Regional Infant and Child Mortality Review Committee
2007 Final Report

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The Minnehaha County Infant and Child Mortality Review Committee (RICMRC) was established in 1997 with the aim of examining deaths of children to identify preventive strategies that may decrease the risk of loss of young life in Minnehaha county. The committee’s mission statement is, “To review infant and child deaths so that information can be transformed into action to protect young life.” Although the committee was initially formed to serve Minnehaha County, it has expanded its review region to include Lincoln, Turner, McCook, Lake, Moody, Union, Hansen, Miner, and Brookings counties. In its review, the committee aims to identify strategies that may prevent future loss of life among the youngest members of our region.

The Committee is chaired by the Minnehaha County Coroner and is composed of professionals representing expertise in pediatrics, nursing, law enforcement, child protective services, emergency medical services, and mental health. Sheriff and police departments from the participating counties are invited to be present for the review of deaths of children in their counties. To operationalize its goal of preventing deaths of infants and children in the region, the population of reviewed deaths is defined by the following criteria:

- Children under the age of 18 dying subsequent to hospital discharge following delivery.
- Children who either died in Minnehaha, Lincoln, Turner, McCook, Lake, Moody, Union, Hansen, Miner County, or Brookings counties from causes sustained in those respective counties, or who died elsewhere from causes sustained in the ten county region.

Eighty-nine childhood and infant deaths occurred in the 10 county review area in 2007 (81 occurring in Minnehaha, four in Lincoln, and one each in Brookings, Hanson, Union, and Moody counties). Forty-one of these deaths were of residents from outside the review counties. For illustrative purposes, the age distribution of childhood deaths of Minnehaha County residents is presented in Table 1. Of importance to the interpretation of the data on infants and children presented in Table 1 is that 53 percent (in 2007) of the Minnehaha County resident deaths occurred in the first 28 days of life (neonatal), and some of these occurred within hours of birth.
<table>
<thead>
<tr>
<th>Minnehaha County Resident Deaths</th>
<th>Infant 1-14 years</th>
<th>15-17 years</th>
<th>Total</th>
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<tr>
<td>2007</td>
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<tr>
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<td>3</td>
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<tr>
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<td>6</td>
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<td>6</td>
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In 2007, 25 deaths met the committee’s criteria and were reviewed (versus 30 in 2006). Of these, 18 were Minnehaha county resident deaths, all of which occurred in Minnehaha County. Four Lincoln County residents died in Lincoln County, one resident child died in Moody County, one resident child died in Union County, and a Hanson County resident died outside of the county of injuries sustained in Hanson County.

The reviewed deaths listed below are separated by their manner of death (natural, accident, suicide, homicide, and undetermined). The number of deaths for 2007 in each manner category is listed adjacent to the manner heading. Numbers listed in parentheses represent the comparable number of deaths from 1997-2006. Care must be taken in comparing yearly data due to the addition of Lincoln (1998), Turner (1999), McCook (2000), Lake and Moody counties (2001), Union County (2002), Hansen and Miner counties (2003), and Brookings County (2004) in subsequent years since the initiation of the study in Minnehaha County in 1997. However, since over 70 percent of the total reviewed cases are contributed by Minnehaha County, some meaningful comparison of data between years is justified.

In 2007, no case met the criteria for the Sudden Infant Death Syndrome (SIDS). This represents a decline from the peak of eight SIDS or probable SIDS deaths in 1999. Given the national incidence of SIDS (0.22 per 1000 live births – 2004 data) our region should expect no more than one SIDS death per year. However, we should not be too complacent about the apparent low incidence of SIDS in our region over the last few years. Due to the relatively low population base of our region, the low incidence of SIDS could well represent a statistical fluctuation rather than a true decrease in the incidence of SIDS. There also is concern, both at the national and regional level, that the SIDS rate may be declining only because cases that in the past were designated as SIDS are now being labeled as “undetermined.” Although we believe that the RICMRC criteria for SIDS have been relatively constant since RICMRC’s inception in 1997, the increase in cases categorized as “undetermined” among those reviewed by the RICMRC over the last several years raises the possibility that three deaths in this year’s “undetermined” group may have been classified as SIDS in the earlier years of RICMRC review. Also, there was one death suggestive of SIDS where no autopsy or scene examination was done to confirm a SIDS diagnosis. At issue is the growing awareness that the cause of death in infants sleeping prone on soft bedding often cannot be differentiated between SIDS and asphyxia. It is possible that the combined incidence of SIDS and SIDS-like deaths (Sudden Unexpected Deaths in Infancy – SUID) may be remaining relatively constant in our region. Therefore, there is a continued need for adherence to the Back-to-Sleep campaign message of placing infants to sleep both on their backs and in safe sleeping environments.²

All of the 11 “natural” deaths reviewed represent natural disease processes (congenital defects, acute infections and tumors). None of these natural deaths represented any failures in medical care, nor did we feel that there were any apparent prevention strategies that might have prevented these natural deaths.


Four of the “accidental” deaths were related to motor vehicle crashes versus nine in 2005 and 2006. In 2004 there were three motor vehicle crashes resulting in three deaths. In 2005 there were five crashes resulting in seven deaths. In 2006 there were eight crashes resulting in nine deaths. In 2007, the four motor vehicle crash-related deaths involved three crashes. We are hopeful that the lower number of motor vehicle crash-related deaths in 2007 represents a decreasing trend of childhood motor vehicle deaths that will continue in future years. However, a single future crash with multiple fatalities could erase the encouraging trend of 2007.
The presence of multiple teenage occupants in a vehicle is a known risk factor in motor vehicle crashes involving young drivers, and was a potential factor in two crashes in 2007. Encouragingly, none of the 2007 motor vehicle crash-related deaths involved alcohol use (versus five in 2006 and two in 2005). Three of the four youths dying in motor vehicle crashes in 2007 were not wearing seat belts. Although it is unclear that three lives could have been saved with seat belt use, the circumstances of at least one of these crashes suggested that the use of seat belts could have saved one child. Three of the motor vehicle related deaths involved a recurring theme of inexperienced youthful driving and poor decision making. One child died when an adult driver failed to stop at an intersection, again, a recurring theme in past year’s motor vehicle crash-related deaths.

Two children drowned in 2007. One child drowned in a bath tub and one in an outdoor pool. Both of these deaths illustrate how quickly drowning deaths can occur in a momentary lapse of vigilance. These deaths also showed that older children with disabilities require supervisory attention greater than what might be suggested by the child’s chronological age.

One child was accidentally run over by a skip-loader. Not only must the operators of motorized equipment be aware of children in their vicinity, this is particularly true when the equipment is backing up. Other caregivers must assure that young children are not allowed in the vicinity of operating motorized equipment.


One teenager died from hanging. Preventive issues involved recognition of, and appropriate response to, suicidal ideation.


One infant died of blunt force trauma while in the care of parents. Both family and community recognition of emotionally troubled behavior, violent child rearing practices, and anger management issues may be preventive in some of these deaths.


Although the SIDS rate appears to be declining in our region, there continue to be instances of babies being placed to sleep on their stomachs on soft, unsafe sleeping surfaces (including one in a daycare provider setting). In three deaths, the potential for asphyxia due to the face being placed into soft sleeping surfaces could not be excluded; therefore, these cases were identified as “undetermined.” The adult bed can be a dangerous sleeping environment for an infant,
particularly, when shared with an adult. Adult intoxication significantly increases the risk to the
infant and was an issue in one of the 2007 deaths. Fortunately, unlike previous years, no infants
died while sleeping on a couch. There was one enigmatic death of a one year-old child where no
cause of death or known risk factors could be determined. One death was suggestive of SIDS but
no scene examination or autopsy was performed to confirm the diagnosis.

ADVOCACY ISSUES

Although the committee believes that its review and subsequent annual reports are in themselves
a form of child advocacy, we did undertake additional advocacy activities in 2007:

1. Members of the committee continued to be active in bringing the Back-to-Sleep message to
the medical and nursing staffs of our regional hospitals and through education of child care
providers. Efforts to continue to spread this information to all who provide care to babies must
continue.

2. The committee is actively exploring avenues to tighten licensing requirements for child care
providers in South Dakota. As a part of this effort, we are looking at methods of including the
Back-to-Sleep message in the educational requirements for licensure. In addition, we are
working on pamphlets that explain the Back-to-Sleep message that can be mailed to existing
child care providers.

3. The committee's 2006 Annual Report was published in South Dakota Medicine in 2007. We
hope that this will be a continuing publication that will alert all of the state's physicians to health
risks confronting our infants and children. It is our desire that this publication may also
encourage others throughout the state to formulate similar infant and child death review
committees.

4. The committee’s review of Brookings County cases continues to contribute to the efforts
required for South Dakota State University’s Vanguard Site of the National Children’s Study, a
20-year longitudinal research project that will examine the effects of environmental variables
upon children’s health and development.

5. Local coroners have been reminded of the necessity of autopsy examination in cases of
Sudden Unexpected Infant Deaths (SUID).
SUMMARY OF PREVENTION ISSUES

The Regional Infant and Child Mortality Review Committee concludes its report with the following recommendations (listed in the order we believe may prevent the most deaths and which will be the easiest to implement; starred items are repeats from the 2006 report.):

1*. **ALL INFANTS SHOULD BE PLACED ON THEIR BACKS TO SLEEP.** Side sleeping is not recommended. Hospitals, physicians, and other health care providers must emphasize the need to place infants on their backs to sleep and to model this in their infant care practices. We should be careful not to prematurely ascribe a continuing low number of true SIDS deaths to a marked improvement in the percentage of back sleeping infants in our region since the number of infant SUID deaths may be relatively constant over the years. The actual percentage of back sleeping in our region is unknown. Furthering understanding of the essential need for babies to be placed on their back for sleep demands the effort of all those in communities who care for infants.

2*. **INFANTS SHOULD NOT BE PLACED ON OR NEAR SOFT BEDDING, BLANKETS, QUILTS, OR PILLOWS, particularly while sleeping (even if on their backs) or unsupervised.** Even for infants sleeping on their backs, adults must exercise extreme caution when sleeping with infants if intoxicated or otherwise mentally impaired. Although there is considerable controversy regarding the dangers of adult-infant co-sleeping, the adult bed with its soft covers and pillows is inherently dangerous for sleeping infants. Couches and soft chairs are a particularly dangerous environment for infants, especially if shared with an adult. An additional risk associated with soft bedding is the potential overheating of sleeping infants (likewise caregivers should be careful that the environmental temperatures where infants are sleeping are comfortably in the lower “room temperature” range).

3*. Maternal ethanol use is a known risk factor for SIDS/SUID and did play a factor in one 2007 infant death. Maternal smoking, both during and after pregnancy, also represents a risk factor for SIDS/SUID. Secondhand smoke also is a SIDS risk factor. Parents should make every effort to restrict the use of alcohol, tobacco, and illicit drugs for the well-being of their infants, both before and after the baby’s birth. We encourage the creation of programs that assist parents in abstaining from tobacco and alcohol use. After adherence to the Back-to-Sleep program of safe sleeping, cessation of maternal smoking during, and after pregnancy, is the next best way to prevent SIDS.

4*. Youthful inattention and inexperience are a dangerous combination as teenagers begin their driving careers. Adults must assume the responsibility of assuring that older children are ready for the temptations (speeding and “fooling” around) and challenges of driving (including difficult driving conditions) along with the awareness of the distractions that may be present when multiple teenagers are riding in the same vehicle. The combination of youthful driving and inexperience with alcohol drinking is doubly lethal. Additionally, as adults, if we buckle up our seat belts every time we enter a motor vehicle, and avoid the mix of alcohol use and driving, we
will be modeling responsible behavior for our children to imitate and critical for family safety now and in the future.

5*. Although none of this year's review deaths addressed this concern, we continue to believe that older children often do not have regular physical check-ups. As a committee, we recommend that all children have periodic physical examinations to detect potentially preventable illnesses.

Report submitted by the Regional Infant and Child Mortality Review Committee:

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