

THE
CHILD
HEALTH
STANDARDS
COMMITTEE
2012 ANNUAL REPORT



Acknowledgements

The Child Health Standards Committee (CHSC) wishes to acknowledge the continuing support of the following organizations. The information they provide has assisted the CHSC in its deliberations.

- Office of The Chief Medical Examiner
- Health Information Services, Manitoba Hospitals
- Manitoba Vital Statistics
- First Nations and Inuit Health Branch, Health Canada
- Insurance Division, Manitoba Health
- IMPACT/WRHA injury prevention program

The CHSC acknowledges the interest and cooperation of physicians and health care facilities across the province in providing information for the review process.

Due to the extensive and complex nature of these reviews, which rely on completed reviews from other standards committees, and the need to obtain documentation from numerous points of contact in the healthcare system, the CHSC annual reports are typically published several years after the date of death. This report summarizes deaths which occurred in 2012.

The committee is grateful to Manitoba Health for providing financial support.

Executive Summary 2012

- The Child Health Standards Committee (CHSC) reviewed 104 deaths which occurred in 2012. 72 were children 29 days to 14 years of age, 26 were teens 15 to 17 years of age and 6 were children whose place of residence was out of province.
- The mortality rate for Manitoba children aged 29 days to 14 years was 30.0 per 100,000 in 2012 compared to 27.8 per 100,000 in 2011 and 25.6 per 100,000 in 2010. The mortality rate for Manitoba teens 15 to 17 years of age was 50.0 per 100,000 in 2012 compared to 49.3 per 100,000 in 2011 and 59.1 per 100,000 in 2010.
- The infant mortality rate was 5.7 per 1,000 live births, which is slightly lower than 2011, when it was 6.0 per 1,000 live births.
- The cause of death was classified as preventable for 24 of the 72 child deaths (33%) and 21 of the 26 teen deaths (81%). Injury (unintentional injury, suicide, homicide) accounted for all of the preventable deaths.
- Injury was the leading cause of death overall, accounting for 46% of deaths among children and teens. In children 29 days to 14 years of age, the most common causes of injury-related mortality were transportation-related (pedestrian, occupant, bicycle, off road vehicle), house fires and drowning. The most common cause of injury-related mortality in teens was motor vehicle collisions.
- There were 17 suicides in 2012, compared to 10 in 2011 and 15 in 2010. In 2012, 12 suicides were teens 15 to 17 years of age and 5 were 14 years of age or younger; this compares to 8 teens and 2 children 14 years of age and younger in 2011.
- There were 31 First Nations children 29 days to 14 years of age who died in 2012. First Nations children in this age group were 4.7 times more likely to die than other Manitoba children. First Nations children accounted for 43% of childhood deaths in Manitoba. Mortality rates off-reserve were 2.1 times higher than on-reserve for this age group. There were 16 First Nations teens who died in 2012. First Nations teens were 12.6 times more likely to die than other Manitoba teens and accounted for 62% of teen deaths in Manitoba. Mortality rates off-reserve were 1.5 times higher off-reserve than on-reserve.
- In 2012, the CHSC did not initiate any educational action with individual physicians with respect to medical care provided. Six referrals were made to health administrators, professional bodies, other organizations or government departments. The committee reviewed five additional actions taken by other standards committees.

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Definitions

Age-Standardized Rates: Death rates are adjusted to account for the differing proportions of children by age group in different regions. Because infants are more likely to die than older children, a region with a higher proportion of infants would have an inflated death rate unless adjustments are made.

Delayed Neonatal Death: The death of an infant occurring after 28 days of age, who under natural selection circumstances, without the benefit of neonatal intensive care, would have died before 28 days of age.

Mortality Rate: The number of deaths occurring in a specified population per 100,000 population per year. Mortality rates for children under five years of age are usually reported as deaths per 1,000 population or 1,000 live births.

Infant Mortality Rate: The number of deaths occurring prior to one year of age per 1,000 live births.

Neonatal Mortality Rate: The number of neonatal deaths per 1,000 live births.

- **Early:** before the 7th full day of life (<168 hours), or
- **Late:** between the 8th and 28th full day of life (≥168 hours to <672 hours)

Post-Neonatal Mortality Rate: The number of deaths from 29 days to one year of age per 1,000 live births.

Under Five Mortality Rate: The number of deaths occurring prior to five years of age per 1,000 population.

First Nations: An individual who is registered under *The Indian Act of Canada*.

Non-First Nations or Other: All non-First Nations people, and those Métis and people of aboriginal descent who are not registered under *The Indian Act of Canada*.

Three-Year Moving Average: Three-year moving averages are used in some of the calculations because large fluctuations in rates may occur from year to year in small populations such as Manitoba. This rate is calculated by averaging the rate for 3 one-year periods and presenting that rate using the median year. For example, data for 1999, 2000, and 2001 rates are averaged and presented as a “2000” rate.

1. Introduction

Background

In 1976, The College of Physicians and Surgeons of Manitoba established the Paediatric Death Review Committee. In 2001, this committee was renamed the Child Health Standards Committee. This committee reports to the Central Standards Committee of the College of Physicians & Surgeons. The major function of all Standards Committees is to maintain and improve quality of care through education. ***These educational functions of the College are separate and distinct from its disciplinary functions.***

Educational strategies used by the Child Health Standards Committee include:

- Sending letters to physicians, hospitals, Area Standards Committees and regulatory agencies for other health professionals.
- Publishing articles in the College Newsletters and Annual Reports to draw members' attention to important aspects of medical care involving children.
- Developing and disseminating recommendations to improve paediatric care.
- Advocating for the health of Manitoba children by informing government and other public agencies of recommendations to improve legislation or public policy.

Goals and Objectives

To monitor and improve the quality of medical care provided to Manitoba children by:

- Reviewing all deaths in the province of children between the ages of 29 days and the day before their 18th birthday.
- Determining whether or not each death was preventable at the family, community or medical care level.
- Communicating with involved practitioners or agencies where medical care or other actions could have affected the outcome.
- Making recommendations to government, medical organizations and the community at large regarding preventable mortality and morbidity.

2. *Committee Activities*

In addition to reviewing deaths, the Child Health Standards Committee functions as a sounding board for child health issues for the College of Physicians & Surgeons of Manitoba.

The Medical Consultant conducts the initial case reviews and, with the administrative assistant, sends out and receives correspondence, maintains the database, contributes to the development of draft Newsletter items, attends relevant meetings and collaborates with other interested parties.

Regional mortality rates are reported using the boundaries of the Manitoba Regional Health Authorities of 2012. In addition, the Committee has divided Manitoba into three broad geographic regions: Urban (Winnipeg and Brandon); South (Assiniboine, Central and South Eastman); and North (Churchill, Burntwood, NorMan, North Eastman, Parkland and Interlake).

(Please refer to Definitions in Appendices.)

Newsletter Items

There were three newsletter items prepared by the committee in 2012:

- “Severe Combined ImmunoDeficiency (SCID) in Manitoba Infants”
 - “Child Abuse, Neglect, and Medical Neglect of Children: When to Report?”
 - “Could It Be Kawasaki Disease?”
-

Other Committee Activities

The CHSC conducted two Morbidity/Mortality audits in 2012:

- Suicide: Children and Teens
- Sudden infant deaths

The CHSC advocated for the following issues in 2012:

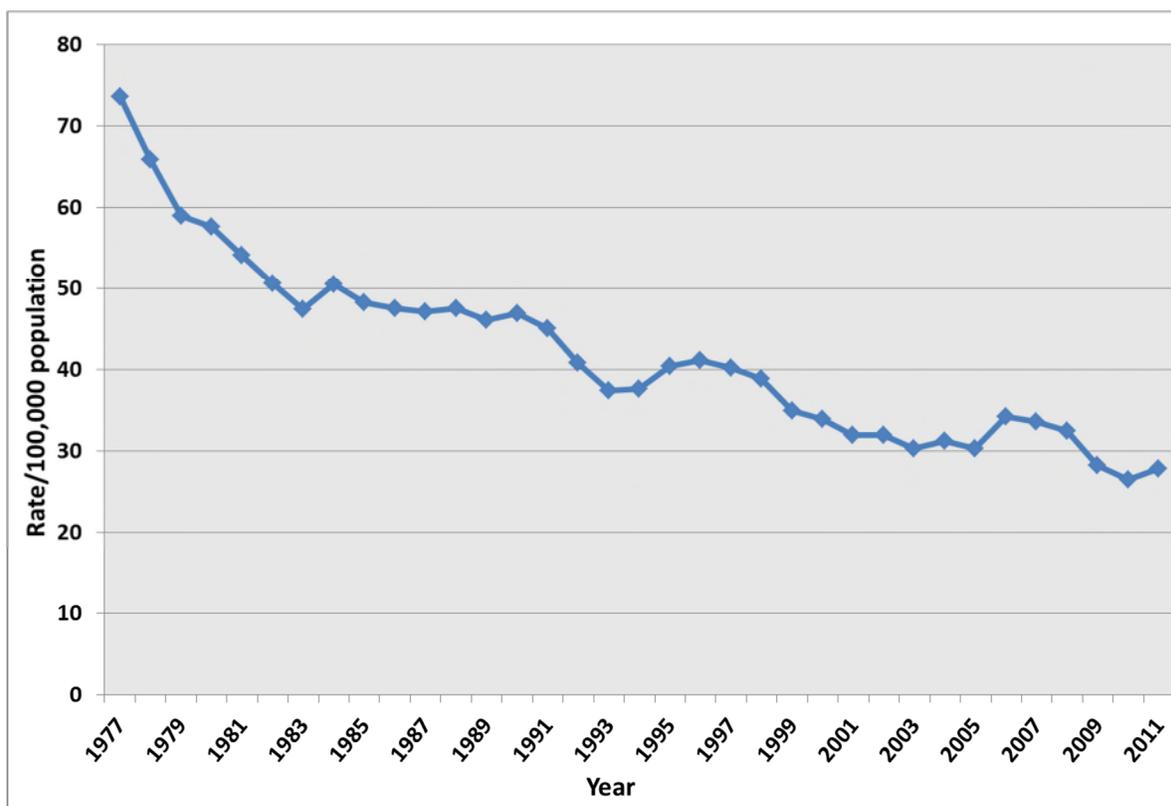
- Safe sleep guidelines, policies and public education
- Suicide awareness
- Poisoning prevention
- Sepsis identification and management protocols

3. Statistical Summary

Mortality Rates

Figure 1 shows the three-year moving average trends in pediatric mortality from 1977 to 2012 for Manitoba residents. *The 2012 data are included in the three-year moving average reported as 2011.*

Figure 1 - MORTALITY RATES
In Children 29 Days to 14 Years (Three-Year Moving Average)



Deaths Grouped by Age and Sex for Manitoba Residents

Table 1 - MORTALITY RATES BY AGE GROUP 2012				
Age Group	Number of Deaths	Population	Rate/100,000	Three-Year Average (2010-2012)
29 days to <1 year	31	15,942	194.5	191.0
1 to 4 years	13	65,789	19.8	21.7
5 to 9 years	14	78,369	17.9	11.6
10 to 14 years	14	80,276	17.4	15.8
Total 29 days to 14 years	72	240,376	30.0	27.8
15 to 17 years	26	52,034	50.0	52.8

Table 2 - MORTALITY RATES BY GENDER 2012				
Gender (Age Group)	Number of Deaths	Population	Rate/100,000	Three-Year Average (2010-2012)
Male (29d to 14y)	41	123,318	33.2	30.0
Female (29d to 14y)	31	117,058	26.5	27.2
Male (15y to 17y)	11	26,636	41.3	60.3
Female (15y to 17y)	15	25,398	59.1	47.0

Infant Mortality Rates

In 2012 there were 31 deaths in the Manitoba population between 29 days and one year of age. The number of live births based on Manitoba Health registrations was 16,225. This gives a post-neonatal infant mortality rate of 1.9 per 1,000 live births. There were also 62 neonatal deaths in the first 28 days of life. The neonatal mortality rate was 3.8 per 1,000 live births.

Combining the neonatal mortality rate with the post-neonatal mortality rate gives an overall infant mortality rate of 5.7 per 1,000 live births. This is consistent with rates in recent years. These figures do not include neonates born weighing <500 grams.

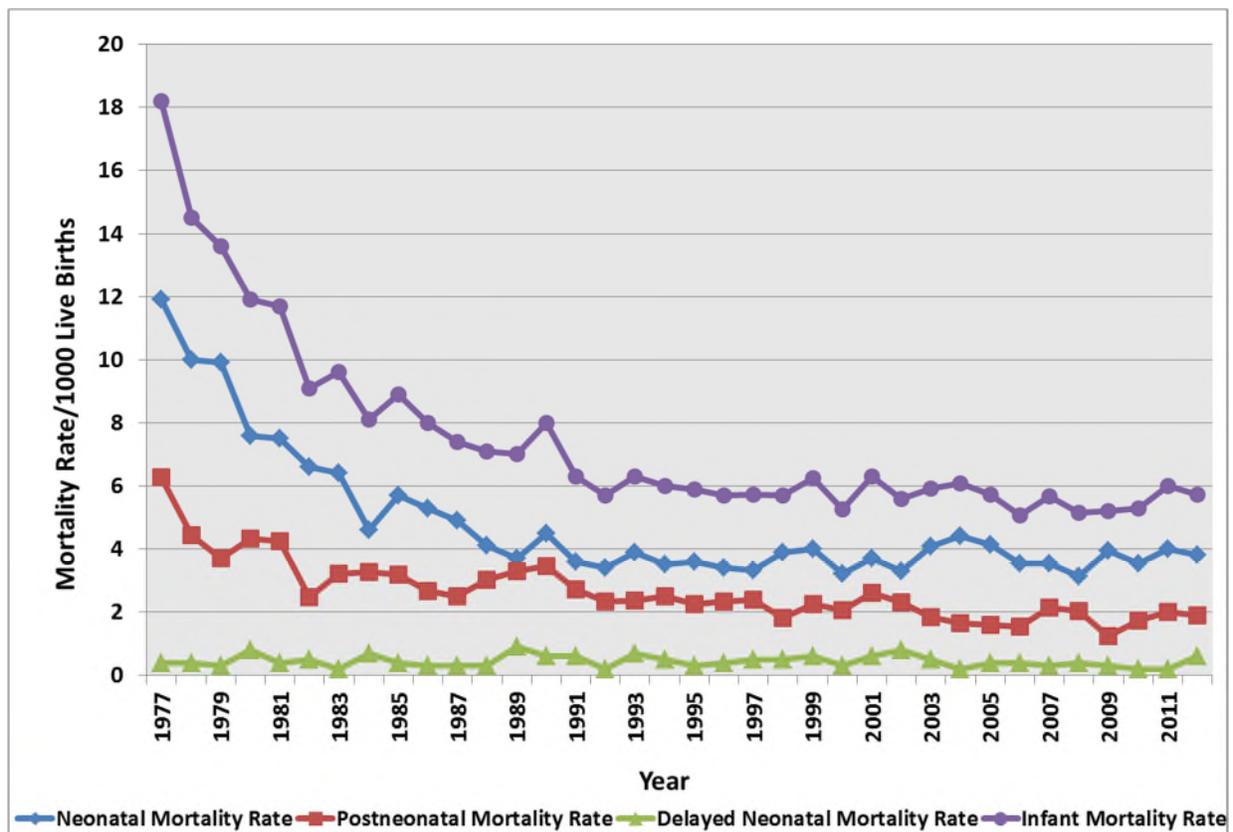
Infant Mortality Rates Continued

For First Nations infants, there were 16 neonatal deaths and 16 post-neonatal deaths among 3620 live deliveries for an infant mortality rate of 8.8 per 1,000 live births. For non-First Nations infants, there were 46 neonatal and 15 post-neonatal deaths among 12,605 live deliveries for a rate of 4.8 per 1,000 live births. The First Nations infant mortality rate was 1.8 times that for non-First Nations infants.

Note: the above numbers include only “in hospital” live births and neonatal deaths.

Figure 2 shows Manitoba infant mortality rates over time. Also plotted are neonatal, post-neonatal and delayed neonatal infant mortality rates. When children’s lives are prolonged by technology and they die from neonatal illnesses after 28 days, they are classified as delayed neonatal deaths and become part of the post-neonatal infant mortality statistic. In 2012, nine infants less than one year of age were classified as dying from delayed neonatal causes. Infant mortality rates have remained relatively stable for the past decade.

Figure 2 – INFANT MORTALITY RATES



Infant Mortality Rates Continued

Table 3 shows Statistics Canada infant mortality rates for Canada as a whole, and by province. The Statistics Canada figures for Manitoba are slightly different than those presented in this report. Statistics Canada counts infants born in Manitoba to mothers from out of province as being the responsibility of Manitoba. They also count registered births and neonatal deaths weighing less than 500 grams, which are not included in our statistics. Manitoba's ranking has worsened since 2009, from the 4th highest infant mortality rate in Canada to the highest rate amongst the provinces (excluding Yukon and the Territories). Note that the Yukon, Northwest Territories and Nunavut rates fluctuate significantly from year to year due to their small populations.

Province	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Prince Edward Island	1.5	4.9	4.3	2.2	2.1	5.0	2.0	3.4	3.6	4.2	3.5
British Columbia	4.6	4.2	4.3	4.5	4.1	4.0	3.7	3.6	3.8	3.9	3.8
Alberta	7.3	6.6	5.8	6.8	5.3	6.0	6.2	5.5	5.9	5.2	4.3
Nova Scotia	4.2	5.7	4.6	4.0	4.0	3.3	3.5	3.4	4.6	4.9	4.6
Canada	5.4	5.3	5.3	5.4	5.0	5.1	5.1	4.9	5.0	4.9	4.8
Ontario	5.3	5.3	5.5	5.6	5.0	5.2	5.3	5.0	5.0	4.7	4.9
Quebec	4.8	4.4	4.6	4.6	5.1	4.5	4.3	4.4	5.0	4.5	5.0
Newfoundland	4.5	5.0	5.1	6.2	5.3	7.5	5.1	6.3	5.3	6.3	5.5
Saskatchewan	5.7	6.3	6.2	8.3	6.1	5.8	6.2	6.7	5.9	6.8	5.5
New Brunswick	3.8	4.1	4.3	4.1	4.0	4.3	3.2	5.8	3.4	3.5	5.7
Manitoba	7.1	8.0	7.0	6.6	6.0	7.3	6.5	6.3	6.7	7.7	5.9
Northwest Territories	11.0	5.7	0.0	4.2	10.2	4.1	9.7	15.5	1.4	7.2	4.4
Nunavut	11.0	19.8	16.1	10.0	13.4	15.1	16.1	14.8	14.5	28.7	21.4
Yukon	8.8	6.0	11.0	0.0	8.2	8.5	5.4	7.8	5.2	0	2.2

Source: Statistics Canada, CANSIM, table 102-0504. Last modified: 2015-12-10.

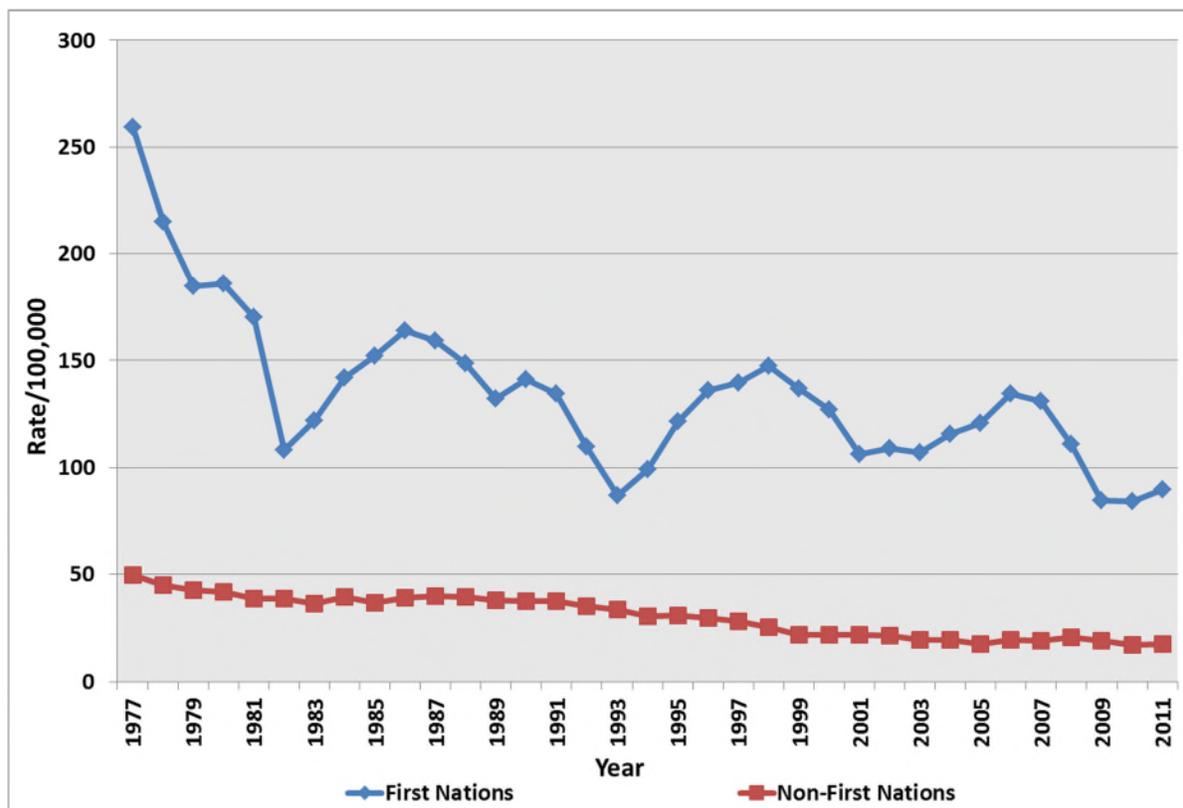
First Nations Mortality Rates

In 2012 First Nations children accounted for 16% of the population aged 29 days to 14 years in Manitoba and 43% of childhood deaths. There were 31 deaths among registered First Nations children and 41 among all others. The mortality rate for First Nations children was 92.3 per 100,000 and for all others 19.8 per 100,000. Therefore, First Nations children were 4.7 times more likely to die than other Manitoba children. This is lower than 2011, which showed a 7.9-fold increased risk of death.

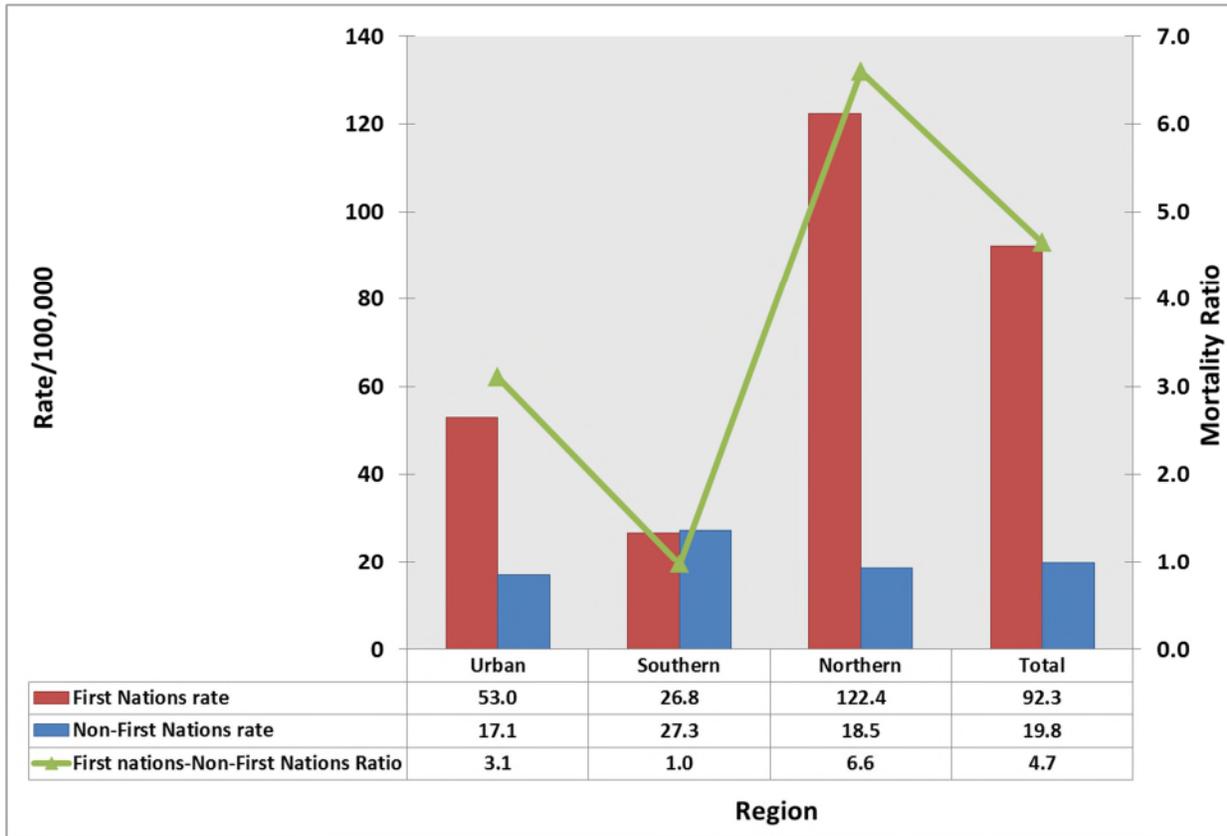
In Manitoba in 2012, 53% of First Nations children resided in First Nations communities. Of the 31 First Nations children who died, 11 resided in First Nations communities and 20 resided in other communities. Mortality rates for First Nations children were 61.6 per 100,000 residing in First Nations communities and 127.1 per 100,000 First Nations children residing in all other communities.

(The Manitoba Health Client Registry is used for these calculations for both deaths and population figures. This data is felt to represent approximately two-thirds of First Nations individuals in Manitoba.)

Figure 3 – MORTALITY RATES: FIRST NATIONS vs. NON-FIRST NATIONS CHILDREN
In Children 29 Days to 14 Years (Three-Year Moving Average)



**Figure 4 – MORTALITY RATES BY GEOGRAPHIC REGION
FIRST NATIONS vs. NON-FIRST NATIONS**
In Children 29 days to 14 years



Definition of geographic regions for the purpose of this report:

- Northern – Churchill, Burntwood, NorMan, North Eastman, Parkland and Interlake RHAs
- Southern – Assiniboine, Central and South Eastman RHAs
- Urban – Winnipeg and Brandon RHAs

Regional Mortality Rates

Table 4 – REGIONAL MORTALITY RATES 2012 In Children 29 Days to 14 Years				
RHA	Number of Deaths	Population	Rate per 100,000	Three-Year Average Rates (2010 - 2012)
Burntwood	16	15,767	101.5	87.0
Parkland	2	7,932	25.2	41.6
Interlake	7	14,049	49.8	38.0
NorMan	4	6,475	61.8	36.5
Central	12	25,399	47.2	34.4
Brandon	4	10,522	38.0	32.6
North Eastman	2	8,371	23.9	32.3
All Manitoba	72	240,376	30.0	27.8
Assiniboine	2	12,418	16.1	21.9
Winnipeg	22	122,048	18.0	18.8
South Eastman	1	17,200	5.8	6.0
Churchill	0	195	0.0	0.0

Note: Data are presented in descending order of three-year average rates

Causes of Childhood Death

Table 5 shows the causes of death in children 29 days to 14 years of age.

For 2012, 72 deaths of Manitoba children were reviewed. Injury was the leading cause of death and accounted for 33% of all deaths in this age group. The CHSC reviewed six deaths of children from out of province.

Table 5 – CAUSES OF DEATH In Children 29 Days to 14 Years		
Cause of Death	Deaths	Rate per 100,000
<i>Unintentional Injury</i>	17	7.1
<i>Intentional Injury*</i>	6	2.5
<i>Injury, intent undetermined</i>	1	0.4
Injury Total	24	10.0
Congenital Anomaly	8	3.3
SIDS/SUID	7	2.9
Neoplasms	7	2.9
Infectious Disease	5	2.1
Perinatal conditions	4	1.7
Nervous System	4	1.7
Sudden death cause unknown	4	1.7
Respiratory System	3	1.2
Endocrine, Nutritional, Metabolic, Immunity	2	0.8
Circulatory System	2	0.8
Diseases of the Digestive System	2	0.8
Total	72	30.0

*Intentional Injury includes homicide and suicide.

Causes of Childhood Death Continued

Table 6 lists the frequency of various causes of post-neonatal infant mortality among Manitoba residents 29 days to one year of age.

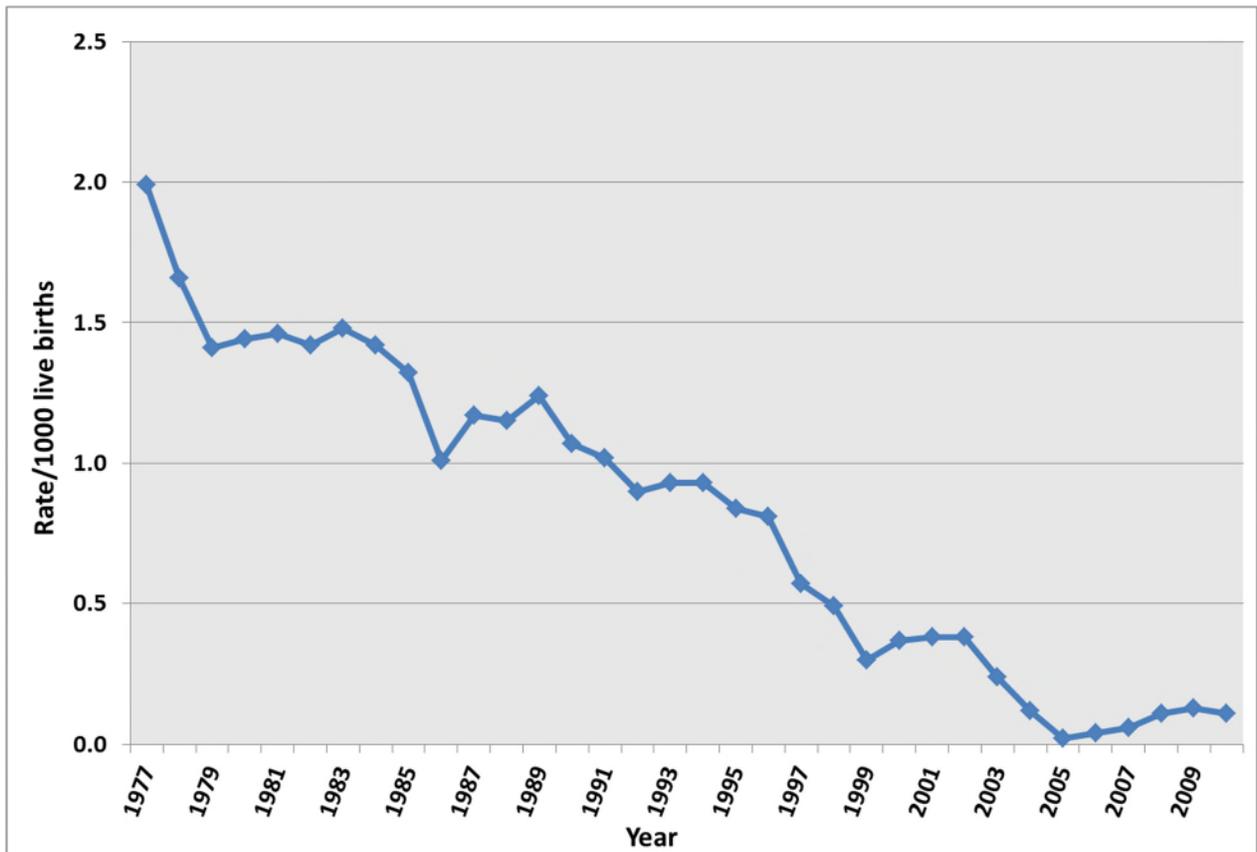
Table 6 – CAUSES OF POST-NEONATAL INFANT DEATH In Children 29 Days to 1 Year		
Cause of Death	Deaths	Rate per 100,000
SUID/SIDS	7	43.9
Congenital Anomaly	7	43.9
Perinatal conditions	4	25.1
Infectious Diseases	3	18.8
Injury - unintentional	3	18.8
Diseases of the Digestive System	2	12.5
Diseases of the Circulatory System	1	6.3
Diseases of the Respiratory System	1	6.3
Endocrine/Metabolic/Immunity	1	6.3
Injury - undetermined	1	6.3
Diseases of the Nervous System	1	6.3
Total	31	194.5

Infant deaths are classified as Sudden Infant Death Syndrome (SIDS) if they remain unexplained by clinical history, death scene investigation (by police) and detailed post mortem examination including skeletal x-rays and toxicology. Sudden Unexpected Infant Deaths (SUID) are those with historical, investigative or post mortem findings which suggest, but do not confirm a cause of death.

Sudden Infant Death Syndrome (SIDS)

Figure 5A shows the three-year moving average rates for Sudden Infant Death Syndrome (SIDS) from 1977 to 2011. There was a consistent decline in SIDS rates until 1999. In 2004, there was one case of SIDS in the 29 days to one-year age group. There were no cases of SIDS in 2005 or 2006; all cases were classified as SUID. There was one case classified as SIDS in 2008, two in 2009, three in 2010, and none in 2011 and 2012 (all were classified as SUID).

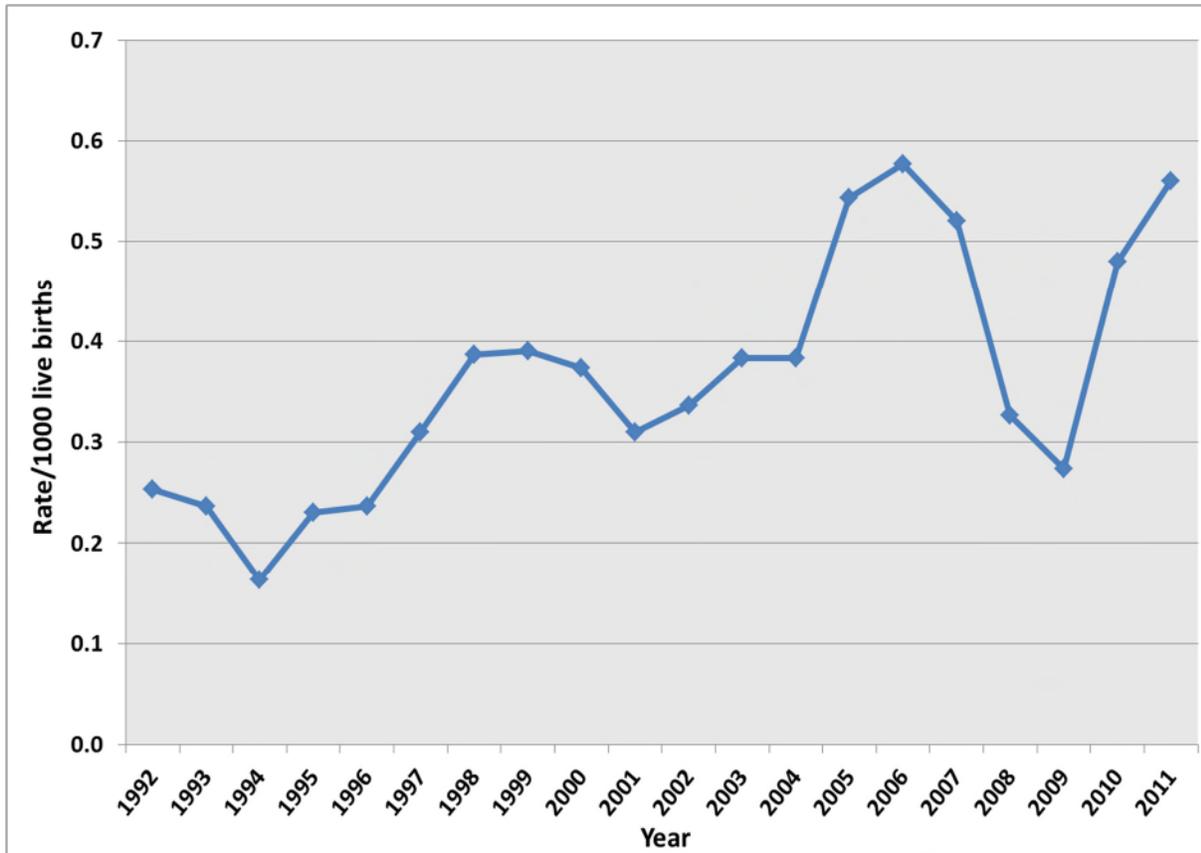
Figure 5A – SUDDEN INFANT DEATH SYNDROME (SIDS)
In Children 29 Days to 1 Year (Three-Year Moving Average)



Sudden Infant Death Syndrome (SIDS) Continued

Figure 5B shows the three-year moving average rates for Sudden Unexpected Infant Death (SUID) from 1992 to 2012. Data for 2012 are included in the 2011 three-year average (2010-2012). In 2012, there were 7 cases of SUID in the 29 days to one-year age group.

Figure 5B – SUDDEN UNEXPECTED INFANT DEATH (SUID)
In Children 29 Days to 1 Year (Three-Year Moving Average)

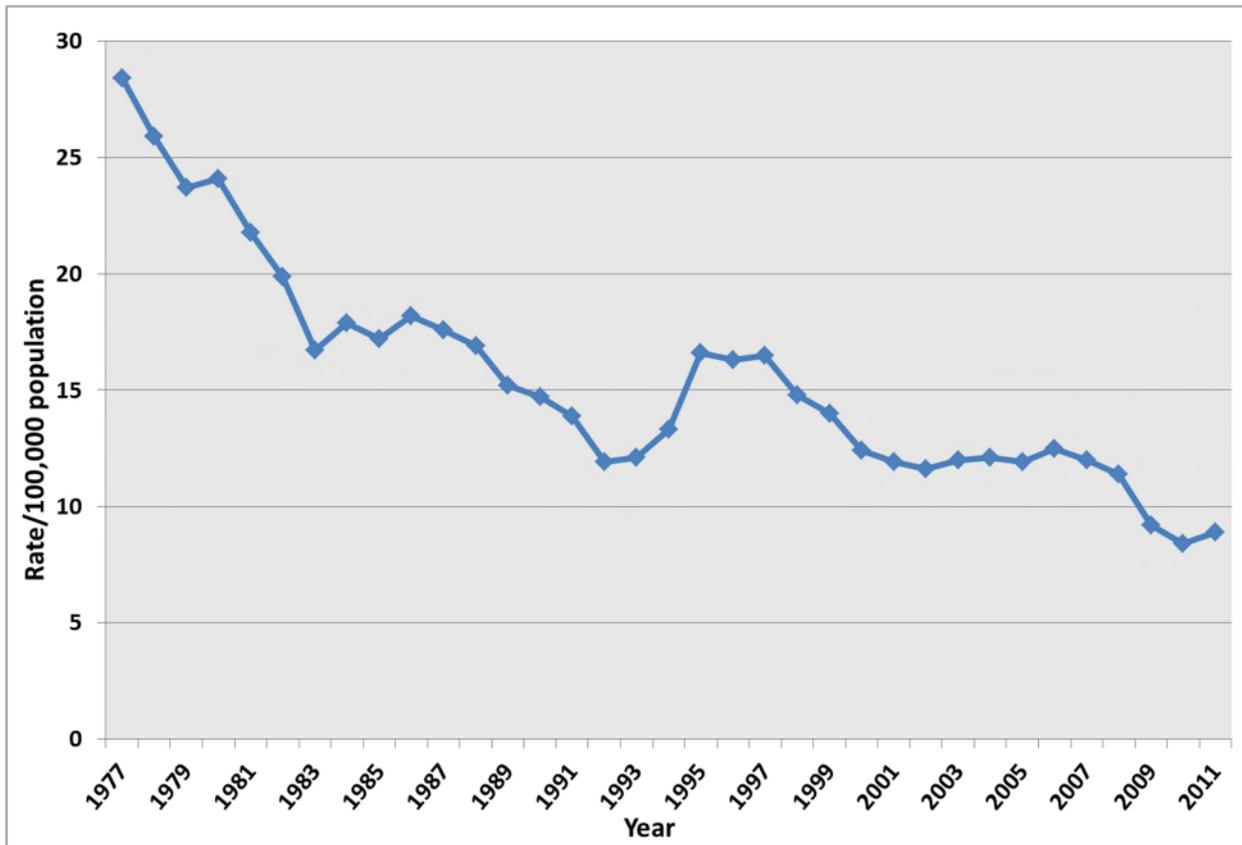


There were seven SUID cases and two infants whose cause of death was suffocation or entrapment while sleeping. Two additional SUID deaths occurred in infants under 28 days of age. Among these 11 cases, 8 were on adult beds or mattresses, one was in a crib, one was sleeping on a couch and one on soft bedding. Six infants were sharing a sleep surface (bed or mattress). All had modifiable risk factors for SIDS, sudden unexpected infant death or suffocation/entrapment. Nine were First Nations children including seven living on reserve.

Deaths from Injury - Trends

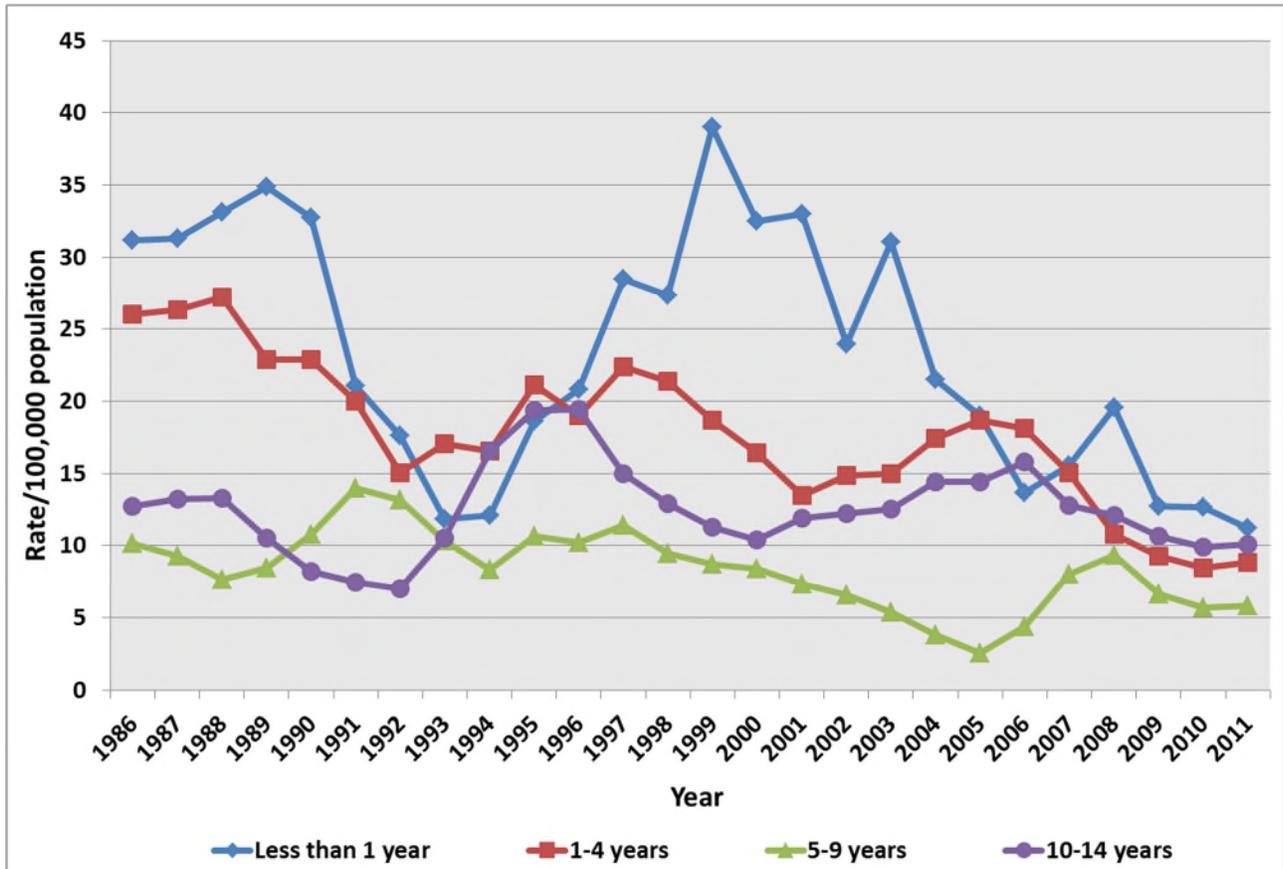
Figures 6A and 6B show the three-year moving average rates for injury deaths (unintentional and intentional combined) for children 29 days to 14 years of age. Data for 2012 are included in the 2011 three-year average (2010-2012).

Figure 6A – MORTALITY RATES FROM INJURY
In Children 29 Days to 14 Years (Three-Year Moving Average)



Deaths from Injury - Trends Continued

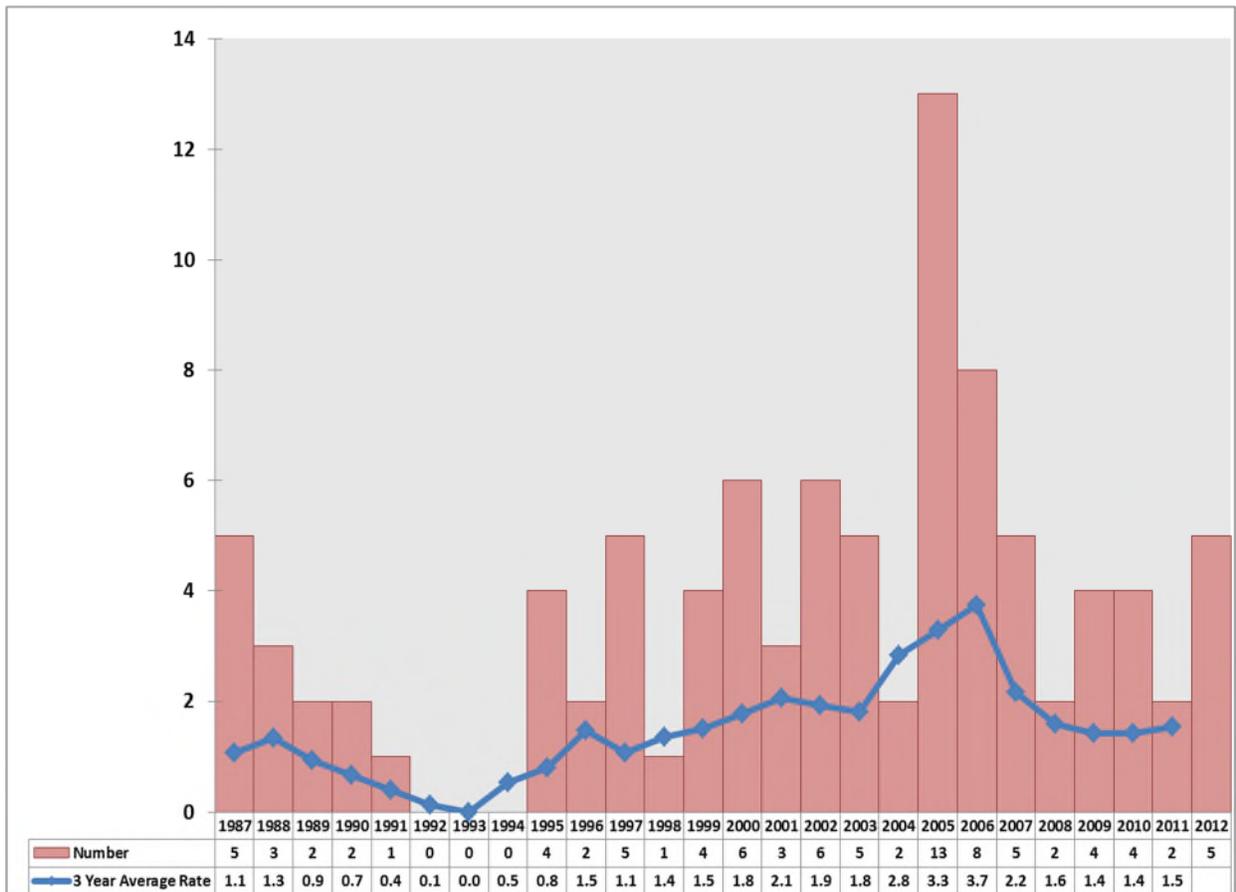
Figure 6B - MORTALITY RATES FROM INJURY BY AGE GROUP
 In Children 29 Days to 14 Years (Three-Year Moving Average)



Deaths from Injury – Trends Continued

Figure 6C shows the annual number of suicides and the three-year moving average rates for suicide for children 14 years of age and younger. Data for 2012 are included in the 2011 three-year average (2010 to 2012). The annual number and rates of suicide had relatively stable in recent years, with a reduction in numbers since the peak in 2005/6.

Figure 6C – SUICIDES AMONG CHILDREN 14 YEARS OF AGE AND YOUNGER
Number Per Year and Three-Year Moving Averages



Deaths from Injury – Trends Continued

In 2012, there were 24 deaths due to injury among Manitoba children 14 years of age and under. Injuries caused 33% of all deaths of children between 29 days and 14 years of age (24 of 72).

Table 7 – INJURY-RELATED MORTALITY RATES BY AGE GROUP 2012				
Age Group	Number of Deaths	Population	Rate/100,000	Three-Year Average 2010-2012
29 days - <1 year	4	15,942	25.1	14.7
1 - 4 years	7	65,789	10.6	9.3
5 - 9 years	4	78,369	5.1	5.6
10 - 14 years	9	80,276	11.2	10.4
Total	24	240,376	10.0	8.9

Table 8 – TYPES OF INJURY CAUSING DEATH 2012					
In Children 29 Days to 14 Years					
Unintentional			Intentional		
Cause	Number	Rate	Cause	Number	Rate
House Fire	4	1.7	Suicide	5	2.1
Motor vehicle occupant	4	1.7	Homicide	1	0.4
Pedestrian	2	0.8			
Drowning	2	0.8			
Choking/suffocation	2	0.8			
Off road vehicle	2	0.8			
Cyclist	1	0.4			
Total	17	7.1	Total	6	2.5

Note: One injury death was intent undetermined.

Deaths from Unintentional Injuries

There were 17 deaths related to unintentional injuries and 6 deaths related to intentional injuries (five suicides and one homicide). For one case the intent was undetermined.

The most common causes of unintentional injury death were house fires and motor vehicle occupant injuries. In one house fire the cause was not determined, there was a smoke alarm in use but not on the floor where the fire started, and there was no carbon monoxide alarm. The other fire was caused by a child playing with a cigarette lighter.

Nine children died as a result of transport injuries. Four motor vehicle occupants were involved in fatal high speed collisions. Two young children were run over by motor vehicles, one in a driveway and one on a public road. A helmeted snowmobile driver struck a fixed object and an un-helmeted dirt bike rider was struck by a motor vehicle. A young child who was cycling alone was struck by a motor vehicle, helmet use unknown.

One young child drowned falling into a natural body of water while playing with no adult supervision. An older child who was a nonswimmer with no PFD was playing in a natural body of water and drowned.

Two infants died as a result of suffocation when they became entrapped in furniture while sleeping.

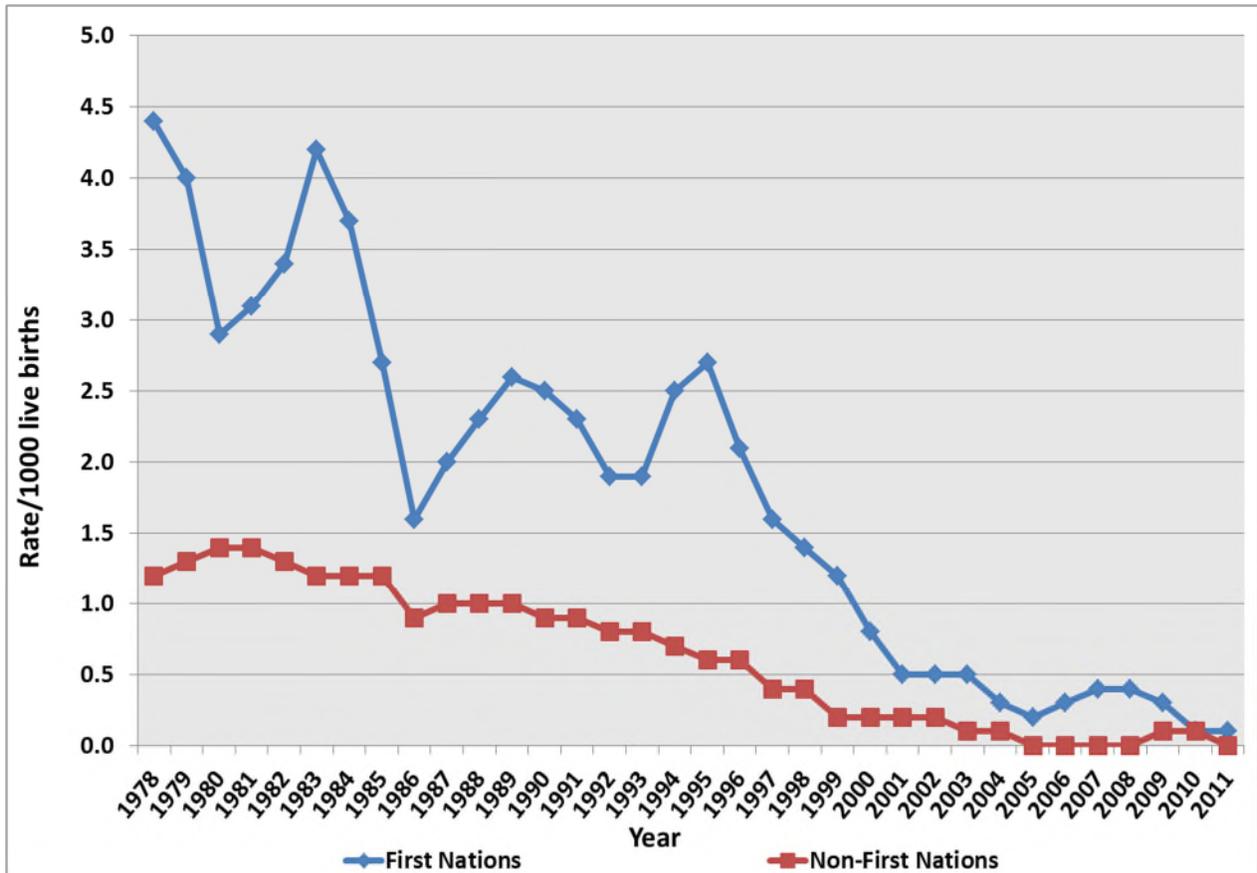
Five children and youth less than 15 years of age committed suicide in 2012. Four were First Nations, all living on reserve.

One youth died related to inflicted injuries.

Selected Cause-Specific Mortality – First Nations Children

Figure 7 illustrates the three-year average SIDS rates until 2011, however the very small number of SIDS cases in recent years should be noted.

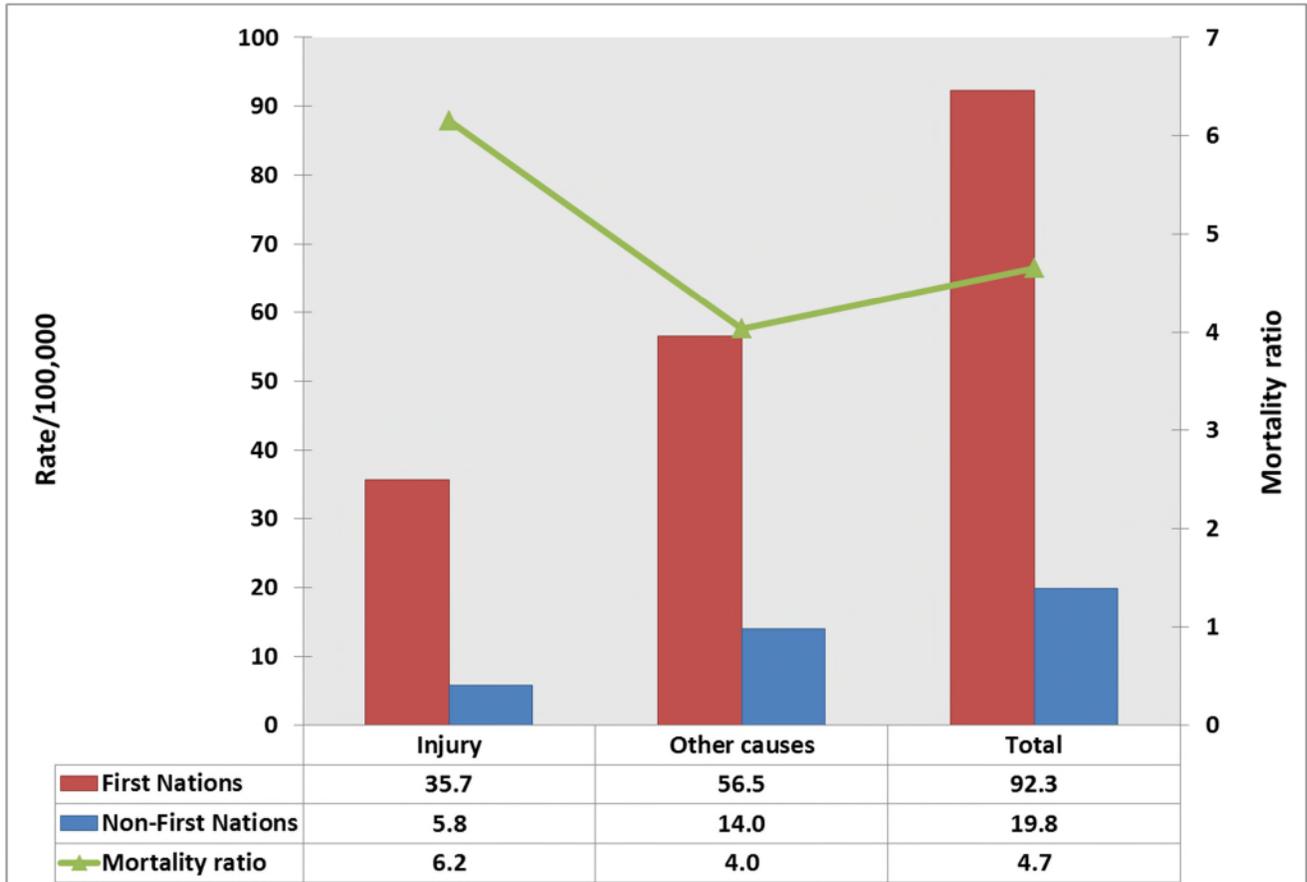
Figure 7 – SUDDEN INFANT DEATH SYNDROME
FIRST NATIONS vs. NON-FIRST NATIONS (Three-Year Moving Average)



SIDS rates have been declining for all Manitoba children since the late 1970s. The gap between First Nations and non-First Nations rates has been steadily declining over this time period. In 2003 First Nations children had a 2.5-fold increased risk of SIDS when compared to non-First Nations children. In 2004 the only SIDS death was a First Nations child. In 2005 and 2006 there were no cases of SIDS. In 2007 there were two cases of SIDS, both First Nations. In 2008 there was one case of SIDS in a First Nations child. In 2009 there were two SIDS cases, neither in First Nations children. In 2010 there were three SIDS cases, one in a First Nations child. In 2011 and 2012 there were no SIDS cases. In 2012 there were 7 SUID cases, of which 5 were First Nations. Two additional infants were entrapped in furniture while sleeping. Two infants under 28 days of age were also classified as SUID.

Selected Cause-Specific Mortality – First Nations Children Continued

Figure 8 – MORTALITY RATES FROM INJURY
FIRST NATIONS vs. NON-FIRST NATIONS In Children 29 Days to 14 Years



First Nations children had an elevated risk of death for all causes combined, with 4.7 times the rates experienced by non-First Nations children. For injury, there was a 6-fold increased risk of death.

Autopsies

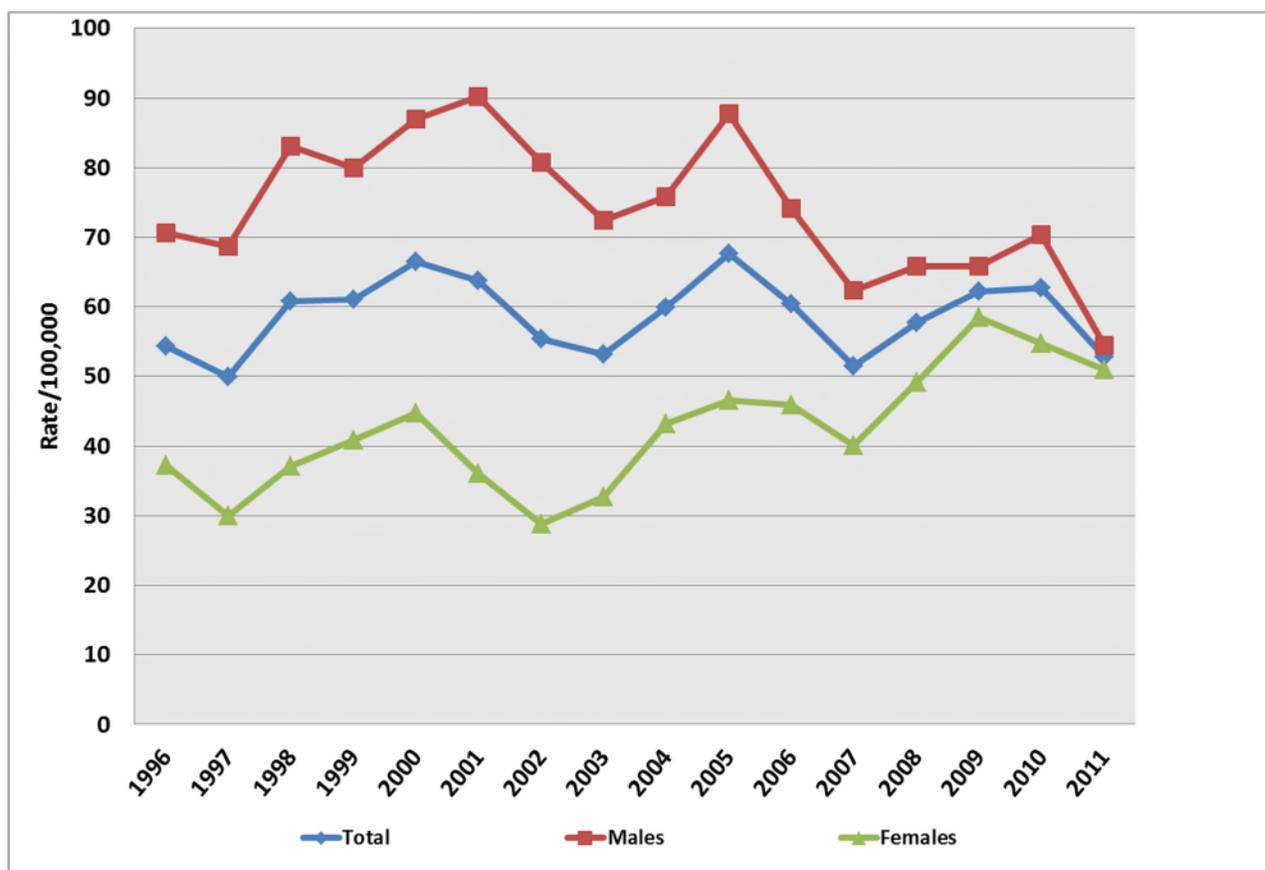
In 2012, 41 of the 72 Manitoba children who died between the ages of 29 days and 14 years had an autopsy (57%). Among teens 15 to 17 years of age, 23 of 26 had autopsies (88%).

4. Teen Deaths, 15 to 17 Years

Since 1994, the Child Health Standards Committee has reviewed deaths of Manitoba youth 15 to 17 years of age. The death rate in 2012 was 50.0 per 100,000, slightly lower than the three-year average rate of 52.8 per 100,000. Male mortality rates are consistently higher than females, though the gap has narrowed significantly over the past several years.

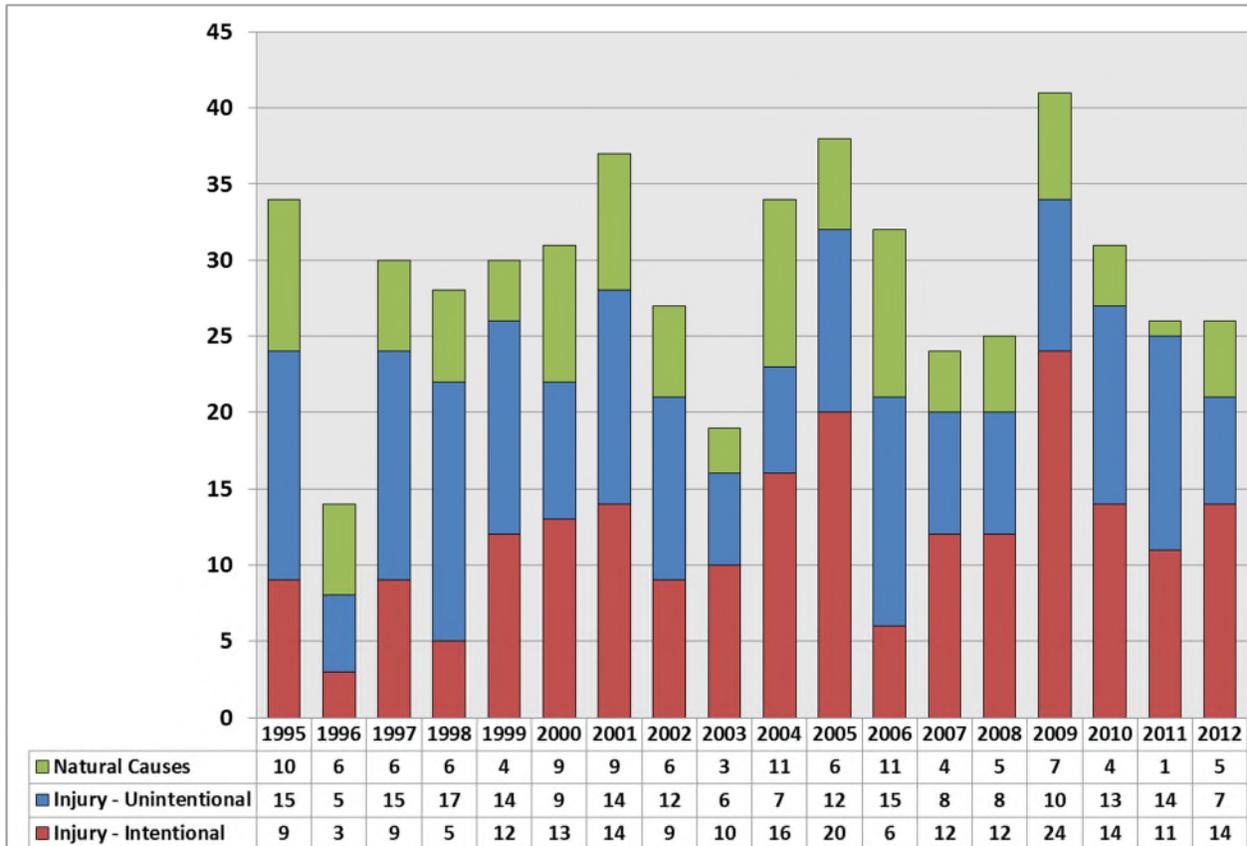
Figure 9 shows mortality rates by gender. **Figure 10** shows the proportion of deaths due to injury and other causes.

Figure 9 - MORTALITY RATES
In Teens 15-17 Years of Age (Three-Year Moving Average)



Teen Deaths Continued

Figure 10 – NUMBER OF DEATHS BY CAUSE (INJURY VS. NATURAL CAUSES)
In Teens 15-17 Years of Age, 1995-2012



There were 16 First Nations teens who died in 2012. First Nations teens were 12.6 times more likely to die than other Manitoba teens and accounted for 62% of teen deaths in Manitoba. Mortality rates off-reserve were 1.5 times higher than rates on-reserve.

Teen Deaths Continued

Table 9 shows the causes of death for this age group and **Table 10** shows the types of injuries causing death.

Table 9 - CAUSES OF DEATH in Teens 15 to 17 years		
	Deaths	Rate per 100,000
Injury	22	42.3
Unintentional Injury	7	13.5
Intentional Injury*	14	26.9
Adverse Reaction	1	1.9
Sudden Death Cause Unknown	1	1.9
Neoplasms	1	1.9
Diseases of the Respiratory System	1	1.9
Diseases of the Central Nervous System	1	1.9
Total	26	50.0

* Includes homicide and suicide

Table 10 - TYPES OF INJURY CAUSING DEATH in Teens 15 to 17 Years					
Unintentional			Intentional		
	Cases	Rate / 100,000		Cases	Rate / 100,000
Motor Vehicle	4	7.7	Homicide	2	3.8
Hypothermia	2	3.8	Suicide	12	23.1
Poisoning	1	1.9			
Total	7	13.5	Total	14	26.9

One death was classified as an injury/adverse reaction.

Teen Deaths Continued

In 2012, 22 of the 26 teen deaths were due to injuries. Alcohol and/or other substance use were noted to be a factor in at least 11 of these deaths. Motor vehicle collisions were the leading cause of unintentional injury death; alcohol, speeding, and dangerous driving were implicated in these crashes. One teen was the driver; the remaining deaths were passengers. A seat belt was not in use in 3 of the 4 cases and unknown in one case. Young drivers were involved in three of the four fatal collisions. Alcohol and/or other substance use were implicated as a factor in at least one crash. Two teens died of hypothermia and another due to alcohol (poisoning).

There were 14 intentional injury deaths, including 12 suicides and 2 homicides. Eleven of the suicides were by hanging. Eleven of the suicides and both homicides were First Nations teens (one unknown).

5. *Preventability of Death*

The CHSC divides preventability into two categories: (i) preventability of the disease or the injury that caused the death, and (ii) preventability of the outcome once the disease or injury has occurred. Medical care is sometimes involved in the preventability of outcome, and rarely is implicated in the cause of death. Educational action was taken by the committee or another standards committee for cases where medical care could have been improved.

Childhood Deaths

(i) Preventable Cause

In 2012, 24 of the 72 childhood deaths were deemed to have a preventable cause. All were injuries (including unintentional injuries, suicide, and homicide). Seven cases were theoretically preventable and were all sudden infant deaths with significant risk factors in the sleep environment (SUID).

(ii) Preventable Outcome

One case was classified as having a preventable outcome, where the parent or guardian could have modified the outcome with seeking medical care earlier. Twelve cases had a theoretically preventable outcome, including four cases where earlier and/or more aggressive care could have modified the outcome, three cases where children died in house fires with inadequate smoke alarms and no carbon monoxide detectors, four cases where the parent or guardian could have modified the outcome with better supervision, and one case where parents declined treatment.

There were additional cases where the care provided did not alter the outcome but could have been improved:

- Failure to document a core (rectal) temperature at the time of death.*
- Medication errors during resuscitation that did not affect the outcome; these may reflect or include documentation errors.*
- Lack of documentation of significant physical findings relevant to diagnosis, clinical management, and/or discharge counseling/instructions.*
- There were several cases of missing documentation in the medical records reviewed.*

* indicates observations also made in previous years

Teen Deaths

(i) Preventable Cause

In 2012, 21 of the 26 teen deaths were judged to have a preventable cause. All of the preventable deaths were due to trauma (injury), homicide or suicide.

(ii) Preventable Outcome

One death was classified as having a preventable outcome with appropriate supervision by parents/guardians and/or intervention by peers. Eight deaths were classified as having a theoretically preventable outcome, including three cases where seat belt use could have modified the outcome, two cases where appropriate supervision and earlier intervention could have modified the outcome, two cases where earlier and/or more aggressive medical intervention could have modified the outcome, and one case where compliance with treatment could have modified the outcome.

Educational and Other Actions

The Child Health Standards Committee took educational or other action for 6 cases in 2012. Additional actions taken by other Standards Committees were also reviewed by the committee.

Table 11 - EDUCATIONAL ACTIONS	
Action Taken	
Physician Care +Providers	0
Health Administrators	2
Referrals to other agencies/organizations	4
Total number of actions	6

6. *Recommendations*

The Child Health Standards Committee had the following recommendations related to child health in 2012:

1. That physicians be alert for early signs of immunodeficiency in infants and refer patients to the Pediatric Hematology/ Oncology/Blood & Marrow Transplant Section as soon as concerns are identified.
2. That physicians be aware of the requirements to report suspected child abuse and neglect to provincial authorities.
3. That physicians consider Kawasaki Disease in the differential diagnosis of infants and children with prolonged and unexplained fever in order to initiate prompt treatment to prevent coronary artery aneurysms and associated complications.
4. That the committee support the work of regional and provincial partners who are developing safe sleep guidelines, policies, and public education.
5. That the committee work with regional and provincial partners to update and disseminate sepsis management guidelines including assessment and management of fever in young infants.

CHILD HEALTH STANDARDS COMMITTEE

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Dr. G. Lemoine, General Practice

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