review, 2009.

The manner of death is a statistical classification of deaths that takes into account the circumstances under which the death occurred. In its broadest terms, deaths are divided into those caused by a natural disease (natural manner of death) versus those caused by injury or drugs (unnatural manner of death). The unnatural deaths are further subdivided into accidental, suicidal, homicidal, and undetermined manners of death used in all Canadian provinces and territories. The OCME in the province of Alberta also uses an unclassified manner of death. The majority of natural deaths do not require any involvement of a medical examiner, and the Medical Certificate of Death can be signed by the decedent's attending doctor in these cases. In contrast to this, all unnatural deaths occurring in Alberta must be investigated by a medical examiner and the Medical Certificate of Death can only be completed by a medical examiner.

The manner of death is determined after the cause of death has been established and takes into account the medical examiner's investigation into the medical history of the decedent, the circumstances surrounding the death, the scene findings, and the examination of the body (often supplemented with other tests such as a drug screen). Any ruling on the manner of death can be amended if and when further factual information becomes available to indicate that the manner of death should be changed.

The manners of death used by the OCME in Alberta are as follows:

### Natural

The natural manner of death is used when the cause of death is a natural disease, with a couple of the most common examples being heart disease or cancer. Almost half of all deaths investigated by the OCME are caused by natural diseases.

### Accident

The accidental manner of death applies when a death is caused by an injury and where there is no obvious intent to cause death either on the part of the decedent or any other individual. Motor vehicle deaths are the most common example of accidental deaths in Alberta.

### Suicide

Suicides are deaths that occur when an individual dies as a result of a self-inflicted injury where evidence indicates the person intended to cause their own death.

### Homicide

A homicide is a death resulting from an injury caused directly or indirectly by the actions of another person where there is often (but not always) some indication of intent to cause the injury and/or death. Homicide is a neutral term that does not imply fault or guilt.

**Unclassified**

The unclassified manner of death is used when death is directly caused by a drug of abuse, including alcohol, or caused by the long term effects of alcohol and/or drug abuse.

**Undetermined**

The undetermined manner of death is used in those cases where a complete investigation does not yield sufficient information to determine which of the previous manners the death should be classified as. An example of this would be the death of a pedestrian following a hit-and-run vehicular incident where there were no witnesses and the driver of the vehicle was never found. In this case there would be insufficient information available to establish whether the driver intentionally struck the pedestrian (homicide), unintentionally struck the pedestrian (accident), or the pedestrian jumped in front of the vehicle (suicide).



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## Tables

**Table 1. Number and percentage of children receiving child intervention services by year and child intervention service type, Abertan children aged 0 to 17 years, 1999-2012**

	Year	Alberta Population*	Not In Care	% of Alberta population	In Care	% of Alberta population
Number of Cases	1999	762,296	8,134	1.1	7,590	1.0
	2000	763,390	13,866	1.8	9,883	1.3
	2001	763,501	16,100	2.1	10,698	1.4
	2002	768,902	14,405	1.9	10,892	1.4
	2003	770,609	13,036	1.7	11,214	1.5
	2004	772,389	13,288	1.7	11,159	1.4
	2005	781,068	10,837	1.4	11,038	1.4
	2006	793,983	10,775	1.4	11,460	1.4
	2007	800,107	10,011	1.3	11,630	1.5
	2008	805,779	8,626	1.1	11,515	1.4
	2009	813,462	7,660	0.9	11,293	1.4
	2010	820,536	7,217	0.9	11,083	1.4
	2011	830,648	7,885	0.9	11,039	1.3
	2012	847,251	8,252	1.0	10,949	1.3

\* Source: Alberta Health Care Insurance Plan, Population Registry (Received from Surveillance and Assessment Branch, Alberta Health)

**Table 2a. Number and percentage of children by age group and gender, children Not In Care aged 0 to 17 years, 1999-2012**

	Gender	Not In Care									
		Number					Percentage				
		0	1-5	6-12	13-17	Total	0	1-5	6-12	13-17	Total
Number of children	Male	4,752	22,135	31,152	17,649	75,688	6.3	29.2	41.2	23.3	100.0
	Female	4,462	20,383	27,484	22,075	74,404	6.0	27.4	36.9	29.7	100.0
	Total	9,214	42,518	58,636	39,724	150,092	6.1	28.3	39.1	26.5	100.0
Percent of children	Male	51.6	52.1	53.1	44.4	50.4	-	-	-	-	-
	Female	48.4	47.9	46.9	55.6	49.6	-	-	-	-	-
	Total	100.0	100.0	100.0	100.0	100.0	-	-	-	-	-

**Table 2b. Number and percentage of children by age group and gender, children In Care aged 0 to 17 years, 1999-2012**

	Gender	In Care									
		Number					Percentage				
		0	1-5	6-12	13-17	Total	0	1-5	6-12	13-17	Total
Number of children	Male	4,636	18,861	28,065	27,198	78,760	5.9	23.9	35.6	34.5	100.0
	Female	4,366	17,359	24,239	26,719	72,683	6.0	23.9	33.3	36.8	100.0
	Total	9,002	36,220	52,304	53,917	151,443	5.9	23.9	34.5	35.6	100.0
Percent of children	Male	51.5	52.1	53.7	50.4	52.0	-	-	-	-	-
	Female	48.5	47.9	46.3	49.6	48.0	-	-	-	-	-
	Total	100.0	100.0	100.0	100.0	100.0	-	-	-	-	-

**Table 3. Categories of child deaths known to child intervention services, 1999 to 2012 and 1999 to 2013**

Category	Number of deaths up to Dec 31, 2012	Number of deaths up to Sept 30, 2013
File closed at time of death - child had prior involvement	291	291
In Care	143	149
Intake & Investigation (Involvement)	40	41
Intake & Investigation (No involvement)	58	60
No prior involvement	66	66
Not In Care - child with parents	80	84
Over 18 at time of death	48	50
Total	726	741

**Table 4. Number of deaths and mortality rates by year, children receiving intervention services aged 0 to 17 years, 1999-2012**

	Year	Child Intervention	
		Not In Care	In Care
Number of deaths	1999	11	9
	2000	13	14
	2001	11	12
	2002	6	6
	2003	9	9
	2004	5	2
	2005	2	12
	2006	5	10
	2007	8	10
	2008	3	11
	2009	3	10
	2010	4	13
	2011	0	14
2012	0	11	
Population	1999	8,134	7,590
	2000	13,866	9,883
	2001	16,100	10,698
	2002	14,405	10,892
	2003	13,036	11,214
	2004	13,288	11,159
	2005	10,837	11,038
	2006	10,775	11,460
	2007	10,011	11,630
	2008	8,626	11,515
	2009	7,660	11,293
	2010	7,217	11,083
	2011	7,885	11,039
2012	8,252	10,949	
Mortality Rate (100,000)	1999	135.2	118.6
	2000	93.8	141.7
	2001	68.3	112.2
	2002	41.7	55.1
	2003	69.0	80.3
	2004	37.6	17.9
	2005	18.5	108.7
	2006	46.4	87.3
	2007	79.9	86.0
	2008	34.8	95.5
	2009	39.2	88.6
	2010	55.4	117.3
	2011	0.0	126.8
2012	0.0	100.5	

**Table 5. Number of deaths and mortality rates by age group, children receiving intervention services, 1999-2012**

	Age group	Child Intervention	
		Not in Care	In Care
Number of deaths	0	35	47
	1-5	18	28
	6-12	7	18
	13-17	20	50
	Total	80	143
Population	0	9,214	9,002
	1-5	42,518	36,220
	6-12	58,636	52,304
	13-17	39,724	53,917
	Total	150,092	151,443
Mortality Rate (100,000)	0	379.9	522.1
	1-5	42.3	77.3
	6-12	11.9	34.4
	13-17	50.3	92.7
	Total	53.3	94.4

**Table 6a. Number of deaths and mortality rates by age group and gender, children Not In Care, 1999-2012**

	Gender	Not In Care				Total
		0	1-5	6-12	13-17	
Deaths	Female	14	7	3	9	33
	Male	21	11	4	11	47
	Total	35	18	7	20	80
Population	Female	4,462	20,383	27,484	22,075	74,404
	Male	4,752	22,135	31,152	17,649	75,688
	Total	9,214	42,518	58,636	39,724	150,092
Mortality Rate	Female	313.8	34.3	10.9	40.8	44.4
	Male	441.9	49.7	12.8	62.3	62.1
	Total	379.9	42.3	11.9	50.4	53.3

**Table 6b. Number of deaths and mortality rates by age group and gender, children In Care, 1999-2012**

	Gender	In Care				Total
		0	1-5	6-12	13-17	
Deaths	Female	20	15	9	21	65
	Male	27	13	9	29	78
	Total	47	28	18	50	143
Population	Female	4,366	17,359	24,239	26,719	72,683
	Male	4,636	18,861	28,065	27,198	78,760
	Total	9,002	36,220	52,304	53,917	151,443
Mortality Rate	Female	458.1	86.4	37.1	78.6	89.4
	Male	582.4	68.9	32.1	106.6	99.0
	Total	522.1	77.3	34.4	92.7	94.4

**Table 7a. Number of deaths and mortality rates by age group and Aboriginal status for children Not in Care, aged 0 to 17 years, 1999-2012**

	Age group	Not in Care					
		Number			Percentage		
		Aboriginal	Non-Aboriginal	Total	Aboriginal	Non-Aboriginal	Total
Number of deaths	0	16	19	35	-	-	-
	1-5	7	11	18	-	-	-
	6-12	4	3	7	-	-	-
	13-17	10	10	20	-	-	-
	Total	37	43	80	-	-	-
Population	0	3,684	5,530	9,214	40.0	60.0	100.0
	1-5	16,563	25,955	42,518	39.0	61.0	100.0
	6-12	19,564	39,072	58,636	33.4	66.6	100.0
	13-17	10,411	29,313	39,724	26.2	73.8	100.0
	Total	50,222	99,870	150,092	33.5	66.5	100.0
Mortality Rate	0	434.3	343.6	379.9	-	-	-
	1-5	42.3	42.4	42.3	-	-	-
	6-12	20.4	7.7	11.9	-	-	-
	13-17	96.1	34.1	50.3	-	-	-
	Total	73.7	43.1	53.3	-	-	-

**Table 7b. Number of deaths and mortality rates by age group and Aboriginal status for children In Care, aged 0 to 17 years, 1999-2012**

	Age group	In Care					
		Number			Percentage		
		Aboriginal	Non-Aboriginal	Total	Aboriginal	Non-Aboriginal	Total
Number of deaths	0	31	16	47	-	-	-
	1-5	22	6	28	-	-	-
	6-12	9	9	18	-	-	-
	13-17	36	14	50	-	-	-
	Total	98	45	143	-	-	-
Population	0	5,069	3,933	9,002	56.3	43.7	100.0
	1-5	23,401	12,819	36,220	64.6	35.4	100.0
	6-12	33,301	19,003	52,304	63.7	36.3	100.0
	13-17	26,343	27,574	53,917	48.9	51.1	100.0
	Total	88,114	63,329	151,443	58.2	41.8	100.0
Mortality Rate	0	611.6	406.8	522.1	-	-	-
	1-5	94.0	46.8	77.3	-	-	-
	6-12	27.0	47.4	34.4	-	-	-
	13-17	136.7	50.8	92.7	-	-	-
	Total	111.2	71.1	94.4	-	-	-



**Table 8a. Number of deaths and mortality rates by manner of death and age group for children Not In Care, aged 0 to 17 years, 1999-2012**

	Manner of Death	Not In Care				Total
		0	1-5	6-12	13-17	
Number of deaths	Medical	11	9	3	5	28
	Accidental	2	5	2	7	16
	Suicide	0	0	0	6	6
	Homicide	1	3	2	2	8
	Undetermined	20	1	0	0	21
	Pending	1	0	0	0	1
	Total	35	18	7	20	80
Population	Medical	9,214	42,518	58,636	39,724	150,092
	Accidental	9,214	42,518	58,636	39,724	150,092
	Suicide	9,214	42,518	58,636	39,724	150,092
	Homicide	9,214	42,518	58,636	39,724	150,092
	Undetermined	9,214	42,518	58,636	39,724	150,092
	Pending	9,214	42,518	58,636	39,724	150,092
	Total	9,214	42,518	58,636	39,724	150,092
Mortality Rate (100,000)	Medical	119.4	21.2	5.1	12.6	18.7
	Accidental	21.7	11.8	3.4	17.6	10.7
	Suicide	0.0	0.0	0.0	15.1	4.0
	Homicide	10.9	7.1	3.4	5.0	5.3
	Undetermined	217.1	2.4	0.0	0.0	14.0
	Pending	10.9	0.0	0.0	0.0	0.7
	Total	379.9	42.3	11.9	50.3	53.3

**Table 8b. Number of deaths and mortality rates by manner of death and age group for children In Care, aged 0 to 17 years, 1999-2012**

	Manner of Death	In Care				Total
		0	1-5	6-12	13-17	
Number of deaths	Medical	27	14	11	18	70
	Accidental	2	4	4	13	23
	Suicide	0	0	0	15	15
	Homicide	3	7	2	3	15
	Undetermined	15	2	1	1	19
	Pending	0	1	0	0	1
	Total	47	28	18	50	143
Population	Medical	9,002	36,220	52,304	53,917	151,443
	Accidental	9,002	36,220	52,304	53,917	151,443
	Suicide	9,002	36,220	52,304	53,917	151,443
	Homicide	9,002	36,220	52,304	53,917	151,443
	Undetermined	9,002	36,220	52,304	53,917	151,443
	Pending	9,002	36,220	52,304	53,917	151,443
	Total	9,002	36,220	52,304	53,917	151,443
Mortality Rate (100,000)	Medical	299.9	38.7	21.0	33.4	46.2
	Accidental	22.2	11.0	7.6	24.1	15.2
	Suicide	0.0	0.0	0.0	27.8	9.9
	Homicide	33.3	19.3	3.8	5.6	9.9
	Undetermined	166.6	5.5	1.9	1.9	12.5
	Pending	0.0	2.8	0.0	0.0	0.7
	Total	522.1	77.3	34.4	92.7	94.4

**Table 9. Number of deaths and mortality rates by manner of death and gender for children receiving child intervention services, aged 0 to 17 years, 1999-2012**

	Manner of Death	Not In Care		In Care	
		Female	Male	Female	Male
Number of deaths	Medical	11	17	37	33
	Accidental	7	9	6	17
	Suicide	3	3	5	10
	Homicide	2	6	9	6
	Undetermined	10	11	8	11
	Pending	0	1	0	1
	Total	33	47	65	78
Population	Medical	74,404	75,688	72,683	78,760
	Accidental	74,404	75,688	72,683	78,760
	Suicide	74,404	75,688	72,683	78,760
	Homicide	74,404	75,688	72,683	78,760
	Undetermined	74,404	75,688	72,683	78,760
	Pending	74,404	75,688	72,683	78,760
	Total	74,404	75,688	72,683	78,760
Mortality Rate (100,000)	Medical	14.8	22.5	50.9	41.9
	Accidental	9.4	11.9	8.3	21.6
	Suicide	4.0	4.0	6.9	12.7
	Homicide	2.7	7.9	12.4	7.6
	Undetermined	13.4	14.5	11.0	14.0
	Pending	0.0	1.3	0.0	1.3
	Total	44.4	62.1	89.4	99.0

**Table 10. Number of deaths and mortality rate by manner of death and Aboriginal status for children receiving intervention services, aged 0 to 17 years, 1999-2012**

	Manner of Death	Not In Care			In Care		
		Aboriginal	Non-Aboriginal	Total	Aboriginal	Non-Aboriginal	Total
Number of deaths	Medical	15	13	28	45	25	70
	Accidental	8	8	16	16	7	23
	Suicide	3	3	6	12	3	15
	Homicide	2	6	8	12	3	15
	Undetermined	8	13	21	12	7	19
	Pending	1	0	1	1	0	1
	Total	37	43	80	98	45	143
Population	Medical	50,222	99,870	150,092	88,114	63,329	151,443
	Accidental	50,222	99,870	150,092	88,114	63,329	151,443
	Suicide	50,222	99,870	150,092	88,114	63,329	151,443
	Homicide	50,222	99,870	150,092	88,114	63,329	151,443
	Undetermined	50,222	99,870	150,092	88,114	63,329	151,443
	Pending	50,222	99,870	150,092	88,114	63,329	151,443
	Total	50,222	99,870	150,092	88,114	63,329	151,443
Mortality Rate (100,000)	Medical	29.9	13.0	18.7	51.1	39.5	46.2
	Accidental	15.9	8.0	10.7	18.2	11.1	15.2
	Suicide	6.0	3.0	4.0	13.6	4.7	9.9
	Homicide	4.0	6.0	5.3	13.6	4.7	9.9
	Undetermined	15.9	13.0	14.0	13.6	11.1	12.5
	Pending	2.0	0.0	0.7	1.1	0.0	0.7
	Total	73.7	43.1	43.1	111.2	71.1	71.1

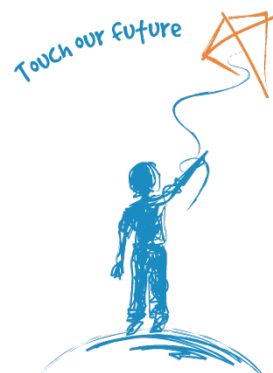
## Where can you get more information?

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