

THE  
CHILD  
HEALTH  
STANDARDS  
COMMITTEE  
**2011 ANNUAL REPORT**



# Acknowledgements

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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 2011.

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

# *Executive Summary 2011*

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- The Child Health Standards Committee (CHSC) reviewed 95 deaths which occurred in 2011. 66 were children 29 days to 14 years of age, 26 were teens 15 to 17 years of age and 3 were children whose place of residence was out of province.
- The mortality rate for Manitoba children aged 29 days to 14 years was 27.8 per 100,000 in 2011 compared to 25.6 per 100,000 in 2010 and 26.2 per 100,000 in 2009. The mortality rate for Manitoba teens 15 to 17 years of age was 49.3 per 100,000 in 2011 compared to 59.1 per 100,000 in 2010 and 79.9 per 100,000 in 2009.
- The infant mortality rate was 6.0 per 1,000 live births, which is higher than 2010, when it was 5.3 per 1,000 live births.
- The cause of death was classified as preventable for 21 of the 66 child deaths (32%) and 25 of the 26 teen deaths (96%). Injury (unintentional injury, suicide, homicide) accounted for all of the preventable deaths.
- Injury was the leading cause of death overall, accounting for 51% 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, vehicle, bicycle, off road vehicle), drowning and house fires. The most common cause of injury-related mortality in teens was motor vehicle collisions.
- There were 10 suicides in 2011, compared to 15 in 2010, 20 in 2009 and 12 in 2008. In 2011, 8 suicides were teens 15 to 17 years of age and 2 were 14 years of age or younger; this compares to 11 teens and 4 children 14 years of age and younger in 2010.
- There were 37 First Nations children 29 days to 14 years of age who died in 2011. First Nations children in this age group were 7.9 times more likely to die than other Manitoba children. First Nations children accounted for 57% of childhood deaths in Manitoba. Mortality rates off-reserve were 1.4 times higher than on-reserve for this age group. There were 12 First Nations teens who died in 2011. First Nations teens were 6.8 times more likely to die than other Manitoba teens and accounted for 46% of teen deaths in Manitoba. Mortality rates off-reserve were 2.4 times higher off-reserve than on-reserve.
- In 2011, the CHSC initiated educational action with two physicians with respect to medical care provided. Four referrals were made to health administrators, professional bodies, other organizations or government departments. The committee reviewed additional actions taken by other standards committees. An inquest was called for three house fire-related deaths.

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# Definitions

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**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 7<sup>th</sup> full day of life (<168 hours), or
- **Late:** between the 8<sup>th</sup> and 28<sup>th</sup> 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

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## Background

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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.

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## Goals and Objectives

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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 18<sup>th</sup> 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*

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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. 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.)*

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### **Newsletter Items**

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There were two newsletter items prepared by the committee in 2011:

- “Treatment of Group A Beta-Hemolytic Streptococcal Pharyngitis (GABS) in Children and Youth: Is Your Practice Evidence-Based?”
  - “Talk to Your Patients about Manitoba’s Healthy Baby Program”
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### **Other Committee Activities**

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The CHSC conducted two Morbidity/Mortality audits in 2011:

- Suicide: Children and Teens
- Sudden infant deaths

The CHSC advocated for the following issues in 2011:

- Safe sleep guidelines, policies and public education
- Suicide awareness
- Evidence-based management of Group A Beta-Hemolytic Streptococcal Pharyngitis
- Manitoba’s Healthy Baby Program

### 3. Statistical Summary

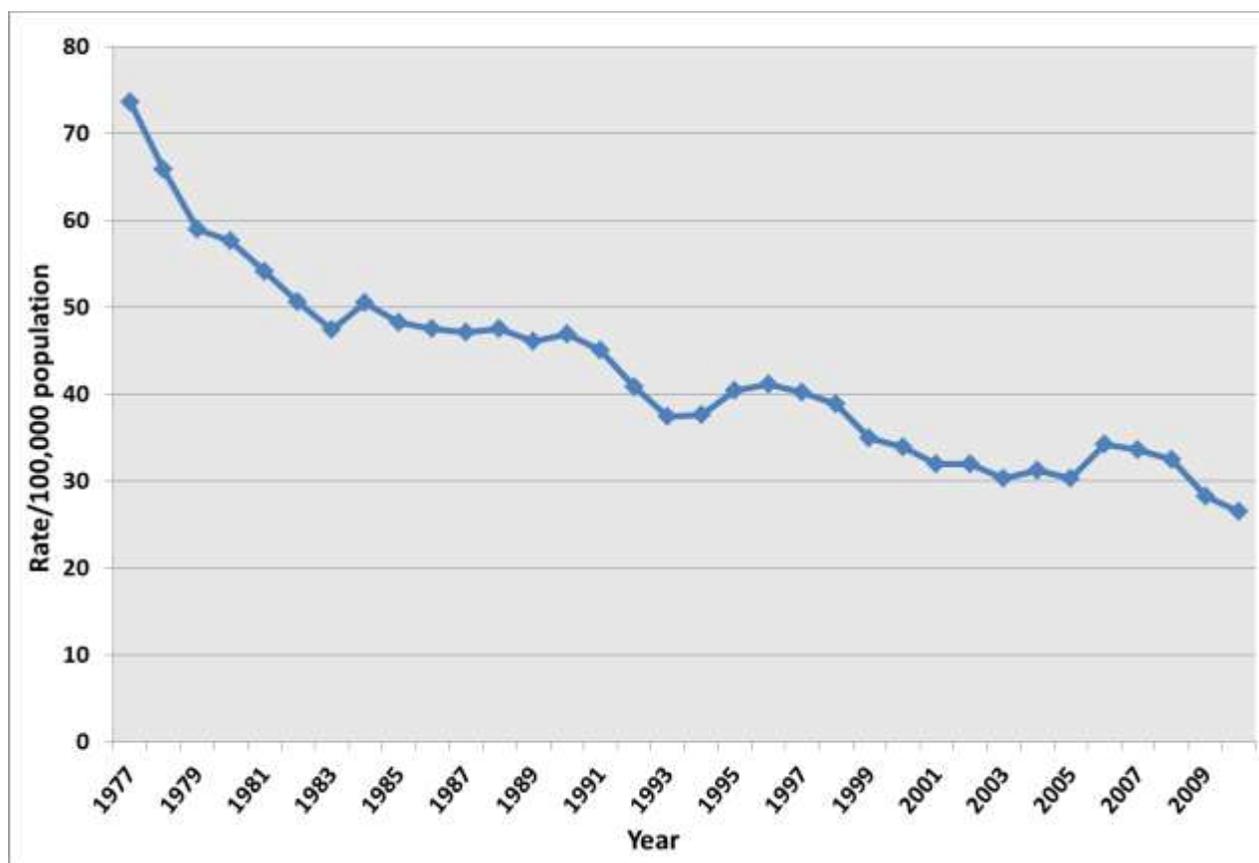
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#### Mortality Rates

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**Figure 1** shows the three-year moving average trends in pediatric mortality from 1977 to 2011 for Manitoba residents. *The 2011 data are included in the three-year moving average reported as 2010.*

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



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## Deaths Grouped by Age and Sex for Manitoba Residents

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**Table 1 - MORTALITY RATES BY AGE GROUP 2011**

Age Group	Number of Deaths	Population	Rate/100,000	Three-Year Average (2009-2011)
29 days to <1 year	32	15,783	202.7	168.3
1 to 4 years	13	64,974	20.0	22.9
5 to 9 years	10	76,533	13.1	11.0
10 to 14 years	11	80,257	13.7	16.1
Total 29 days to 14 years	66	237,547	27.8	26.5
15 to 17 years	26	52,751	49.3	62.8

**Table 2 - MORTALITY RATES BY GENDER 2011**

Gender (Age Group)	Number of Deaths	Population	Rate/100,000	Three-Year Average (2009-2011)
Male (29d to 14y)	32	121,810	26.3	27.8
Female (29d to 14y)	34	115,737	29.4	26.9
Male (15y to 17y)	20	27,090	73.8	76.2
Female (15y to 17y)	6	25,661	23.4	50.7

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## Infant Mortality Rates

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In 2011 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 15,979. This gives a post-neonatal infant mortality rate of 2.0 per 1,000 live births. There were also 64 neonatal deaths in the first 28 days of life. The neonatal mortality rate was 4.0 per 1,000 live births.

Combining the neonatal mortality rate with the post-neonatal mortality rate gives an overall infant mortality rate of 6.0 per 1,000 live births. This is higher than rates in recent years. These figures do not include neonates born weighing <500 grams.

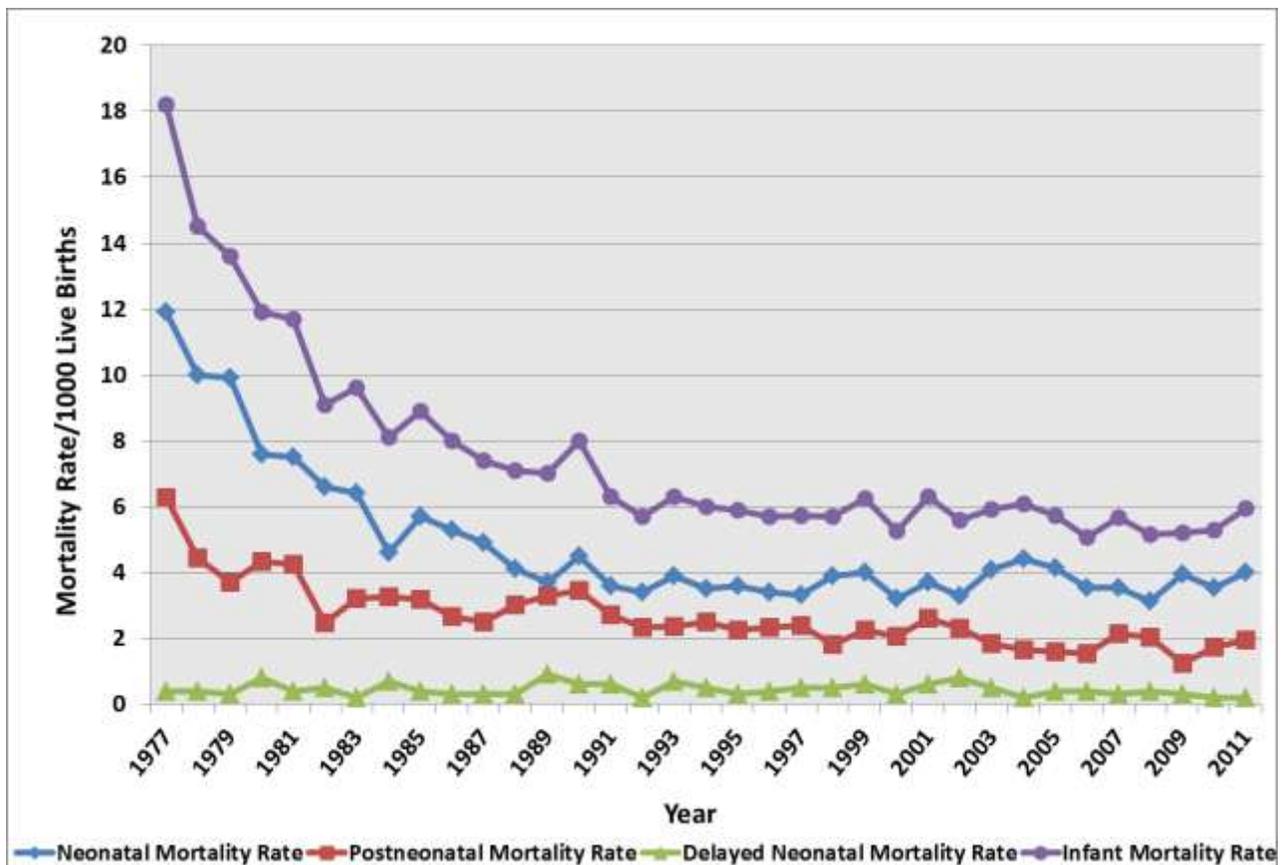
## Infant Mortality Rates Continued

For First Nations infants, there were 16 neonatal deaths and 15 post-neonatal deaths among 2504 live deliveries for an infant mortality rate of 12.4 per 1,000 live births. For non-First Nations infants, there were 48 neonatal and 17 post-neonatal deaths among 13,475 live deliveries for a rate of 4.9 per 1,000 live births. The First Nations infant mortality rate was 2.5 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 2011, three 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 4<sup>th</sup> highest infant mortality rate in Canada to the 2<sup>nd</sup> highest rate.

Province	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
New Brunswick	3.8	4.1	4.3	4.1	4.0	4.3	3.2	5.8	3.4	3.5
British Columbia	4.6	4.2	4.3	4.5	4.1	4.0	3.7	3.6	3.8	3.8
Prince Edward Island	1.5	4.9	4.3	2.2	2.1	5.0	2.0	3.4	3.6	4.2
Quebec	4.8	4.4	4.6	4.6	5.1	4.5	4.3	4.4	5.0	4.3
Ontario	5.3	5.3	5.5	5.6	5.0	5.2	5.3	5.0	5.0	4.6
<b>Canada</b>	<b>5.4</b>	<b>5.3</b>	<b>5.3</b>	<b>5.4</b>	<b>5.0</b>	<b>5.1</b>	<b>5.1</b>	<b>4.9</b>	<b>5.0</b>	<b>4.8</b>
Nova Scotia	4.2	5.7	4.6	4.0	4.0	3.3	3.5	3.4	4.6	4.9
Alberta	7.3	6.6	5.8	6.8	5.3	6.0	6.2	5.5	5.9	5.3
Newfoundland	4.5	5.0	5.1	6.2	5.3	7.5	5.1	6.3	5.3	6.3
Saskatchewan	5.7	6.3	6.2	8.3	6.1	5.8	6.2	6.7	5.9	6.7
Northwest Territories	11.0	5.7	0.0	4.2	10.2	4.1	9.7	15.5	1.4	7.2
<b>Manitoba</b>	<b>7.1</b>	<b>8.0</b>	<b>7.0</b>	<b>6.6</b>	<b>6.0</b>	<b>7.3</b>	<b>6.5</b>	<b>6.3</b>	<b>6.7</b>	<b>7.7</b>
Nunavut	11.0	19.8	16.1	10.0	13.4	15.1	16.1	14.8	14.5	26.3
Yukon	8.8	6.0	11.0	0.0	8.2	8.5	5.4	7.8	5.2	0

Source: Statistics Canada, CANSIM, table 102-0504. Last modified: 2013-09-25.

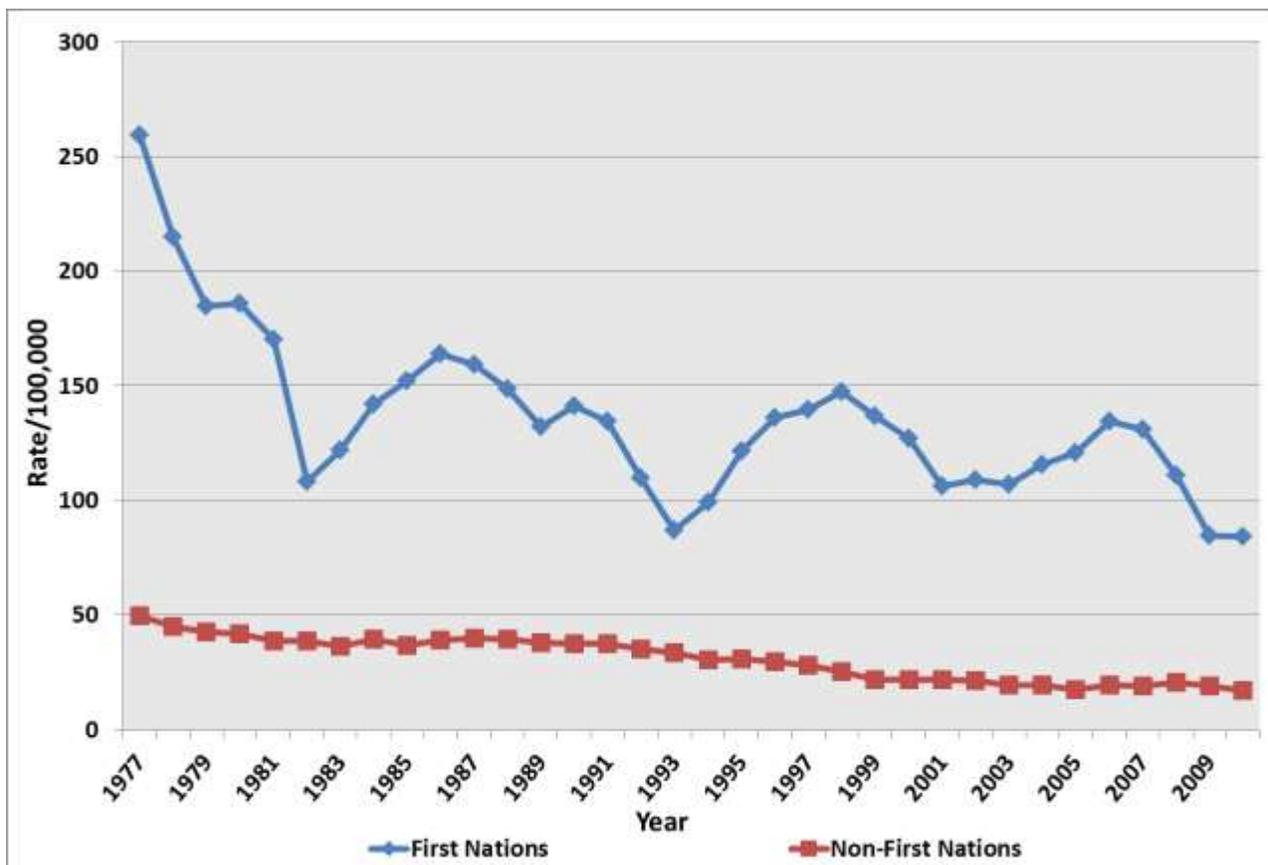
## First Nations Mortality Rates

In 2011 First Nations children accounted for 16.2% of the population aged 29 days to 14 years in Manitoba and 56% of childhood deaths. There were 37 deaths among registered First Nations children and 29 among all others. The mortality rate for First Nations children was 111.8 per 100,000 and for all others 14.2 per 100,000. Therefore, First Nations children were 7.9 times more likely to die than other Manitoba children. This is higher than 2010, which showed a 4.1-fold increased risk of death.

In Manitoba in 2011, 54% of First Nations children resided in First Nations communities. Of the 37 First Nations children who died, 17 resided in First Nations communities and 20 resided in other communities. Mortality rates for First Nations children were 95.5 per 100,000 residing in First Nations communities and 130.8 per 100,000 First Nations children residing in all other communities.

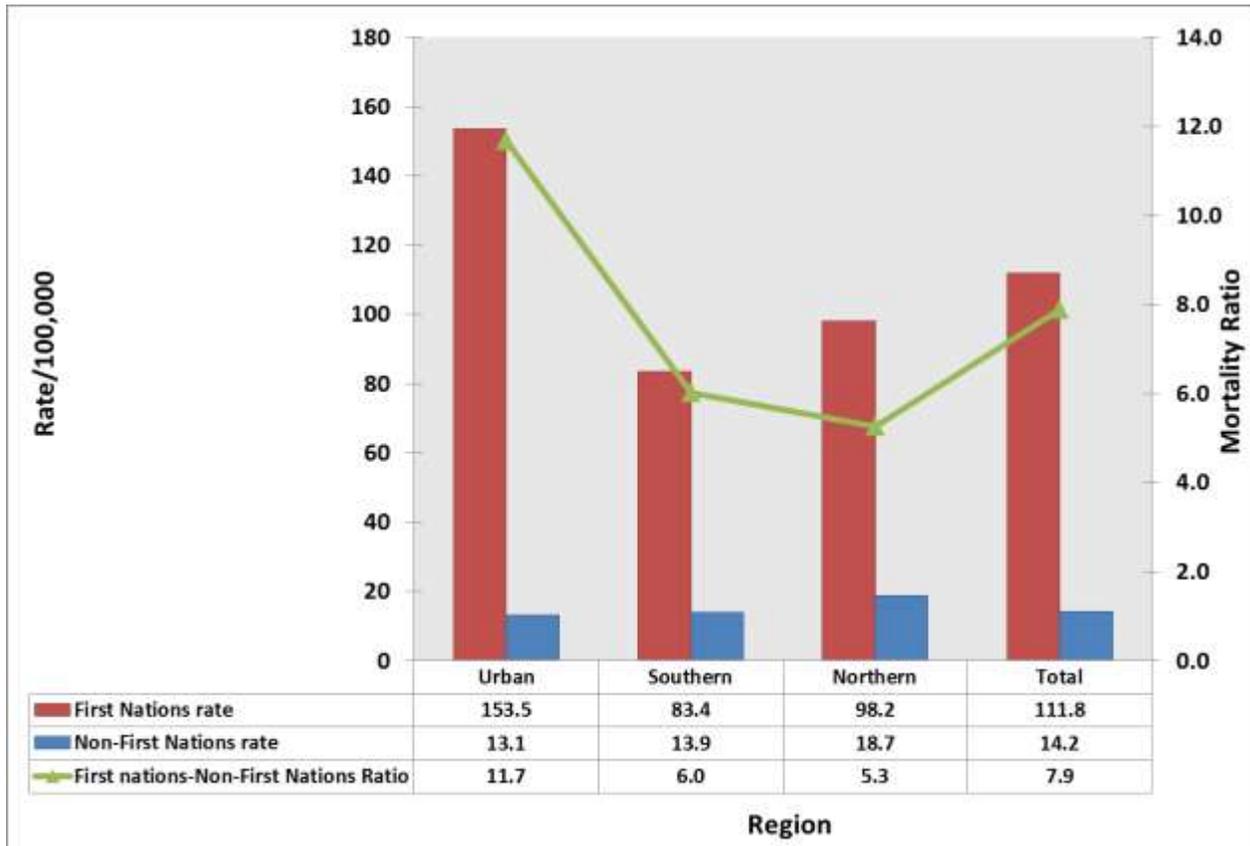
(The Manitoba Health Client Registry is used for these calculations for both deaths and population figures. This data is felt to represent approximately two-thirds of First Nations individuals in Manitoba.)

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



## First Nations Mortality Rates Continued

**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

<b>Table 4 – REGIONAL MORTALITY RATES 2011</b>				
In Children 29 Days to 14 Years				
<b>RHA</b>	<b>Number of Deaths</b>	<b>Population</b>	<b>Rate per 100,000</b>	<b>Three-Year Average Rates (2009 – 2011)</b>
Burntwood	14	15,736	89.0	70.3
North Eastman	4	8,274	48.3	44.7
Parkland	5	8,037	62.2	37.3
Central	8	25,079	31.9	30.8
Assiniboine	2	12,256	16.3	30.3
Interlake	2	13,902	14.4	28.4
NorMan	1	6,352	15.7	26.6
<b>All Manitoba</b>	<b>66</b>	<b>237,547</b>	<b>27.8</b>	<b>26.5</b>
Brandon	4	10,159	39.4	23.5
Winnipeg	26	120,836	21.5	19.5
South Eastman	0	16,720	0.0	10.3
Churchill	0	196	0.0	0.0

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

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## Causes of Childhood Death

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

For 2011, 66 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 three deaths of children from out of province.

<b>Table 5 – CAUSES OF DEATH</b> In Children 29 Days to 14 Years		
<b>Cause of Death</b>	<b>Deaths</b>	<b>Rate per 100,000</b>
<i>Unintentional Injury</i>	19	8.0
<i>Intentional Injury*</i>	3	1.3
Injury Total	22	9.3
SIDS/SUID	13	5.5
Congenital Anomaly	6	2.5
Respiratory System	5	2.1
Infectious Disease	5	2.1
Endocrine, Nutritional, Metabolic	4	1.7
Circulatory System	3	1.3
Neoplasm	2	0.8
Nervous System	2	0.8
Sudden death cause unknown	2	0.8
Diseases of the Digestive System	2	0.8
<b>Total</b>	<b>66</b>	<b>27.8</b>

\*Intentional Injury includes homicide and suicide.

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## Causes of Childhood Death Continued

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

<b>Table 6 – CAUSES OF POST-NEONATAL INFANT DEATH</b> In Children 29 Days to 1 Year		
<b>Cause of Death</b>	<b>Deaths</b>	<b>Rate per 100,000</b>
SUID/SIDS	13	82.4
Congenital Anomaly	5	31.7
Infectious Diseases	4	25.3
Diseases of the Circulatory System	2	12.7
Diseases of the Digestive System	2	12.7
Diseases of the Respiratory System	2	12.7
Injury - unintentional	2	12.7
Sudden death cause unknown	1	6.3
Diseases of the Nervous System	1	6.3
<b>Total</b>	<b>32</b>	<b>202.7</b>

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.

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## Sudden Infant Death Syndrome (SIDS)

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**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 (all 13 were classified as SUID).

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



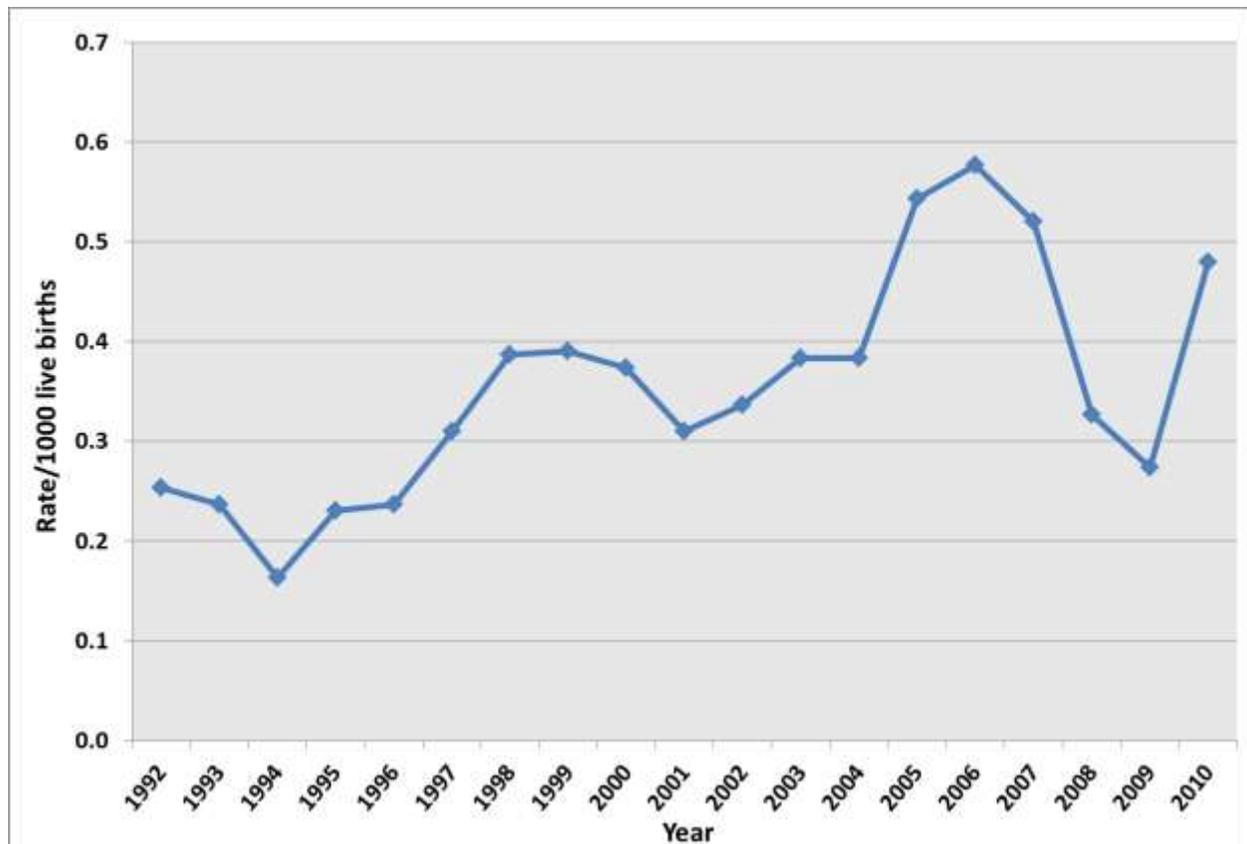
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## Sudden Infant Death Syndrome (SIDS) Continued

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**Figure 5B** shows the three-year moving average rates for Sudden Unexpected Infant Death (SUID) from 1992 to 2011. Data for 2011 are included in the 2010 three-year average (2009-2011). In 2011, there were 13 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)



Among the 13 SUID cases, nine were on adult beds or mattresses, two were in cribs, one was in a car seat, and in one case the sleeping location was undetermined. Eight infants were sharing a sleep surface (bed or mattress). All had modifiable risk factors for SIDS, sudden unexpected infant death or suffocation/entrapment. Six of the 13 SUID cases were First Nations children including one living on reserve.

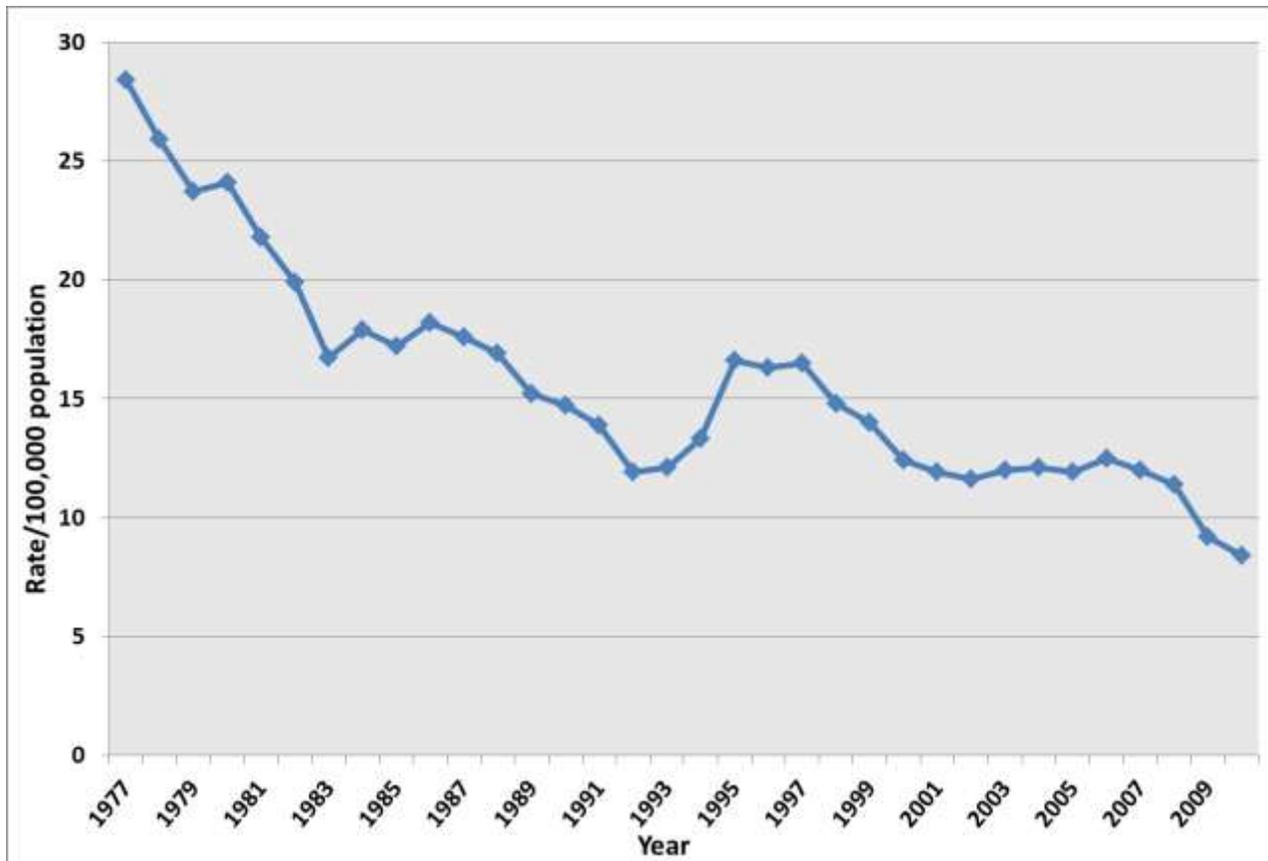
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## Deaths from Injury - Trends

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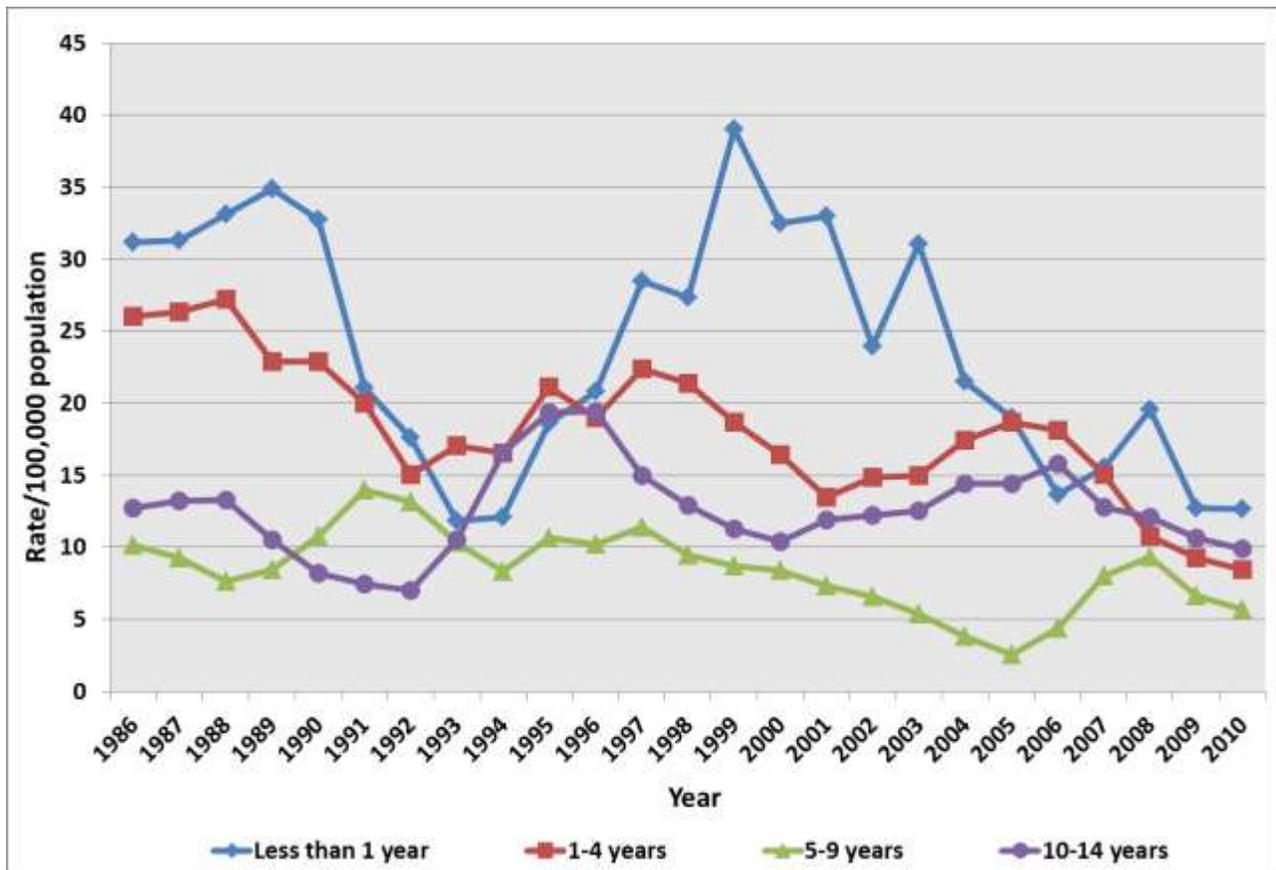
Figures 6A and 6B show the three-year moving average rates for injury deaths (unintentional and intentional combined) for children 29 days to 14 years of age. Data for 2011 are included in the 2010 three-year average (2009-2011).

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



## Deaths from Injury - Trends Continued

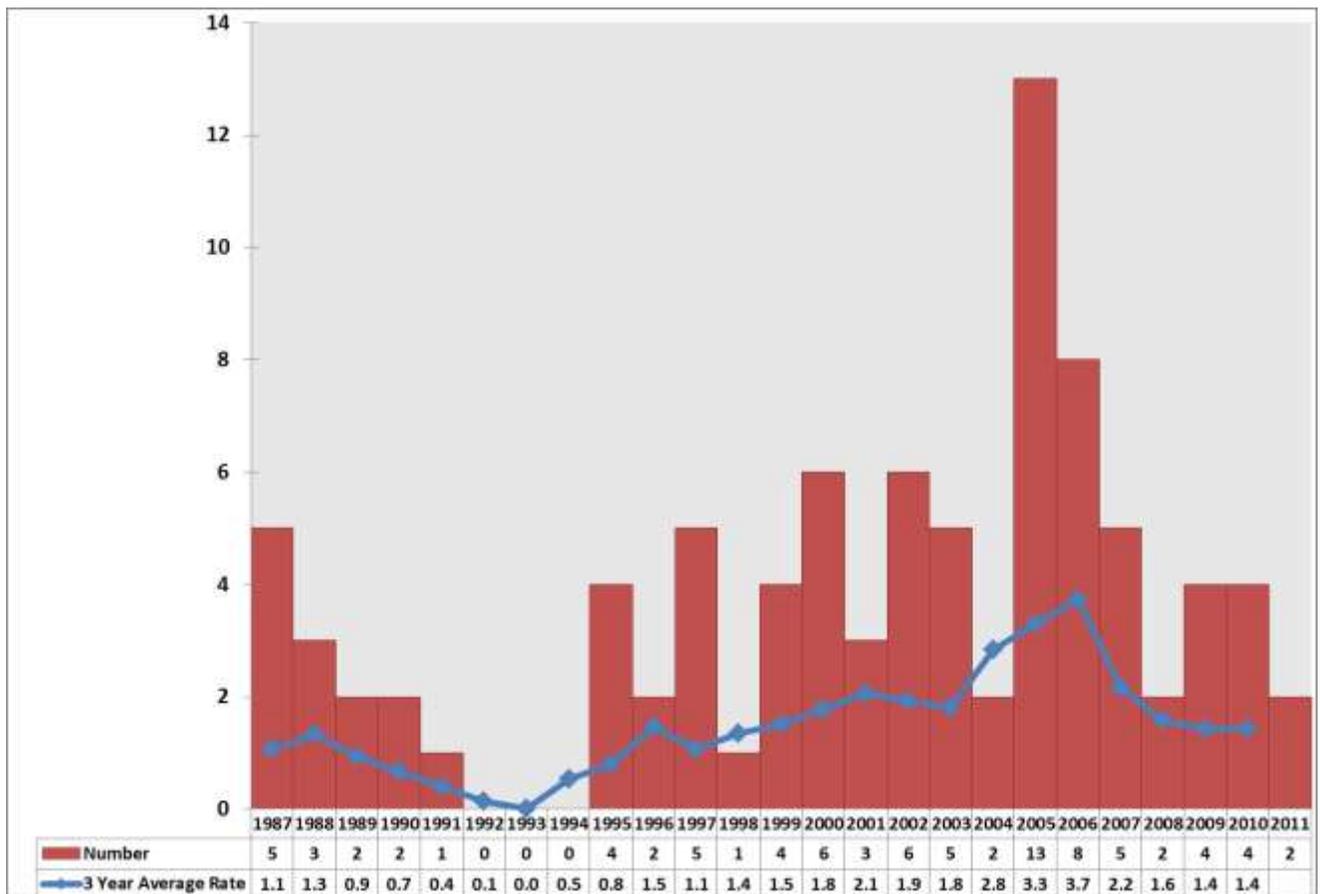
**Figure 6B - MORTALITY RATES FROM INJURY BY AGE GROUP**  
 In Children 29 Days to 14 Years (Three-Year Moving Average)



## 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 2011 are included in the 2010 three-year average (2009 to 2011). 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 to 2011 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



## Deaths from Injury – Trends Continued

In 2011, there were 22 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 (22 of 66).

<b>Table 7 – INJURY-RELATED MORTALITY RATES BY AGE GROUP 2011</b>				
<b>Age Group</b>	<b>Number of Deaths</b>	<b>Population</b>	<b>Rate/100,000</b>	<b>Three-Year Average 2009-2011</b>
29 days - <1 year	2	15,783	12.7	12.7
1 - 4 years	5	64,974	7.7	8.5
5 - 9 years	8	76,533	10.5	5.7
10 - 14 years	7	80,257	8.7	9.9
<b>Total</b>	<b>22</b>	<b>237,547</b>	<b>9.3</b>	<b>8.4</b>

<b>Table 8 – TYPES OF INJURY CAUSING DEATH 2011</b>					
<b>In Children 29 Days to 14 Years</b>					
<b>Unintentional</b>			<b>Intentional</b>		
<b>Cause</b>	<b>Number</b>	<b>Rate</b>	<b>Cause</b>	<b>Number</b>	<b>Rate</b>
Pedestrian	4	1.7	Suicide	2	0.8
House Fire	3	1.3	Homicide	1	0.4
Drowning	3	1.3			
Cyclist	2	0.8			
Motor vehicle - passenger	2	0.8			
Hanging	2	0.8			
Firearm	1	0.4			
Choking/suffocation	1	0.4			
Off road vehicle	1	0.4			
<b>Total</b>	<b>19</b>	<b>8.0</b>	<b>Total</b>	<b>3</b>	<b>1.3</b>

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## **Deaths from Unintentional Injuries**

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There were 19 deaths related to unintentional injuries and 3 deaths related to intentional injuries (two suicides and one homicide).

The most common cause of unintentional injury death was pedestrian injuries. Two young children were run over by vehicles moving at slow speed from a parked position on a driveway or road. One child fell from a farm vehicle and was run over. One child was struck by a school bus.

Three children died as a result of two house fires. In both incidents there was a malfunction in a home heating system and no smoke alarm was in use. An inquest has been called regarding these deaths.

Nine children died as a result of transport injuries including the four pedestrian injuries described above. Two child passengers who were not restrained died in high speed vehicle motor collisions. Two un-helmeted cyclists were struck by vehicles. A child operating an ATV was struck by a vehicle. No helmet was in use.

Three young children drowned when they fell into natural bodies of water while playing with no adult supervision.

Three children died as a result of choking/suffocation or strangulation. Two of these children died as a result of hanging while playing in home-made swings, and one child was found buried in snow.

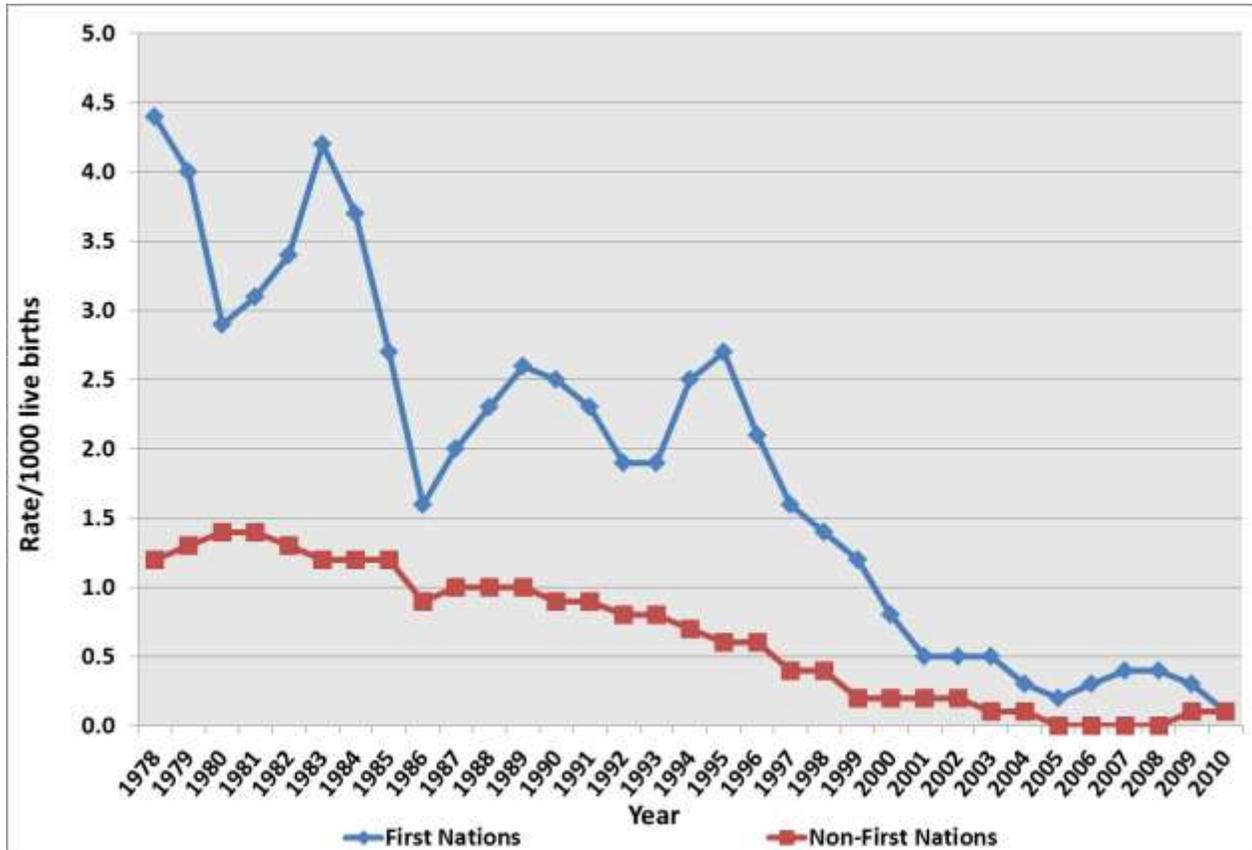
One death resulted from an accidental discharge of a firearm.

Two children less than 15 years of age committed suicide in 2011. Both were First Nations children, and one was living on reserve.

One child died related to inflicted injuries.

## Selected Cause-Specific Mortality – First Nations Children

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

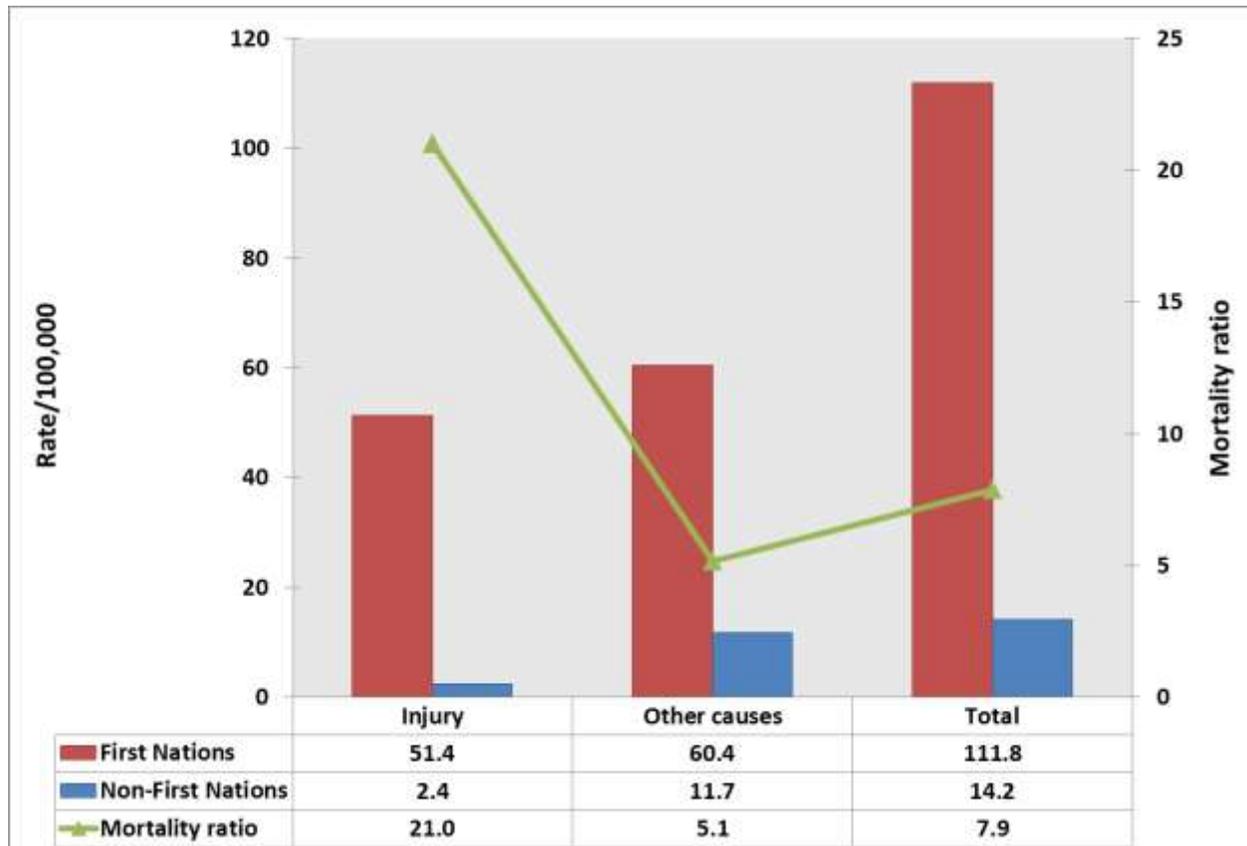


SIDS rates have been declining for all Manitoba children since the late 1970s. The gap between First Nations and non-First Nations rates has been steadily declining over this time period. In 2003 First Nations children had a 2.5-fold increased risk of SIDS when compared to non-First Nations children. 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 there were no SIDS cases and 13 SUID cases, of which 6 were First Nations.

**Figure 7** illustrates the three-year average SIDS rates until 2010, however the very small number of cases in recent years should be noted.

## 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 7.9 times the rates experienced by non-First Nations children. For injury, there was a 21-fold increased risk of death.

## Autopsies

In 2011, 46 of the 66 Manitoba children who died between the ages of 29 days and 14 years had an autopsy (70%). Among teens 15 to 17 years of age, all had autopsies.

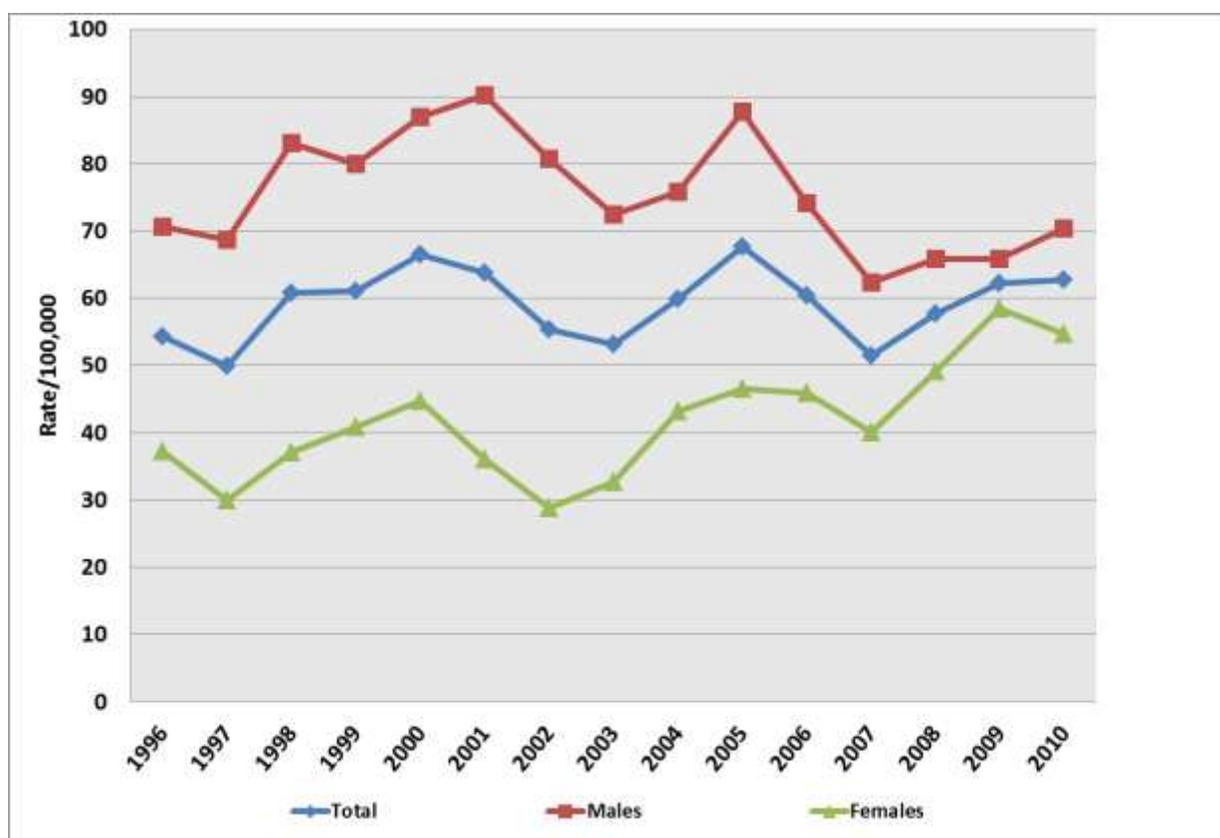
## 4. Teen Deaths, 15 to 17 Years

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Since 1994, the Child Health Standards Committee has reviewed deaths of Manitoba youth 15 to 17 years of age. The death rate in 2011 was 49.3 per 100,000, lower than the three-year average rate of 62.8 per 100,000. Male mortality rates are consistently higher than females, though the gap has narrowed significantly over the past several years.

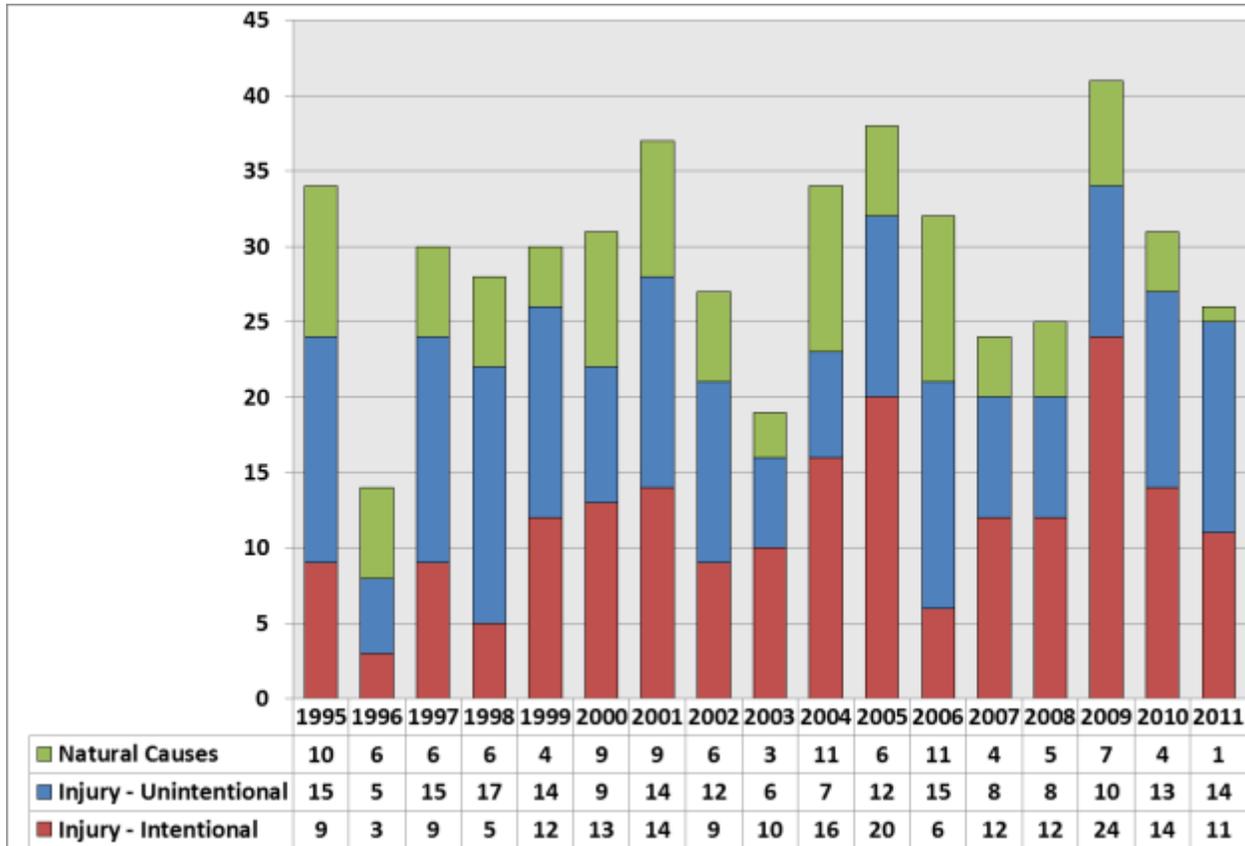
**Figure 9** shows mortality rates by gender. **Figure 10** shows the proportion of deaths due to injury and other causes.

**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, 1995-2011



There were 12 First Nations teens that died in 2011. First Nations teens were 6.8 times more likely to die than other Manitoba teens and accounted for 46% of teen deaths in Manitoba. Mortality rates off-reserve were 2.4 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.

<b>Table 9 - CAUSES OF DEATH in Teens 15 to 17 years</b>		
	<b>Deaths</b>	<b>Rate per 100,000</b>
Injury	25	47.4
<i>Unintentional Injury</i>	14	26.5
<i>Intentional Injury*</i>	11	20.9
Diseases of the Circulatory System	1	1.9
<b>Total</b>	<b>26</b>	<b>49.3</b>

\* Includes homicide and suicide

<b>Table 10 - TYPES OF INJURY CAUSING DEATH in Teens 15 to 17 Years</b>					
<b>Unintentional</b>			<b>Intentional</b>		
	<b>Cases</b>	<b>Rate / 100,000</b>		<b>Cases</b>	<b>Rate / 100,000</b>
Motor Vehicle	9	17.1	Homicide	3	5.7
Off-road Vehicle	3	5.7	Suicide	8	15.2
Drowning	2	3.8			
<b>Total</b>	<b>14</b>	<b>26.5</b>	<b>Total</b>	<b>11</b>	<b>20.9</b>

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## **Teen Deaths** Continued

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In 2011, 25 of the 26 teen deaths were due to injuries. Alcohol and/or other substance use were noted to be a factor in at least 12 of these deaths. Motor vehicle collisions were the leading cause of unintentional injury death; alcohol, speeding, and dangerous driving were implicated in these crashes. Four teens were the driver; the remaining deaths were passengers. A seat belt was not in use in 6 cases and unknown in 3 cases. Alcohol and/or other substance use were implicated as a factor in five crashes. Two teens died in dirt bike collisions and one in an ATV-motor vehicle collision. A helmet was in use in two of these crashes. Two youth drowned in a boating incident. No PFDs were in the vessel.

There were 11 intentional injury deaths, including 8 suicides and 3 homicides. Seven of the suicides were by hanging. Seven of the suicides and two of the homicides were First Nations teens.

## 5. *Preventability of Death*

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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.

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### **Childhood Deaths**

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#### ***(i) Preventable Cause***

In 2011, 21 of the 66 childhood deaths were deemed to have a preventable cause. All were injuries (including unintentional injuries, suicide, and homicide). Twelve 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 better supervision. Fifteen cases had a theoretically preventable outcome, including four cases where there was a delay in seeking care, two cases where more aggressive care could have modified the outcome, three cases where children died in house fires with no smoke alarms, and six cases where the parent or guardian could have modified the outcome with better supervision.

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

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## Teen Deaths

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**(i) Preventable Cause**

In 2011, 25 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**

Seven deaths were classified as having a theoretically preventable outcome, including five cases where victims in motor vehicle collisions were ejected and seat belt use could have modified the outcome and two cases where earlier medical care could have modified the outcome.

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## Educational and Other Actions

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The Child Health Standards Committee took educational action for 6 cases in 2011. Additional actions taken by other Standards Committees were also reviewed by the committee. An inquest was called for three house fire-related deaths.

<b>Table 11 - EDUCATIONAL ACTIONS</b>	
<b>Action Taken</b>	
Physician Providers	2
Health Administrators	2
Referrals to other agencies/organizations	2
<b>Total number of actions</b>	<b>6</b>

## 6. *Recommendations*

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The Child Health Standards Committee had the following recommendations related to child health in 2011:

1. That facilities providing pediatric emergency care comply with current pediatric triage guidelines.
2. That the committee supports the work of regional and provincial partners who are developing safe sleep guidelines, policies, and public education.
3. A 10 day course of penicillin/amoxicillin is the treatment of choice for pharyngitis. Macrolides such as azithromycin are not recommended as first-line treatment due to significant resistance.
4. Physicians should refer low income families and pregnant teens to the Manitoba Healthy Baby program.
5. Systems should be in place to ensure that all pregnant women eligible for Income Assistance receive the Healthy Baby Prenatal Benefit.

# CHILD HEALTH STANDARDS COMMITTEE

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## **COMMITTEE MEMBERS (2011)**

Dr. N. Cisneros, Paediatric Immunologist

Dr. M. Feierstein, Paediatrician

Dr. G. Lemoine, General Practice

Dr. C. Littman, Pathologist

Dr. S. Lum Min, Paediatric Surgeon

Dr. J. Strong, Paediatrician

Dr. S. Veroukis, Paediatrician

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Dr. T. Babick, Family Physician, Deputy Registrar, CPSM

Ms M. Myers, Administrative Assistant, Child Health Standards, CPSM

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