2.3 Mortality

As noted earlier in the report, while death rates are not ideal indicators of children's health, they are traditionally and internationally accepted measures. They also represent the most extreme adverse outcome. By looking at death rates in terms of natural and external (i.e., non-natural) causes, we also examine trends in underlying causes of mortality and can track progress in areas where prevention offers opportunities to intervene. For example, deaths resulting from injuries caused by motor vehicle accidents or suicide are all theoretically preventable. Where we can identify preventable deaths, we can also identify appropriate prevention strategies to reduce the number of deaths and improve health outcomes for children.

To better understand the relationship between health outcomes and death rates for children in care, the Provincial Health Officer and the Child and Youth Officer looked at the deaths of all children who died while in the care of the government between 1986 and 2005. This time period was selected for two reasons. First, in 2001, the Provincial Health Officer reported on the mortality experience of children in care for the years 1986–2000, so it made sense to build on what we already knew. Second, although the death rate of children in care is much higher than the death rate for the general population, relatively few children in care die. Expanding the period for which we had data allowed us to take a more extensive look at the mortality of children in care. Again, because of the smaller numbers, we looked at death rates for all children who died while in government care (both temporary and continuing care) between 1986 and 2005. (For a complete review of mortality of children in care from 1986 to 2005, see *A Review of the Mortality Experience of Children and Youth in Care, 1986 to 2005, British Columbia* available at both www.health.gov.bc.ca/pho/ and www.gov.bc.ca/cyo). In addition, we were able to look at the causes of death for children and young people who had been in either temporary or continuing care at some point between 1997 and 2005 but who died after they left care.

The mortality rate for all children has been declining significantly. The gap between mortality rates for children in care and children in the general population has narrowed considerably for all causes. However, the mortality rate for children in care has remained substantially higher: in the period 1986 to 2005, children who died while in care died of natural causes at a rate more than four times the rate for the general population, and they died of external causes at a rate more than three times the rate for the general population.

Between the ages of 19 and 25, young people who had been in care died at a rate 6.5 times higher than the rate for the general population.

Between 1986 and 2005, 281 children died while in the care of government from either natural or external causes (Figure 39) – an average of about 14 children per year (nine due to natural causes and five due to external causes).

Figure 39

Annual deaths of children while in care by natural and external causes, 1986–2005
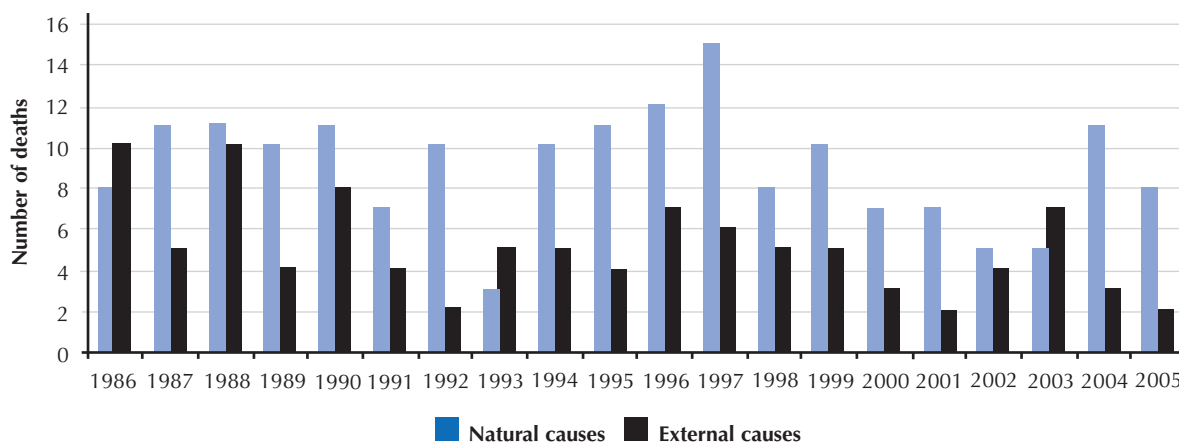
Aboriginal children accounted for almost 34% of children in care between 1997 and 2004, and almost 36% of the reported deaths of children while in care.

Almost two-thirds of the deaths reported over this time period resulted from natural causes, although there is great year-to-year variation. The most common categories of natural causes were congenital anomalies, Sudden Infant Death Syndrome (SIDS), and diseases of the nervous system (Table 10). As observed in the hospital data (Table 7), only about 2.1% of children in continuing care were admitted to hospital as a result of a congenital anomaly. This suggests that although a small percentage of children in care are admitted to hospital because of a congenital anomalies, the conditions are more serious and tend to be more life-threatening than for children who have never been in care. Children who died while in care died of natural causes at a rate more than four times higher than the rate for children in the general population.

Table 10: Mortality due to natural causes, while in care, 1986–2005

Cause of death (ICD)	Number of deaths while in care between 1986 and 2005		
	Actual deaths	"Expected"	Difference ratio
Congenital anomalies	52	9.7	5.4 *
Sudden Infant Death Syndrome	36	4.9	7.3 *
Diseases of the nervous system	25	2.2	11.2 *
Diseases of the respiratory system	10	1.6	6.4 *
Cancer	9	4.3	2.1
Perinatal conditions	9	12.9	0.7
Unknown causes ^	8	1.2	6.8 *
Infectious disease	7	1.0	7.0 *
Diseases of the circulatory system	5	1.6	3.1
Other natural causes	19	3.2	5.9*
All natural causes	**180**	**42.7**	**4.2 ***

^ Includes 6 deaths for which cause is pending investigation.

* Statistically significant at the 95% confidence level.

The leading external causes of the deaths reported were suicide, motor vehicle accidents and accidental poisonings (Table 11). As noted in the previous section on themes arising across all the health services utilization data, the high rate of accidental poisonings among teenaged children in continuing care compared with those in the general population raises a question about whether the poisonings were indeed accidental or intentional. Children who died while in care died of external causes at a rate more than three times higher than the rate for children in the general population.

Table 11: Mortality due to external causes, while in care, 1986–2005

Cause of death (ICD)	Number of deaths while in care between 1986 and 2005		
	Actual deaths	"Expected"	Difference ratio
Suicide	27	5.2	5.2 *
Motor vehicle traffic accidents	24	12.5	1.9 *
Accidental poisoning	12	1.2	10.0 *
Homicide	10	2.2	4.6 *
Other transport accidents	10	3.8	2.7 *
Drowning	4	2.0	2.0
Fire/Burns	3	1.1	2.8
Falls	2	0.9	2.2
All other external causes	9	3.8	2.4 *
All external causes	**101**	**32.6**	**3.1 ***

* Statistically significant at the 95% confidence level.

Table 12 shows that the mortality rate for all children has been declining significantly. As shown in Figure 40, the gap in mortality rates for children dying while in care and children in the general population has narrowed considerably over time for all causes; however, the mortality rate for children dying in care has remained substantially higher.

Table 12: Trends in mortality, for natural, external, and all causes, while in care, 1986–2005*

Group	Cause of death	Trend	p Value
Children in Care (died while in care)	Natural causes External causes All causes	decreasing	0.001 0.003 <0.001
Provincial child population	Natural causes External causes All causes	decreasing	<0.001 <0.001 <0.001

* Log Linear Regression Analysis.

Figure 40

Annual mortality rates, 1986–2005

Children who died while in care ······· General population
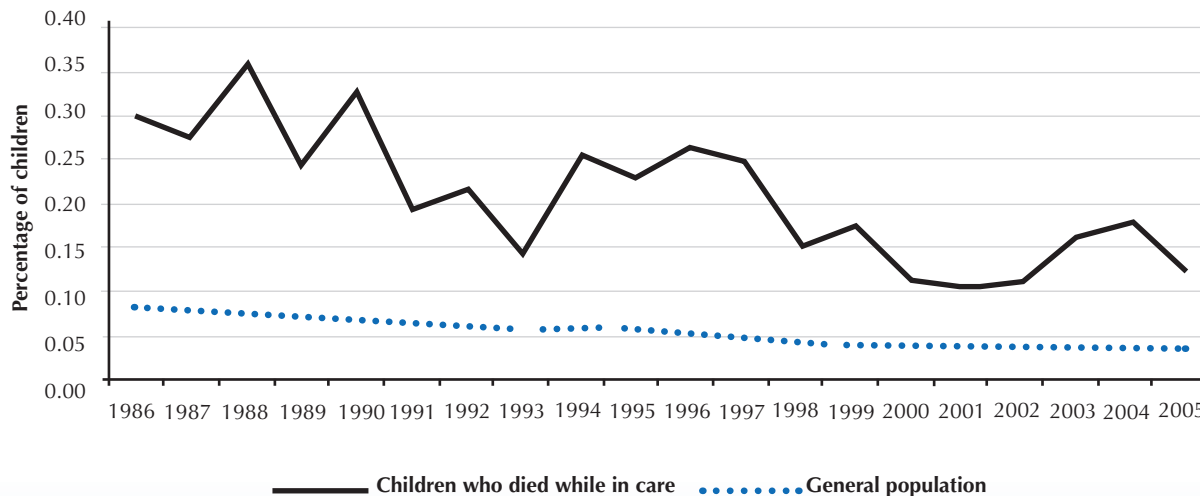
Aboriginal child deaths were proportional to the percentage of Aboriginal children in care between 1997 and 2005: Aboriginal children accounted for almost 34% of children in care between 1997 and 2005, and almost 36% of the reported deaths of children while in care (Figure 41).

In addition to analyzing the deaths of all children who died while in government care between 1986 and 2005, through our data linkages we were able to examine deaths of children who had been in government care but died after they left care, during the period 1997–2005. This included children who had been in either continuing care or temporary care at some point during this period.

As shown in Table 13, between 1997 and 2005 there were 266 recorded deaths of children who had been in temporary or continuing care. Of these, two thirds died after leaving care.

Figure 41
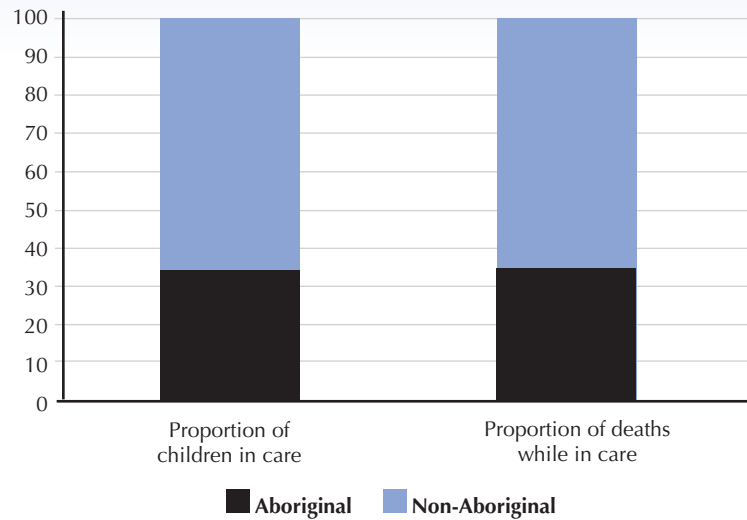
Aboriginal children who died while in care, 1997–2005

Legend: Aboriginal (black), Non-Aboriginal (blue)

Table 13: Children and youth who died while in care and after leaving care, 1997–2005

Care Status	Died while in care	Died after leaving care	Total
Temporary Care n=24,802	53	124	177
Continuing Care n=12,221	40	49	89
Total	**93**	**173**	**266**

Between 1997 and 2005, there were 266 recorded deaths of children who had been in temporary or continuing care. Of these, two thirds died after leaving care.
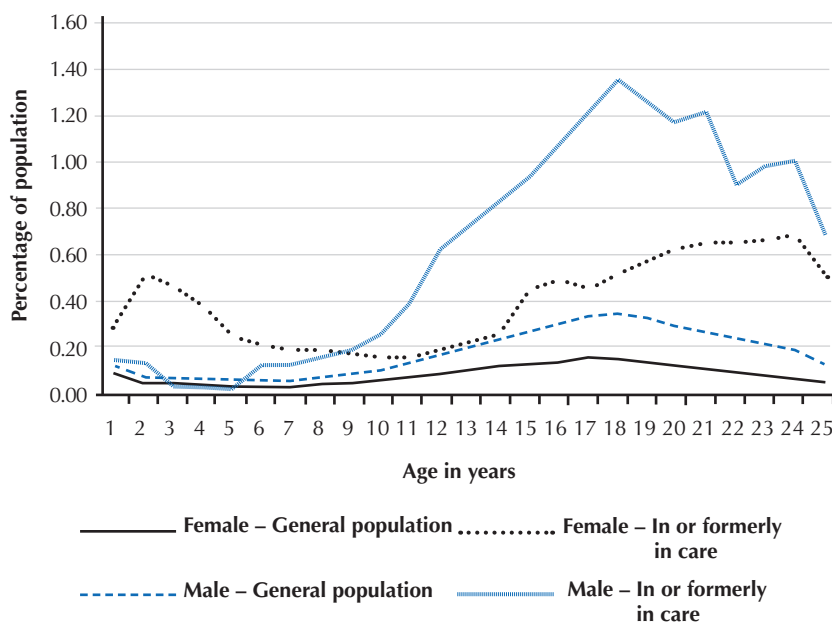
After age 10, males in or formerly in care died at about twice the rate of females in or formerly in care (Figure 42), and children in care died at a rate about 3.5 times higher than the rate for the general population.

After age 19, the death rate continued to decline for the general population as well as for males who had been in care. The rate gradually increased for females who had been in care, although it never reached the rate of males who had been in care.

Between the ages of 19 and 25, the gap between the mortality rates for young people who had been in care and those in the general population widens. Although the numbers are small, young people who had been in care died at a rate 6.5 times higher than the rate for the general population.

Figure 42

Deceased children and youth by age at time of death by care status, 1997–2005

Legend:
— Female – General population
.... Female – In or formerly in care
------- Male – General population
∙∙∙∙∙∙∙∙∙ Male – In or formerly in care

While two thirds of deaths of children in care were attributed to natural causes (Table 10), the picture is reversed for children who died after leaving care, with only 29% of deaths attributed to natural causes (Figure 43). More than half of the deaths of children previously in care were attributed to suicide and accidental death. While none of the deaths for children who died while in care between 1997 and 2005 were attributed to homicide, 5% of the deaths of children previously in care were attributed to homicide.

Figure 43

Causes of death of children who died after leaving care

Suicide 21%

Accident 30%

Could not be determined 2%

Pending classification 13%

Natural 29%

Homicide 5%