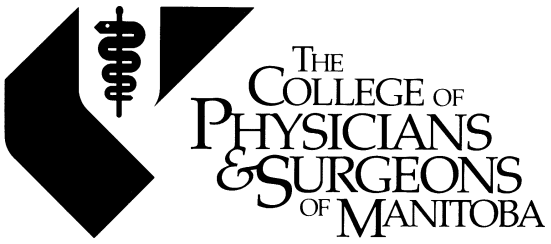
THE CHILD HEALTH STANDARDS COMMITTEE

2008 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, the injury prevention centre of Children's Hospital (2008-2009) and the IMPACT/WRHA injury prevention program (2009-2012)

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 2008.

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

Executive Summary 2008

- The Child Health Standards Committee (CHSC) reviewed 106 deaths which occurred in 2008. Seventy-six were children 29 days to 14 years of age, 25 were teens 15 to 17 years of age, none were infants less than 29 days of age, four were children whose place of residence was out of province, and one was a Manitoba resident who died out of province.

- The mortality rate for Manitoba children aged 29 days to 14 years was 32.8 per 100,000 in 2008 compared to 38.6 per 100,000 in 2007 and 29.4 per 100,000 in 2006. The mortality rate for Manitoba teens 15 to 17 years of age was 47.7 per 100,000 in 2008 compared to 45.5 per 100,000 in 2007 and 61.3 per 100,000 in 2006.

- The infant mortality rate was 5.1 per 1,000 live births, which is slightly lower compared to 2007, when it was 5.7.

- The cause of death was classified as preventable for 27 of the 76 child deaths (36%) and 18 of the 25 teen deaths (72%). Injury (unintentional injury, suicide, homicide) accounted for all but two of the preventable deaths.

- Injury was the leading cause of death overall, accounting for 47% of deaths among children and teens. In children 29 days to 14 years of age, the most common causes of injury-related mortality were drowning and house fires. The most common cause of injury-related mortality in teens was suicide.

- There were 12 suicides in 2008, compared to 13 suicides in 2007 and 14 in 2006. In 2008, 10 suicides were teens 15 to 17 years of age and two were 14 years of age or younger; this compares to eight teens and five children 14 years of age and younger in 2007.

- There were 35 First Nations children 29 days to 14 years of age who died in 2008. First Nations children in this age group were 5.6 times more likely to die than other Manitoba children. First Nations children accounted for 46% of childhood deaths in Manitoba. Mortality rates off-reserve were 1.9 times higher than on-reserve for this age group. There were 14 First Nations teens 15 to 17 years of age who died in 2008. First Nations teens were 10 times more likely to die than other Manitoba teens. First Nations teens accounted for 14 of the 25 teen deaths (56%). Mortality rates were 3.5-fold higher off-reserve for this age group.

- In 2008, the CHSC initiated educational action with one physician with respect to medical care provided. Six referrals were made to professional bodies, organizations, and government departments. In five cases, educational action was taken by another standards committee.

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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 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 and Surgeons.

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. 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 authored and approved by the committee in 2008.

- High Risk Medical Information Form (Child and Family Services)
- Poisoning Hospitalization among Manitoba Children: Leading Causes of Serious Toxicity and Compliance with Treatment Guidelines
- MedicAlert newsletter item

Other Committee Activities

The CHSC conducted three Morbidity/Mortality audits in 2008:

- Suicide: Children and Teens
- Sudden infant deaths
- Poisoning hospitalization in children < 6 years of age

The CHSC advocated for the following issues in 2008:

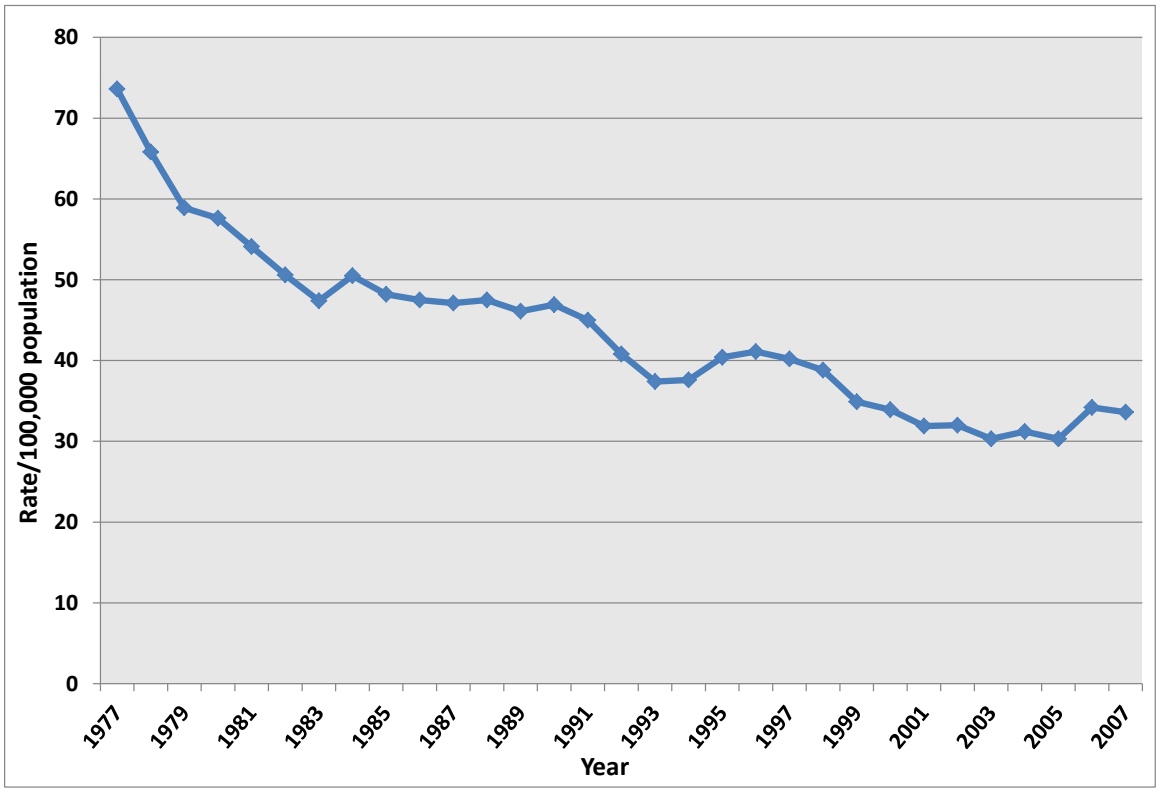
- Safe sleep guidelines, policies, and public education
- Compliance with current resuscitation guidelines
- Poisoning prevention in children < 6 years of age
- Suicide awareness

3. Statistical Summary

Mortality Rates

Figure 1 shows the three-year moving average trends in paediatric mortality from 1977 to 2008 for Manitoba residents. *The 2008 data are included in the three-year moving average reported as 2007.*

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



Deaths Grouped by Age and Gender for Manitoba Residents

Table 1 – MORTALITY RATES BY AGE GROUP 2008				
Age Group	**Number of Deaths**	**Population**	**Rate/100,000**	**Three-Year Average (2006-2008)**
29 days to <1 year	32	15,503	206.4	200.7
1 to 4 years	14	58,999	23.7	29.5
5 to 9 years	15	74,838	20.0	16.0
10 to 14 years	15	82,440	18.2	22.4
Total 29 days to 14 years	**76**	**231,780**	**32.8**	**33.6**
15 to 17 years	25	52,377	47.7	51.5

Table 2 – MORTALITY RATES BY GENDER 2008				
Gender	**Number of Deaths**	**Population**	**Rate/100,000**	**Three-Year Average (2006 – 2008)**
Male 29 days to 14 years	44	118,885	37.0	36.3
Female 29 days to 14 years	32	112,895	28.3	30.8
Male 15 to 17 years	16	26,624	60.1	62.4
Female 15 to 17 years	9	25,753	34.9	40.1

Infant Mortality Rates

In 2008 there were 32 deaths in the Manitoba population between 29 days and one year of age. The number of live births based on Manitoba Health registrations was 15,718. This gives a post-neonatal infant mortality rate of 2.0 per 1,000 live births. There were also 49 neonatal deaths in the first 28 days of life. The neonatal mortality rate was 3.1 per 1,000 live births.

Combining the neonatal mortality rate with the post-neonatal mortality rate gives an overall infant mortality rate of 5.1 per 1,000 live births. This is similar to rates in recent years. These figures do not include neonates born weighing <500 grams.

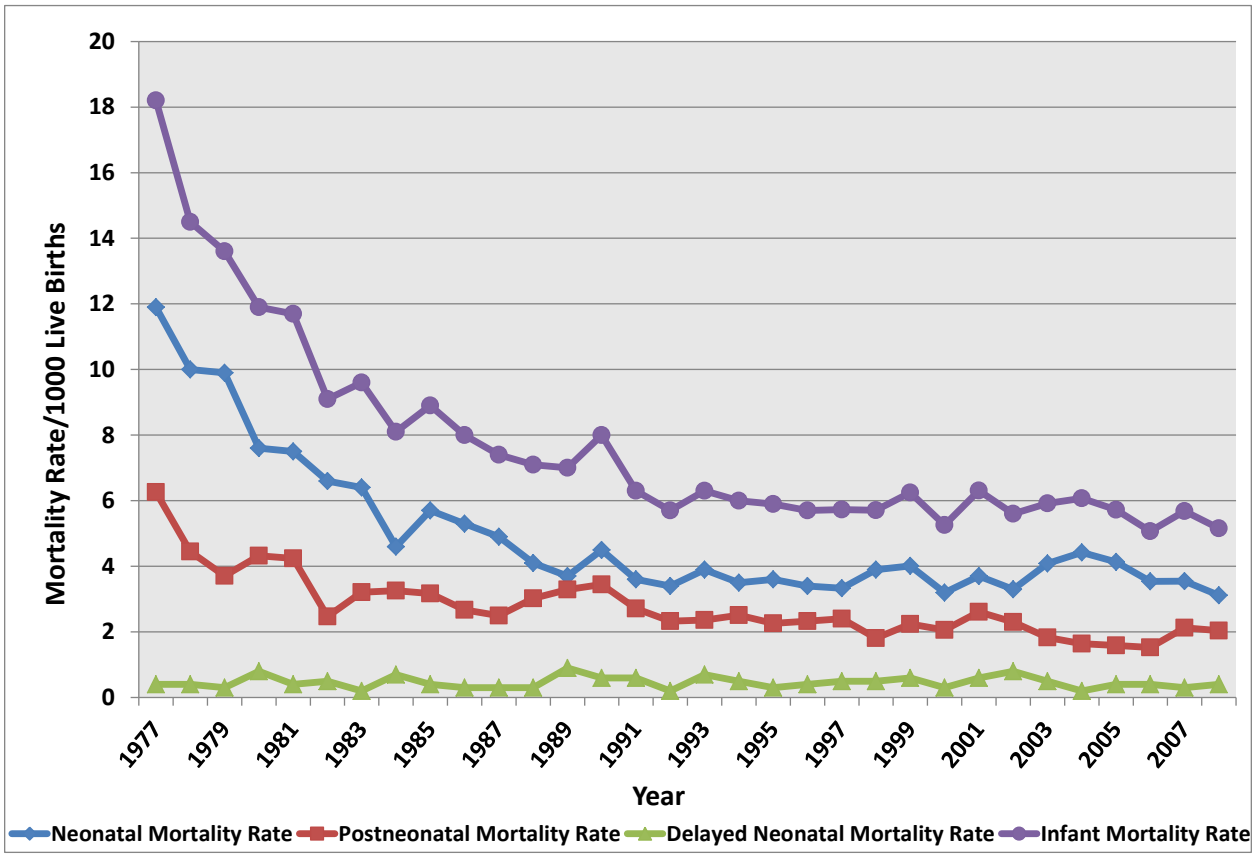
For First Nations infants, there were 12 neonatal deaths and 13 post-neonatal deaths among 2,660 live deliveries for an infant mortality rate of 9.4 per 1,000 live births. For non-First Nations infants, there were 37 neonatal and 19 post-neonatal deaths among 13,058 live deliveries for a rate of 4.3 per 1,000 live births. The First Nations infant mortality rate was 2.2 times that for non-First Nations infants.

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

Infant Mortality Rates Continued

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 succumb to neonatal illnesses after 28 days, they are classified as delayed neonatal deaths and become part of the post-neonatal infant mortality statistic. In 2008, six infants less than one year of age were classified as dying from delayed neonatal causes. Infant mortality rates have remained 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.

Province/Country	2001	2002	2003	2004	2005	2006	2007	2008
Prince Edward Island	7.2	1.5	4.9	4.3	2.2	2.1	5.0	2.0
New Brunswick	4.3	3.8	4.1	4.3	4.1	4.0	4.3	3.2
Nova Scotia	5.6	4.2	5.7	4.6	4.0	4.0	3.3	3.5
British Columbia	4.1	4.6	4.2	4.3	4.5	4.1	4.0	3.7
Quebec	4.7	4.8	4.4	4.6	4.6	5.1	4.5	4.3
Canada	**5.2**	**5.4**	**5.3**	**5.3**	**5.4**	**5.0**	**5.1**	**5.1**
Newfoundland	4.9	4.5	5.0	5.1	6.2	5.3	7.5	5.1
Ontario	5.4	5.3	5.3	5.5	5.6	5.0	5.2	5.3
Yukon	8.7	8.8	6.0	11.0	0.0	8.2	8.5	5.4
Alberta	5.6	7.3	6.6	5.8	6.8	5.3	6.0	6.2
Saskatchewan	5.5	5.7	6.3	6.2	8.3	6.1	5.8	6.2
Manitoba	**7.0**	**7.1**	**8.0**	**7.0**	**6.6**	**6.0**	**7.3**	**6.5**
Northwest Territories	4.9	11.0	5.7	0.0	4.2	10.2	4.1	9.7
Nunavut	16.9	11.0	19.8	16.1	10.0	13.4	15.1	16.1

Source: Statistics Canada, CANSIM, table 102-0504 and Catalogue no. 84F0211X. 1999-2008. last modified: 2009-04-28

First Nations Mortality Rates

In 2008 First Nations children accounted for 13% of the population aged 29 days to 14 years in Manitoba and 46% of childhood deaths. There were 35 deaths among registered First Nations children and 41 among all others. The mortality rate for First Nations children was 113.5 per 100,000, and for all others 20.4 per 100,000. Therefore, First Nations children were 5.6 times more likely to die than other Manitoba children. This is similar to 2007, which showed a 6-fold increased risk of death.

In Manitoba in 2008, 56% of First Nations children resided in First Nations communities. Of the 35 First Nations children who died, 14 resided in First Nations communities and 21 resided in other communities. Mortality rates for First Nations children were 80.6 per 100,000 residing in First Nations communities, and 155.9 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)

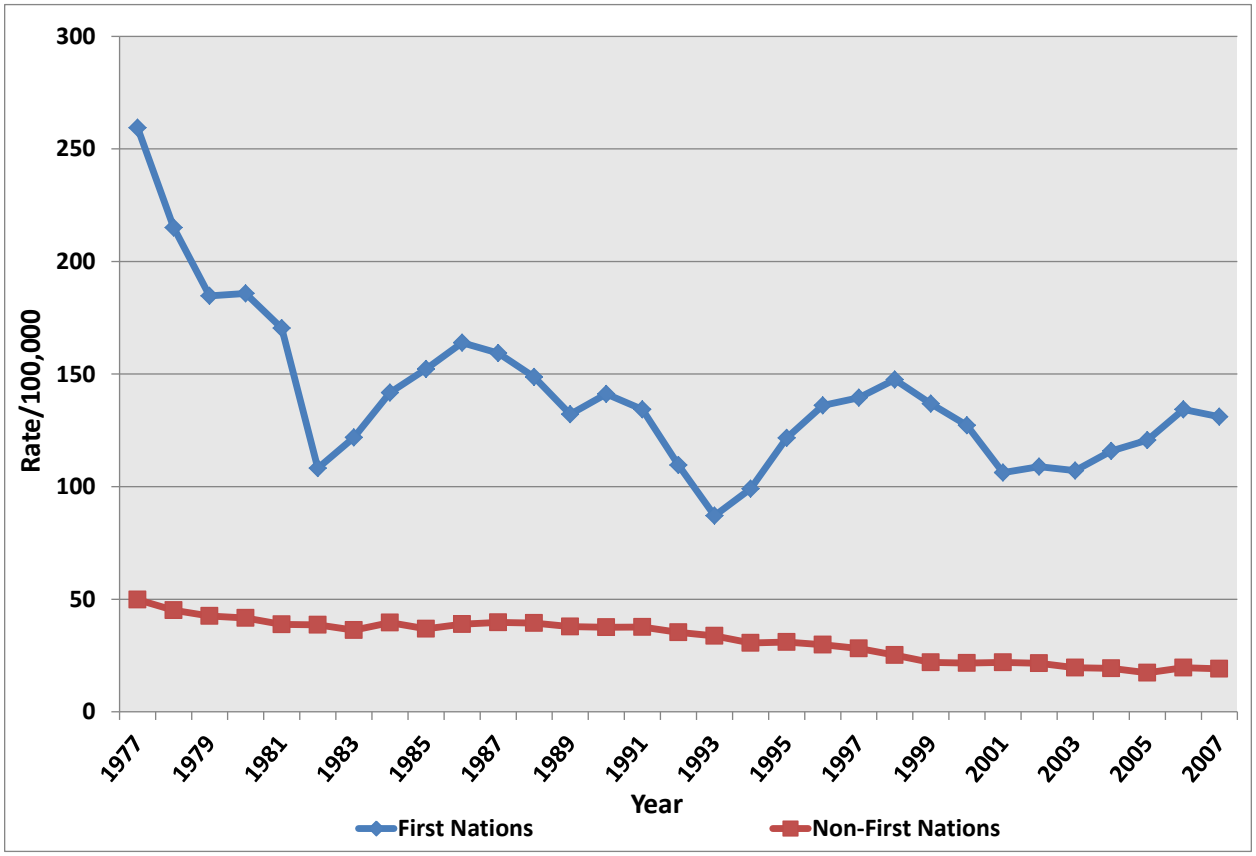
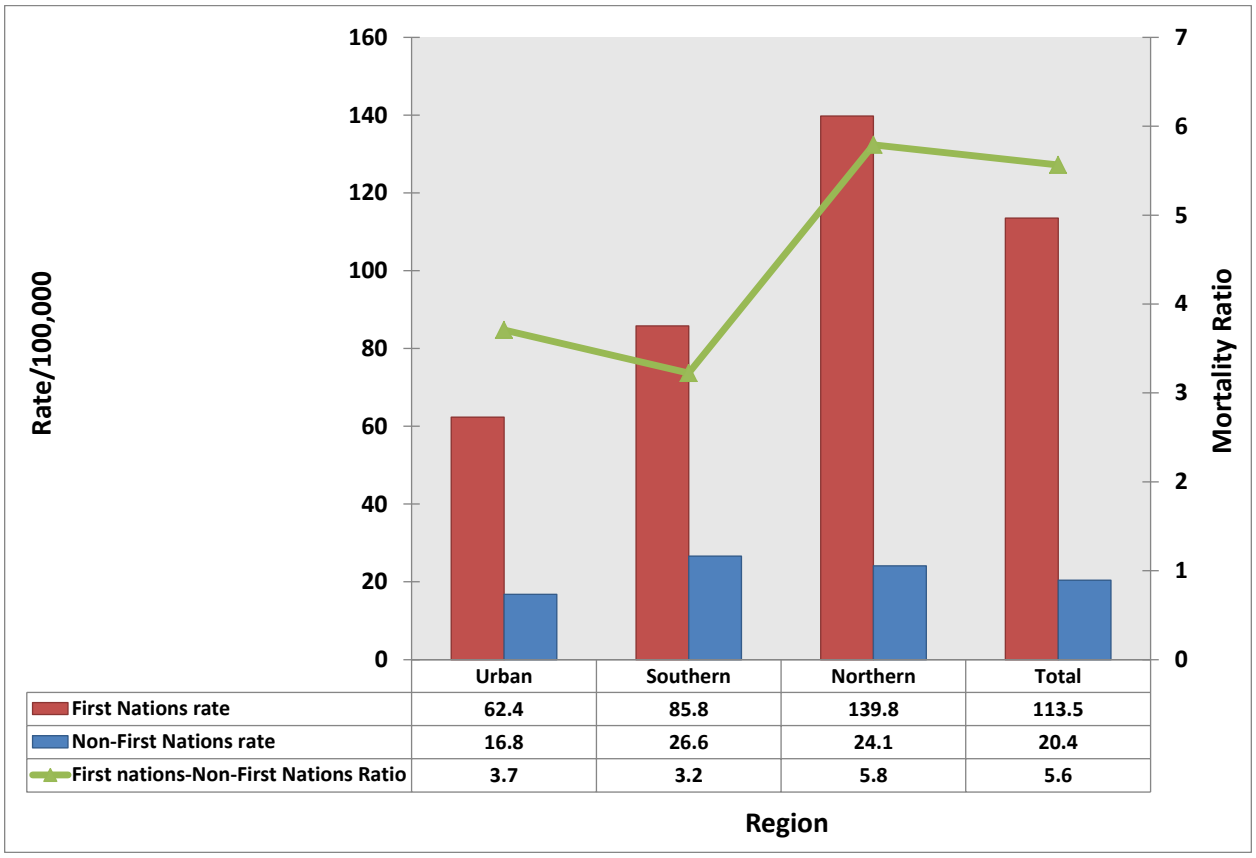


Figure 4 – MORTALITY RATES BY GEOGRAPHIC REGION
First Nations vs. Non-First Nations in Children 29 days to 14 years



	Urban	Southern	Northern	Total
First Nations rate	62.4	85.8	139.8	113.5
Non-First Nations rate	16.8	26.6	24.1	20.4
First nations-Non-First Nations Ratio	3.7	3.2	5.8	5.6

Definition of geographic regions for the purpose of this report:

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

Regional Mortality Rates

Table 4 – REGIONAL MORTALITY RATES 2008 In Children 29 Days to 14 Years				
RHA	**Number of Deaths**	**Population**	**Rate per 100,000**	**Three-Year Average Rates (2006 – 2008)**
NorMan	7	6,211	112.7	90.5
Burntwood	16	15,425	103.7	77.4
North Eastman	5	8,215	60.9	56.4
Parkland	3	8,053	37.3	45.1
Assiniboine	3	12,078	24.8	40.6
Central	10	24,458	40.9	40.2
All Manitoba	**76**	**231,780**	**32.8**	**33.5**
Interlake	4	14,352	27.9	32.2
Winnipeg	24	117,836	20.4	24.1
South Eastman	3	15,789	19.0	17.4
Brandon	1	9,155	10.9	14.4
Churchill	0	208	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 2008, 76 deaths of Manitoba children were reviewed. Injury accounted for 36% of these deaths. The CHSC reviewed four 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
Unintentional Injury	*21*	*9.1*
*Intentional Injury**	*5*	*2.2*
Injury – Undetermined Intent	*1*	*0.4*
Injury Total	27	11.6
Congenital Anomaly	9	3.9
Nervous System	7	3.0
Conditions Originating in Perinatal Period	7	3.0
Respiratory System	6	2.6
Neoplasm	6	2.6
Endocrine, Nutritional, Metabolic	5	2.2
SIDS/SUID	4	1.7
Circulatory System	3	1.3
Infectious Disease	1	0.4
Blood Disorders	1	0.4
Total	**76**	**32.8**

*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 from 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
Congenital Anomaly	9	58.1
Conditions Originating in Perinatal Period	6	38.7
Endocrine, Nutritional, Metabolic	5	32.3
SUID/SIDS	4	25.8
Injury	2	12.9
Unintentional Injury	*2*	*12.9*
*Intentional Injury**	*0*	*0.0*
Diseases of the Nervous System	2	12.9
Diseases of the Blood	1	6.5
Diseases of the Circulatory System	1	6.5
Infectious Diseases	1	6.5
Diseases of the Respiratory System	1	6.5
Total	**32**	**206.4**

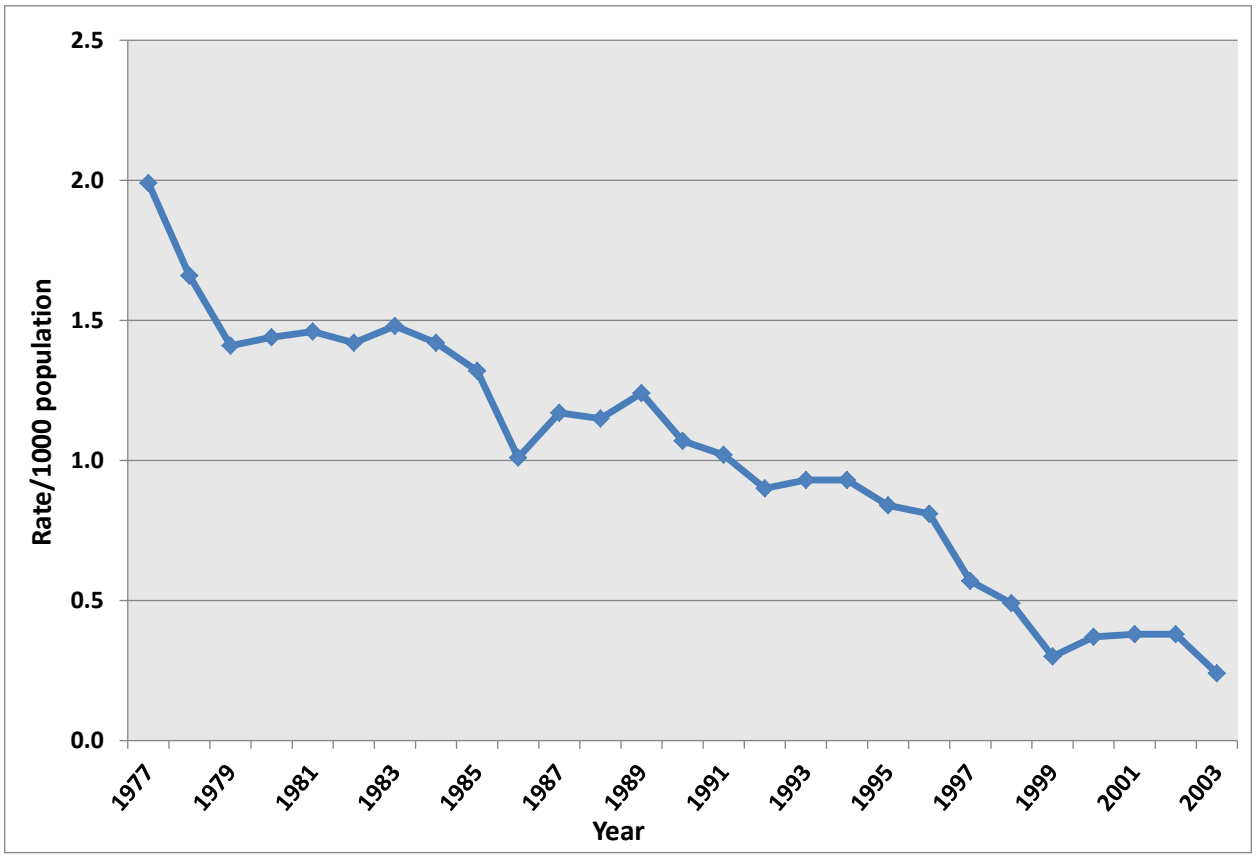
*Intentional Injury includes homicide.

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 2004. Data for 2004 is included in the 2003 three-year average (2002-2004). 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 were two cases classified as SIDS in 2007 and one in 2008.

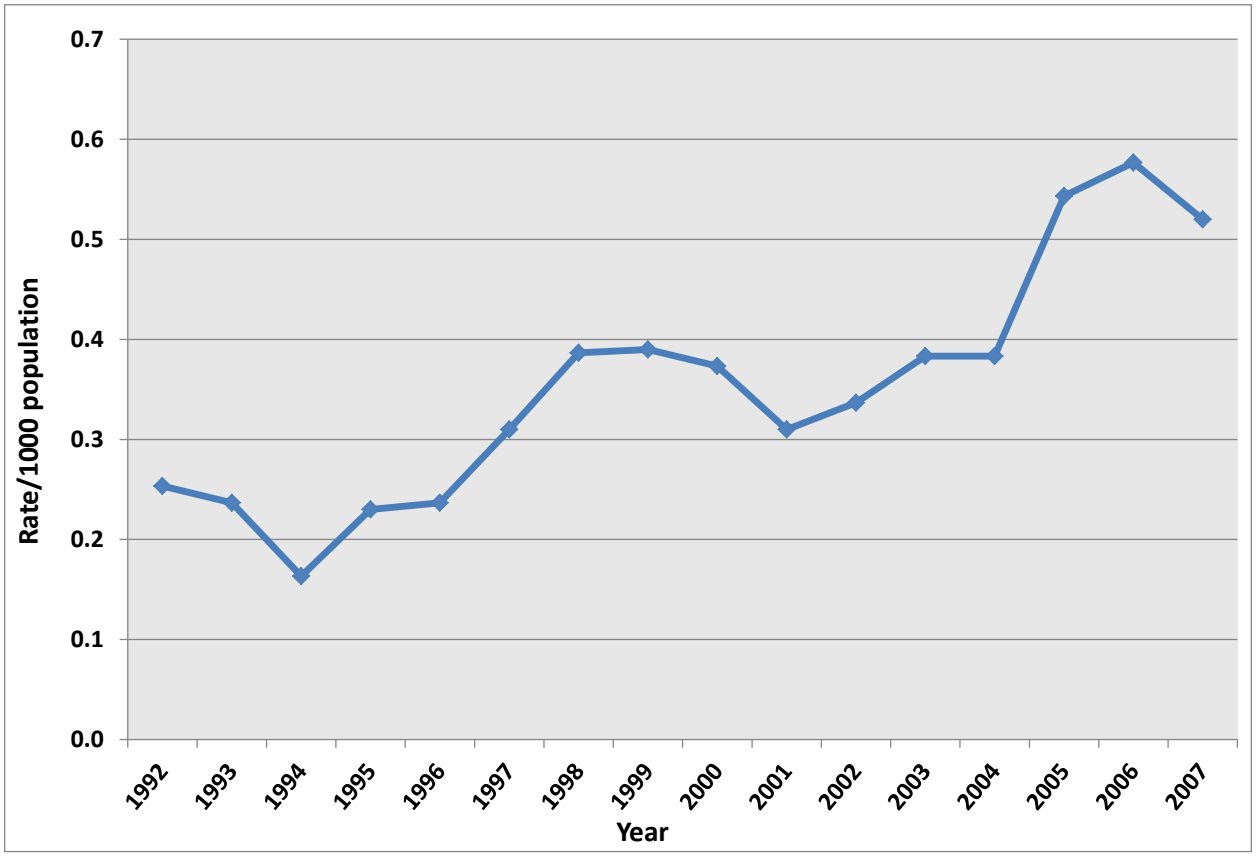
Figure 5A – SUDDEN INFANT DEATH SYNDROME (SIDS)
In Children 29 Days to 1 Year (Three-Year Moving Average)



Sudden Infant Death Syndrome (SIDS) Continued

Figure 5B shows the three-year moving average rates for Sudden Unexpected Infant Death (SUID) from 1992 to 2008. Data for 2008 are included in the 2007 three-year average (2006-2008). In 2008, there were three cases of SUID in the 29 days to one-year age group. One additional infant suffocated in soft bedding after being put to sleep on an adult mattress.

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

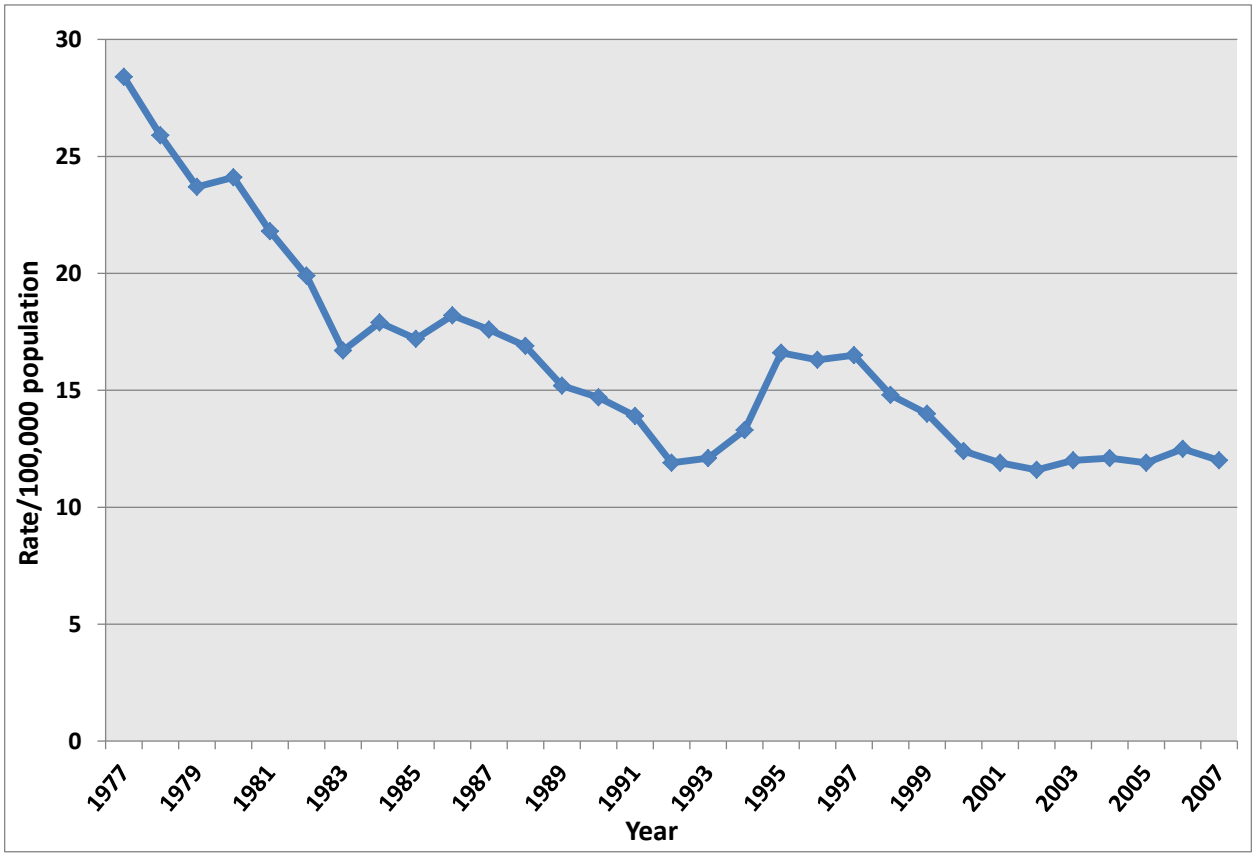


Among the three SUID cases, two were bed sharing an adult bed and one was placed to sleep in the change table accessory of a playpen. One was placed to sleep in a crib. One infant was documented as having been put to sleep on their back. All of these infants had modifiable risk factors for sudden unexpected infant death.

Deaths from Injury - Trends

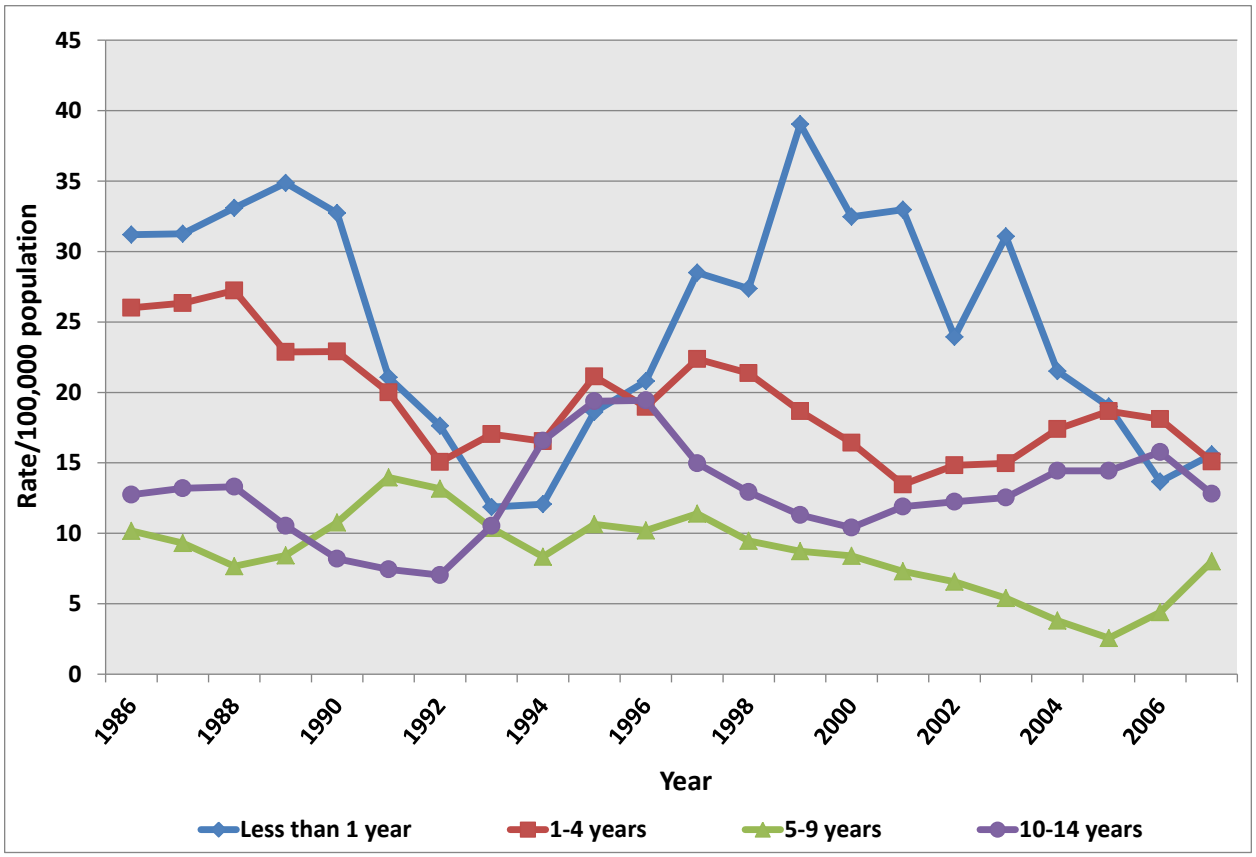
Figures 6A and 6B show the three-year moving average rates for injury deaths (unintentional and intentional combined) for children 29 days to 14 years of age. Data for 2008 are included in the 2007 three-year average (2006-2008).

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



Deaths from Injury - Trends Continued

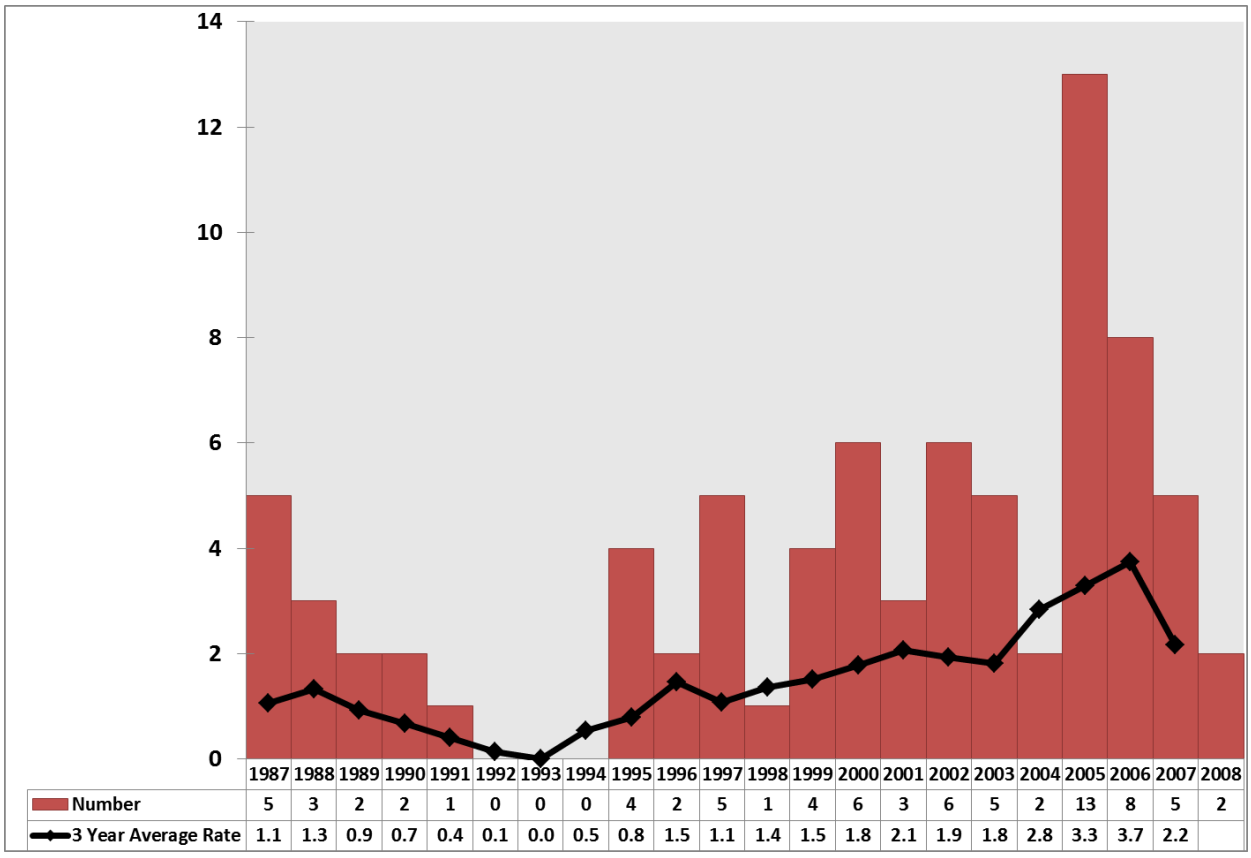
Figure 6B – MORTALITY RATES FROM INJURY
By Age Group (29 Days to 14 Years)
(Three-Year Moving Average)



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 2008 are included in the 2007 three-year average (2006-2008). The annual number and rates of suicide had been increasing steadily in this age group in recent years, with a reduction in numbers in 2006-2008 as compared to the peak in 2005.

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



	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number	5	3	2	2	1	0	0	0	4	2	5	1	4	6	3	6	5	2	13	8	5	2
3 Year Average Rate	1.1	1.3	0.9	0.7	0.4	0.1	0.0	0.5	0.8	1.5	1.1	1.4	1.5	1.8	2.1	1.9	1.8	2.8	3.3	3.7	2.2	

In 2008, there were 27 deaths due to injury among Manitoba children 14 years of age and under. Injuries caused 36% of all deaths of children between 29 days and 14 years of age (27 of 76).

Deaths from Injury - Trends Continued

Table 7 – INJURY-RELATED MORTALITY RATES BY AGE GROUP 2008				
Age Group	**Number of Deaths**	**Population**	**Rate/100,000**	**Three-Year Average 2006-2008**
29 days to <1 year	2	15,503	12.9	15.6
1 to 4 years	6	58,999	10.2	15.1
5 to 9 years	10	74,838	13.4	8.0
10 to 14 years	9	82,440	10.9	12.8
Total	**27**	**231,780**	**11.6**	**12.0**

Table 8 – TYPES OF INJURY CAUSING DEATH 2008
In Children 29 Days to 14 Years

Unintentional			**Intentional**		
Cause	**Number**	**Rate**	**Cause**	**Number**	**Rate**
Drowning	8	3.5	Suicide	2	0.9
House Fire	6	2.6	Homicide	3	1.3
			Total	**5**	**2.2**
Pedestrian	2	0.9			
Off road vehicle	1	0.4	**Intent Undetermined**		
Poisoning	1	0.4			
Hanging	1	0.4	**Cause**	**Number**	**Rate**
Suffocation	1	0.4			
Firearm	1	0.4	Mechanism unknown	1	0.4
Total	**21**	**9.1**	**Total**	**6**	**2.6**

There were 21 deaths related to unintentional injuries and five deaths related to intentional injuries (two suicides and three inflicted injuries). There was one death for which the intent and mechanism were undetermined.

The most common cause of unintentional injury death was drowning. Five young children (3-7 years of age) drowned in natural bodies of water when they were playing near the shore or on a dock, all in remote or rural areas. Two youths drowned while swimming, in separate incidents. One child with a pre-existing medical condition drowned while bathing.

The second leading cause of unintentional injury death was house fires. In one incident three young children and an adult died following a house fire thought to have been related to smoking materials. A smoke alarm was present. In another incident two young children were playing with fire and became trapped in a storage shed. In the final incident an infant died in a house fire along with two adults.

Deaths from Injury - Trends Continued

Two children died as a result of pedestrian injuries. One school-aged child playing in the street was struck by a vehicle. A preschool child was run over by a slow moving vehicle. The latter incident was characterized by poor driver visibility and involved a vehicle moving forward from a parked position, similar to incidents described in previous years.

There were two cases of asphyxia; one infant suffocated in soft bedding while sleeping on an adult bed and a youth was found hanging from a bunk bed.

One youth ingested a potent narcotic and suffered a fatal overdose.

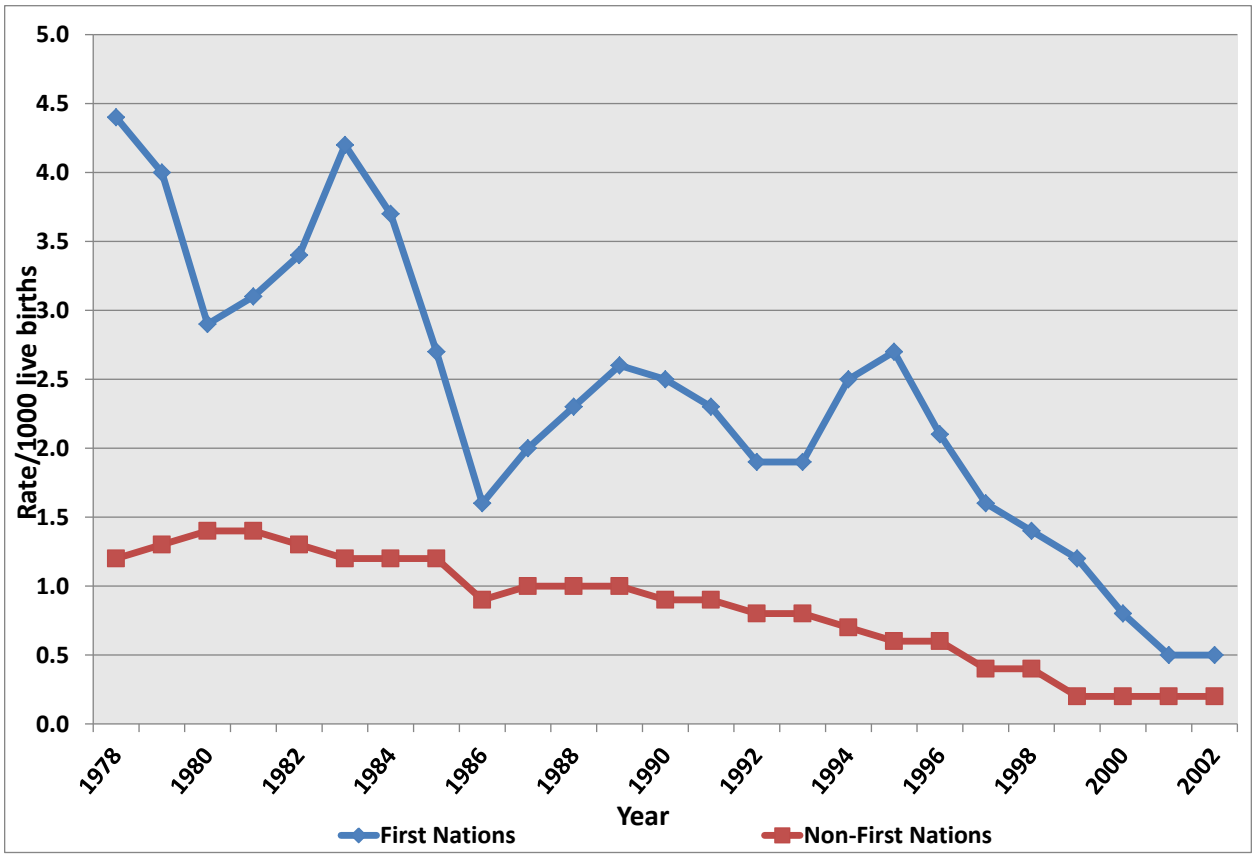
One child operating a snowmobile drove into a bus. No helmet in use.

Two children less than 15 years of age committed suicide in 2008. Both were First Nations children, and both were living on reserve.

Three children died related to inflicted injuries including two homicides and one case of child abuse.

Selected Cause-Specific Mortality – First Nations Children

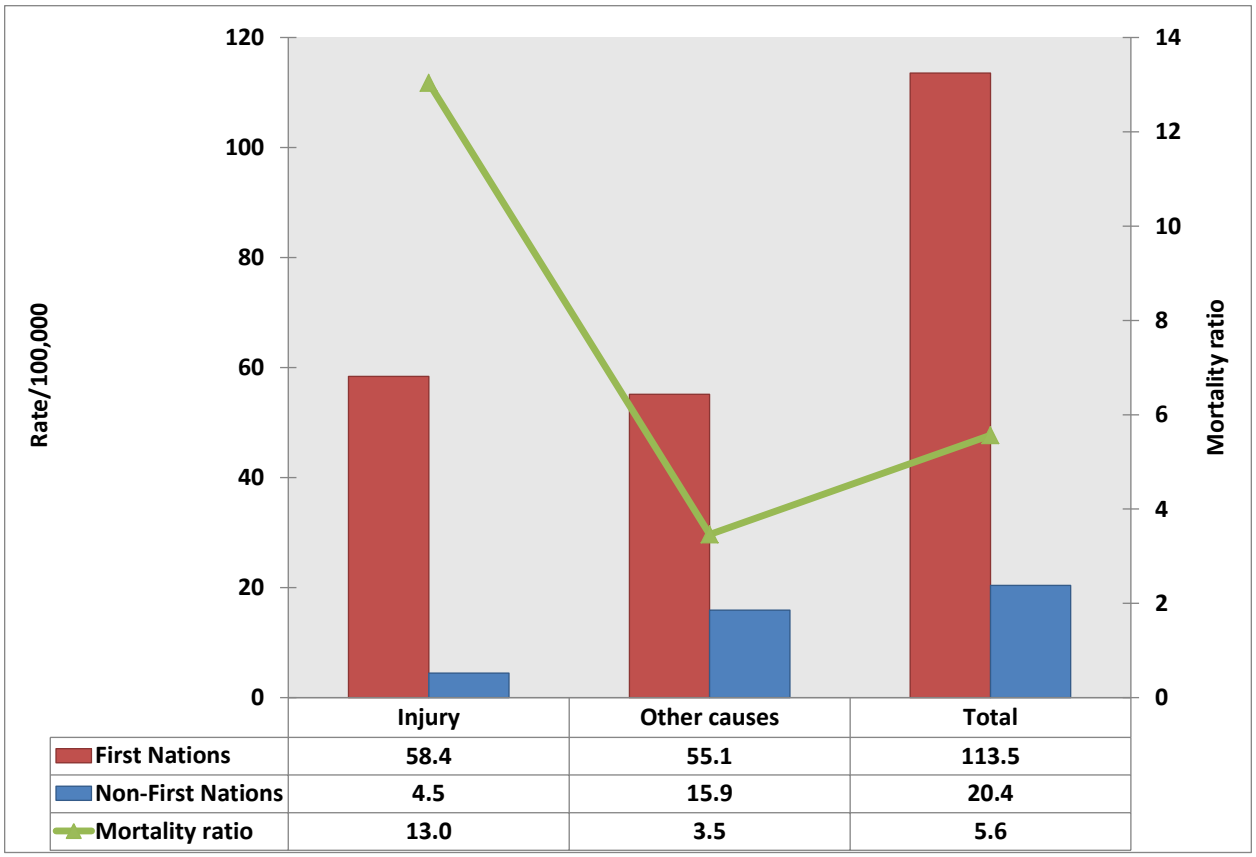
Figure 7 – SUDDEN INFANT DEATH SYNDROME 1978-2003
FIRST NATIONS vs. NON-FIRST NATIONS
(Three-Year Moving Average)



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 2008 there was one case of SIDS in a First Nations child. **Figure 7** reflects the most recent three-year average that can be calculated (2002, reflecting 2001-2003). Of the three SUID deaths in 2008 one was a First Nations child.

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



	Injury	Other causes	Total
First Nations	58.4	55.1	113.5
Non-First Nations	4.5	15.9	20.4
Mortality ratio	13.0	3.5	5.6

First Nations children had an elevated risk of death for all causes combined, with 5.6 times the rates experienced by non-First Nations children. For injury, there was a 13-fold increased risk of death.

Autopsies

In 2008, 43 of the 76 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, 21 of 25 had autopsies (84%).

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 2008 was 47.7 per 100,000, lower than the three-year average of 51.5 per 100,000. Male mortality rates are consistently higher than those for females, though the gap has narrowed for the past three years. ***Figure 9*** shows mortality rates by gender for the past ten years. 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)

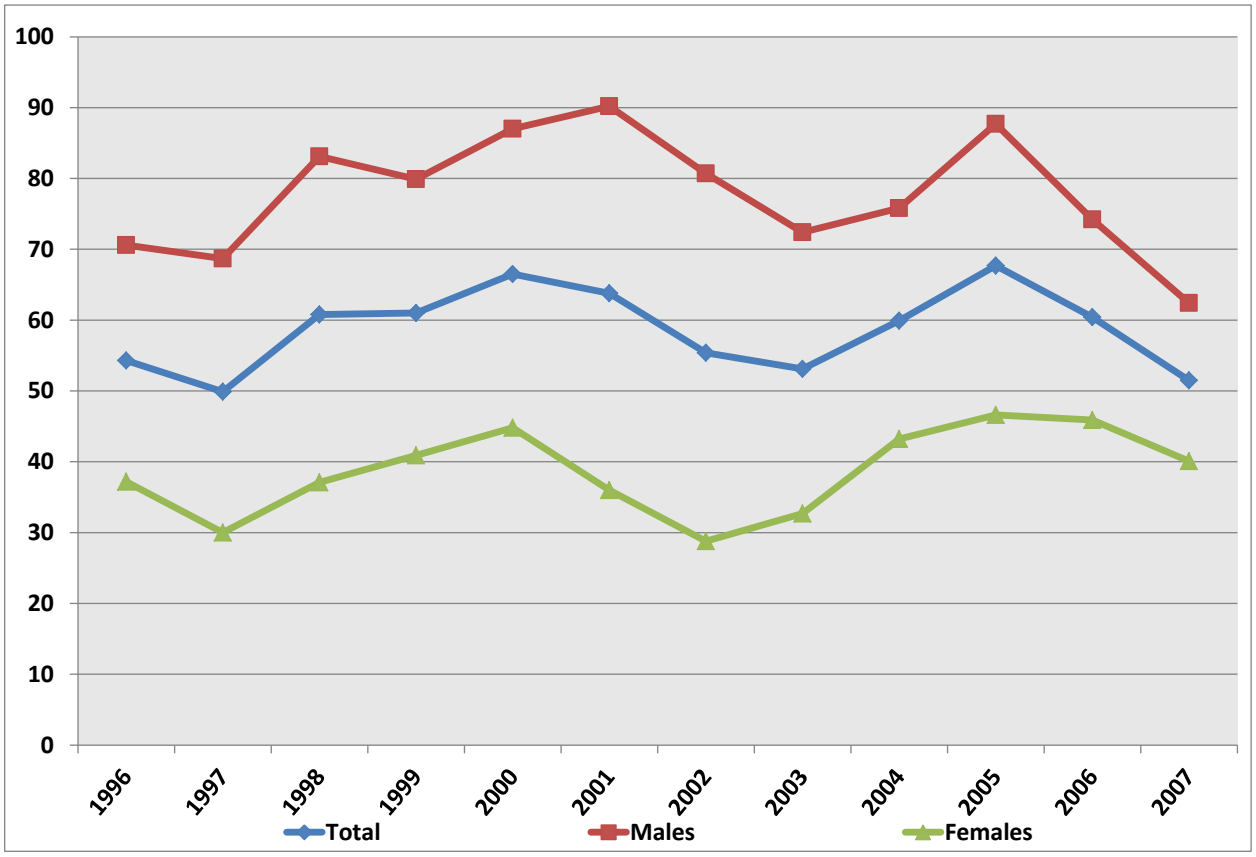
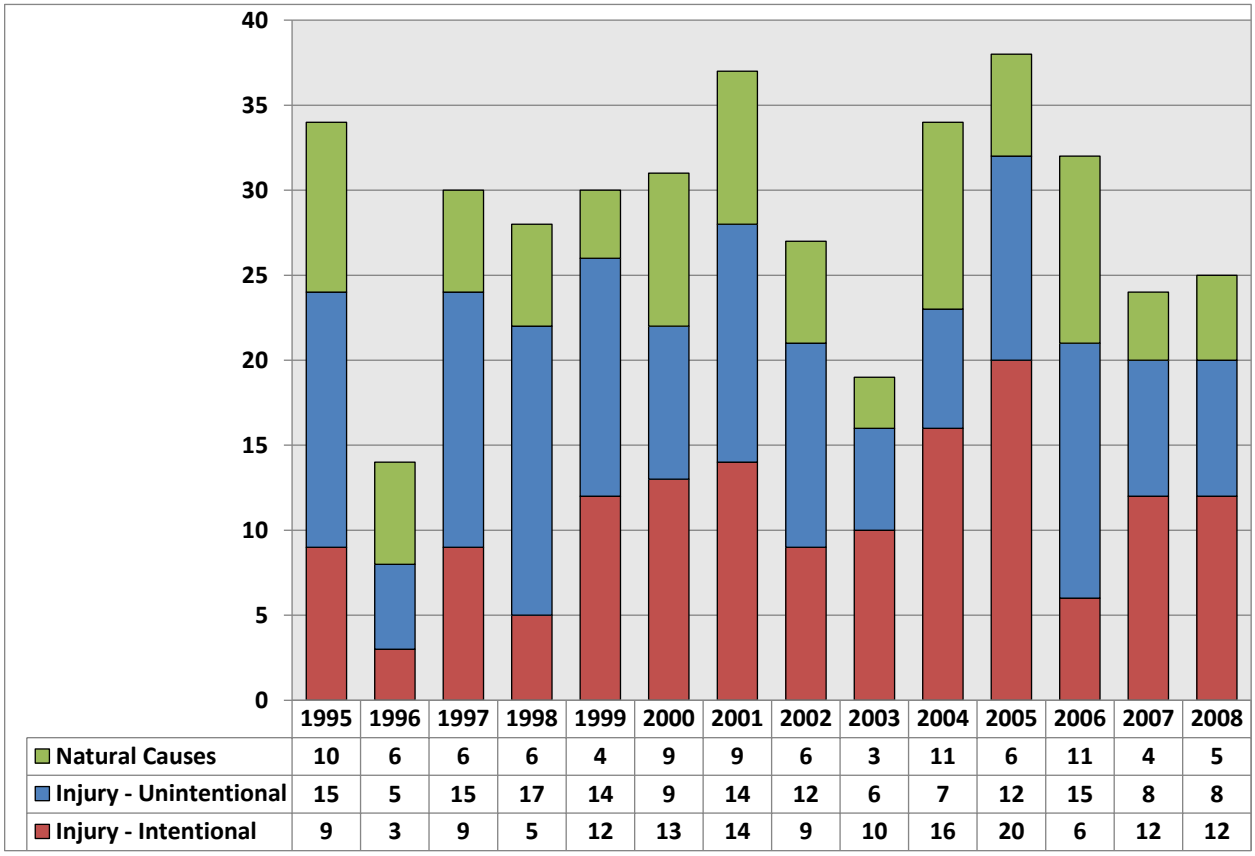


Figure 10 – NUMBER OF DEATHS BY CAUSE (INJURY VS. NATURAL CAUSES)
In Teens 15-17 Years of Age, 1995-2008



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Natural Causes	10	6	6	6	4	9	9	6	3	11	6	11	4	5
Injury - Unintentional	15	5	15	17	14	9	14	12	6	7	12	15	8	8
Injury - Intentional	9	3	9	5	12	13	14	9	10	16	20	6	12	12

Teen Deaths Continued

Table 9 shows the causes of death for this age group and ***Table 10*** shows the types of injuries causing death. The injury-related mortality rate was 38.2 per 100,000.

Table 9 – CAUSES OF DEATH in Teens 15 to 17 years		
	Deaths	**Rate per 100,000**
Injury	20	38.2
Unintentional Injury	8	15.3
*Intentional Injury**	12	22.9
Respiratory Diseases	3	5.7
Infectious Diseases	1	1.9
Circulatory Diseases	1	1.9
Total	**25**	**47.7**

*Intentional Injury 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**
Poisoning	3	5.7	Homicide	2	3.8
Motor Vehicle	1	1.9	Suicide	10	19.1
Asphyxia	1	1.9			
Suffocation/Choking	1	1.9			
Legal Intervention	1	1.9			
Medical Complication	1	1.9			
Total	**8**	**15.3**		**12**	**22.9**

Teen Deaths Continued

In 2008, 20 of the 25 teen deaths were due to injuries. Poisoning was the leading cause of unintentional injury death; alcohol, ecstasy and potent narcotics were implicated in these deaths. One teen was the driver in a fatal motor vehicle collision. No seat belt was in use and alcohol was implicated as a factor. One teen was fatally injured in a workplace incident. The employer was charged. A teen with a pre-existing medical condition choked on food and could not be resuscitated. One teen died following an encounter with police. An inquest was called into this death. One teen died as a result of medical complications. The latter two deaths are considered injuries according to the international coding system used in this report (ICD-9).

There were 12 intentional injury deaths, including 10 suicides and two homicides. All of the suicides were by hanging; and all of the suicides were First Nations teens.

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 2008, 27 of the 76 childhood deaths were deemed to have a preventable cause. This included 25 injuries (including unintentional injuries, suicide, and homicide), one case of severe dehydration with delay in seeking medical care and one SUID. Six cases were theoretically preventable and included two cases of SUID, one case of drowning, one sudden infant death, one case of asthma, and one case of dehydration.

(ii) Preventable Outcome

Eighteen cases had a theoretically preventable outcome, including six cases where there was a delay in seeking care, five cases where earlier and more aggressive medical care was recommended, six cases where parent or guardian action may have prevented the outcome, and one case where bystander CPR could have modified the outcome.

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 (several cases); these may reflect or include documentation errors.*
- Lack of documentation of significant physical findings relevant to diagnosis, clinical management, and/or discharge counselling/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 2008, 18 of the 25 teen deaths were judged to have a preventable cause. All of the preventable deaths were due to trauma (injury), homicide or suicide. Three deaths were classified as theoretically preventable.

(ii) Preventable Outcome

One death was classified as having a preventable outcome related to lack of supervision. Three deaths were classified as having a theoretically preventable outcome, including two cases where there was a delay in seeking care, and one case where earlier and more aggressive treatment may have prevented the outcome.

Educational and Other Actions

The Child Health Standards Committee took educational action for seven cases in 2008. An additional five actions taken by other Standards Committees were reviewed by the committee.

Table 11 – EDUCATIONAL ACTIONS	
Action Taken	
Physician Providers	1
Health Administrators	0
Referrals to other agencies/organizations	6
Total number of actions	**7**

6. Recommendations

The Child Health Standards Committee had the following recommendations related to child health in 2008.

1. That facilities providing paediatric emergency care comply with current paediatric triage guidelines and ensure that staff are aware of paediatric equipment and procedures.
2. That healthcare providers should be familiar with current guidelines for paediatric resuscitation.
3. That the management of unintentional poisoning in children could be improved by consulting the Poison Control Centre (available 24/7 at 204-787-2591 or 204-787-4244) regarding decontamination, investigation, and treatment of individual cases. Facilities should ensure that current triage guidelines are being followed, and that all children treated or observed are weighed (kg).
4. That the committee supports the work of regional and provincial partners who are developing safe sleep guidelines, policies, and public education.

CHILD HEALTH STANDARDS COMMITTEE

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