SPOKANE COUNTY
CHILD DEATH REVIEW COMMITTEE

REPORT OF ACTIVITIES
1996 - 1998

SPOKANE, WASHINGTON
DECEMBER 1999

TABLE OF CONTENTS

FORWARD

Since the early 1980s, health and social service professionals in many locations in the United States have developed effective models for reviewing child deaths. Rising numbers of child maltreatment deaths have been one major factor in the call for a comprehensive, multidisciplinary approach to child death review. "In 1990, the United States Advisory Board on Child Abuse and Neglect declared the maltreatment of children to be a national emergency. . . . In 1992, in re-authorizing the Child Abuse Prevention and Treatment Act, Congress mandated the U.S. Advisory Board to report. . . on how our nation might develop a more reliable national data collection system on child abuse fatalities, how we might promote a better federal response to this tragedy, and what steps should be taken to prevent child maltreatment fatalities." * In Spokane County, an attempt at coordinated, multidisciplinary review began when professionals asked the following questions:

- What do we know about child deaths in Spokane County?
- Are some of the child deaths occurring in Spokane County either preventable or mislabeled?
- Can agencies charged with child death investigation improve interagency communication?
- Can we identify and/or develop strategies to prevent some child deaths?
- Are there unrecognized trends in Spokane County child deaths that require public health interventions or responses from other agencies?

Spokane professionals from the Health District, child advocacy agencies, the medical community, law enforcement, the Medical Examiner's Office, the Emergency Medical System, Department of Social and Health Services, and the Prosecutor's Office have donated many hours of volunteer time to make this effort possible. The Spokane County Child Death Review Committee (SCCDRC) reviews child deaths to understand better the actual causes and contributing factors for deaths of children in Spokane County. By characterizing patterns of child death here, the SCCDRC may help this community develop strategies to prevent unnecessary loss of life in childhood.

In 1997, Governor Gary Locke issued an executive directive to create a statewide child death review system. Currently, the Washington State Department of Health (DOH) is setting up the system to assist local teams to perform multidisciplinary, county-wide reviews in all jurisdictions. Workgroups from a spectrum of agencies and professions have developed standards for data collection and guidelines for the review process which DOH has distributed widely. Thus far, 28 teams have been assembled and 20 have begun performing local death reviews. Comprehensive, coordinated state wide child death review is taking shape as an attainable goal worthy of the sustained effort and support of many concerned professionals.

* Alexander, R, Ed: *The APSAC Advisor*, American Professional Society on the Abuse of Children, V. 7, No. 4, Winter 1994, p. 3 ff. (see bibliography)

SPOKANE CHILD DEATH REVIEW COMMITTEE ROSTER

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The Spokane County Child Death Review Committee (SCCDRC) would like to give special recognition and thanks to the following professionals who donated time to assist in the development of this report. In the words of Dr. Michael Durfee, founder of the Los Angeles County team, child death review teams have expanded rapidly, "... essentially without money or mandate. . .multi-agency staff who are on or near the line seem naturally to know the value of working together." The painful awareness of professionals who work closely with these unfortunate families compels them to seek prevention strategies, protection for survivors, and justice for the dead.

Our special thanks to past members of the SCCDRC and to Spokane professionals listed below who helped in the effort, as well as many others who were supportive and cooperative.

Former SCCDRC Members:

Dexter Amend, MD, Spokane County Coroner (retired)
Mary Ann Brady, Spokane County Prosecuting Attorney's Office
Dawn Cortez, Spokane County Prosecuting Attorney's Office (retired)
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Sergeant Jim Lundgren, Spokane Police Department (retired)
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ORGANIZATION OF CHILD DEATH REVIEW IN SPOKANE COUNTY

The Spokane County Child Death Review Committee (SCCDRC) is composed of professionals from many fields who gather monthly to review data relating to any deaths of children within Spokane County. The committee has as its stated mission:

Mission Statement

"The purpose of the committee is fundamentally that of professional education. By their participation, committee members improve interagency communication and cooperation, and develop recommendations necessary for system improvements in child death investigation.

"The Spokane County Child Death Review Committee reviews extensive pertinent information on child fatalities occurring in Spokane County to determine what, if any, information or responses might have prevented the fatalities. The Committee develops strategies to identify and address local issues and trends affecting child fatalities and advocates for change where appropriate."

To pursue the overall mission it had defined for itself, the Committee developed a set of graduated, outcome-oriented goals. Although they were chosen so that each could be pursued independently, advances in each area potentially could facilitate the others. The goals of the SCCDRC are:

Spokane County Child Death Review Committee Goals

- Describe patterns and trends of child death in Spokane County.
- Improve interagency cooperation and communication in child death investigation.
- Educate professionals about child death investigation.
- Improve the sources of data collection by developing forms and protocols for autopsy, death scene investigation, medical record review, and social service review.
- Coordinate with state-level child death review system.
- Create a model for multidisciplinary county-wide child death review.
- Create a system for aggregate data collection analysis and reporting.

In 1993, the Washington State legislature enacted a law defining the purpose and rules governing local mortality review teams for infants who died at less than one year of age. It enabled the SCCDRC to conduct more thorough reviews of infant deaths using any pertinent data available from each of the member agencies while still maintaining medical and legal standards of

confidentiality. In January 1994, new legislation sanctioned extending comprehensive reviews to deaths of all children from birth through age 17. At that point, child death reviews in their current format began in Spokane County.

Legal Issues and Confidentiality

In 1993, the Washington State legislature enacted laws codified in RCW 70.05.170, "Infant Mortality Review," which helped clarify and define the need, purpose, and legal operation of death review teams for infants less than one year of age. The statute does not prescribe the membership of the teams other than citing "local health department officials and employees, and health care professionals," and calling for a ". . .team of professionals in order to identify modifiable medical, socioeconomic, public health, behavioral, administrative, educational, and environmental factors." In January 1994, Washington State Senate Bill 5205 revised RCW 70.05.170 as "Child Mortality Review," extending comprehensive reviews to deaths of all children from birth through age 17 (i.e., up until the eighteenth birthday). (See Appendix A.)

In the 1997 Legislative Session, RCW 43.79.445 was amended to provide that "Funds from the death investigations account may be appropriated during the 1997-99 biennium for the purpose of the statewide child mortality reviews administered by the department of health." Also, a budget proviso in SHB 2259, section 212 (19) mandated that some funds in the death investigations account appropriation would be provided solely for the implementation of state-wide child mortality reviews. Local health jurisdictions will coordinate child mortality review protocols and serve as the appointing authority and lead agency for local child death review teams.

The enabling legislation for child death review committees specifies that all proceedings and records are wholly confidential and immune from subpoena or discovery. It does not prohibit or restrict the reporting of child abuse or neglect in cases which the SCCDRC has reviewed. Such reports, however, take place through the usual reporting protocols to agencies mandated to investigate them and not through the SCCDRC.

The SCCDRC provides all Committee members and visitors with a copy of this statute and has them sign a confidentiality statement consenting to abide by it. (See Appendices B1 & B2.) Committee attendees take no notes at the meetings regarding the cases discussed, and minutes do not include case history identifying information. All case-identifying data are maintained as secured, confidential information available only to SCCDRC members exclusively for the purpose of child death review and compilation into aggregated reports.

The issue of obtaining access to records intermittently poses a problem for the SCCDRC. The Committee has been working to define the extent to which records will be available for review including medical records, vital statistics records, and other data. To that end, it has sought the advice, assistance, and cooperation of other agencies, including the Washington State Center for Health Statistics and the Washington State Attorney General.

State Level Activities

The Washington State Child Death Review and Prevention Team, a multidisciplinary group which met from 1990 through 1998, included representatives from state, local, and federal agencies involved in providing services to children and families and collecting information about children's health, as well as legal and law enforcement agency staff. A representative of the Spokane County Child Death Review Committee regularly attended the state team meetings. The state team did not do direct, centralized case reviews. It encouraged local teams drawn from community agencies to do individual child death case reviews and promoted child death review in counties throughout the state by disseminating information about comparable efforts elsewhere.

The state team was actively involved in issues of legislation affecting child health and safety or facilitating child death review processes. During the 1995 session, the Washington State Legislature passed Substitute House Bill SHB 1035 mandating the Washington State Department of Health and Department of Social and Health Services to develop a consistent process of review of the deaths of children receiving child welfare services. In November 1995, the Department of Health published "A Strategy to Answer, 'Why Do Children Die?'". This report provided a profile of child deaths in Washington State and outlined a plan for standardized local child death review.

In December 1995, the Department of Health and Department of Social and Health Services submitted a report to the Legislature, "SHB 1035 Child Death Review". This report established the foundation of Department of Social and Health Services Children's Administration policy and proposed an administrative model for community based child death reviews. In the 1997 Legislative Session, RCW 43.79.45 was amended to provide that "Funds from the death investigations account may be appropriated during the 1997-99 biennium for the purpose of statewide child mortality reviews administered by the department of health." In addition, a budget proviso in SHB 2259, section 212 (19) mandated that some funds from the death investigations account appropriation would be provided solely for the implementation of state-wide child mortality reviews.

In response to this situation, in 1997 Governor Gary Locke issued an executive directive to create a child death review system. At Governor Locke's request, Secretary for Health Bruce Miyahara appointed The Child Death Review Workgroup which developed the design for a comprehensive child death review system involving every county in Washington State. The goal of the system is to reduce preventable deaths among Washington's children. The Workgroup issued a position paper, "Recommendations for A Child Death Review System for Washington" in January 1998.

DOH dissolved the Washington State Child Death Review and Prevention Team in 1998 in order to restructure the underlying organization more suitably for an integrated, statewide child death review system. Several workgroups were created to develop a standardized dataset for local teams to use, to develop policies and procedures by which local child death review teams can operate, and to define the relation between local teams and the Department of Health Child Death

Review System (DOH CDRS). As it is now structured, local health jurisdictions will serve as the appointing authority and lead agency for local, multidisciplinary child death review teams. The local teams will develop protocols incorporating data standards and processes consistent with DOH guidelines and will conduct reviews of sudden or unexpected deaths of children from birth through seventeen years of age.

Deidentified child death review data which local teams generate will be transmitted to the DOH CDRS data repository at regular intervals. DOH staff will aggregate and analyze the data for issuance of statewide reports, and will serve as an informative resource to local teams as they perform actual reviews. In 1999 the DOH CDRS developed and distributed a standard format child death review data collection form. Initially this form was provided in hard copy only to local child death review teams with an associated instruction set. More recently, DOH CDRS also has developed a computerized database application with the same data elements to allow local teams to collect and maintain the same information as a computerized database.

Ethical Concerns

Occasionally the Spokane County Child Death Review Committee encounters procedural problems with records submitted in the course of reviewing a case. If potential errors or discrepancies in data are discovered, the information is referred through the committee member back to the source agency for resolution. If the data reviewed suggested that a crime, hitherto undiscovered, had been committed, then the agency with clear responsibility in that area (such as Child Protective Services or law enforcement) would investigate and resolve the issues according to its own internal protocols. Since the SCCDRC does not have a mission of case investigation, it does not duplicate the activities or maintain oversight of any participating agency.

Child Death Review Committee Procedures

The SCCDRC meets monthly to consider cases of children whose deaths have been reported to the Spokane County Health District Vital Records Office. From 1994 through 1998, these deaths included all children from birth through 17 years of age (i.e., less than 18 years of age) who died in Spokane County, regardless of their county, state, or country of residence. No fetal deaths were reviewed. The committee's experience was that out-of-county resident and out-of-county occurrence child death case reviews often were ineffective, lacking necessary portions of data despite substantial resource and staff time spent seeking them. Furthermore, the implementation of a state child death review system increases the likelihood that each case will be reviewed in the decedent's county of residence. These factors led SCCDRC to choose for 1999 cases onward to review only Spokane county resident cases unless there is some compelling issue for local

review of a specific out-of-county case. Such issues might include aspects of a nonresident death which highlight a local system issue problem potentially affecting health or safety of Spokane County residents, or at the request of another jurisdiction to use SCCDRC resources to facilitate their own local review process.

The data sources for case review include: death certificates, autopsies, medical records, records from Department of Social and Health Services Child Protective Services (CPS) and other social service providers, from the Medical Examiner's (formerly Coroner's) office, the City of Spokane Police Department, the Spokane County Sheriff's Department, Spokane County Prosecuting Attorney's Office, Spokane County Emergency Medical Services, Health District Community and Family Services, Community Mental Health, and Casey Family Partners (a regional center for child abuse and neglect). The SCCDRC reviewed standards and forms developed by member agencies for review of death scene investigations, autopsy of SIDS and suspected maltreatment death, medical records review, law enforcement investigations, and Coroner's/Medical Examiner's reports. CPS also provided model data forms for social services review of child deaths which basically parallels their internal review process. These worksheets are structured to provide at the least what the SCCDRC considers the minimum data to resolve pertinent questions arising from a child's death.

Death certificates also were assessed for adequacy. The death certificate is considered to provide adequate information if the manner of death, cause of death, circumstances of death and certifier (usually the Coroner/Medical Examiner, attending physician, or their designee) are all noted on the death certificate; the certifier is qualified; and the information recorded is correct, within the limits of the Committee's evaluation. Because the Committee often had limited access to medical records and did not have a nosologist at its disposal, it did not focus on precise verification of death diagnoses according to the International Classification of Diseases (ICD9) coding system. Death diagnoses were considered adequate if they were consistent with the medical history available and a common-sense interpretation of the circumstances of death. Although simplistic, this approach left very few diagnoses problematic.

Maintaining the confidentiality of case-identifying information is a primary concern and objective at each stage of data collection and analysis. In collecting and aggregating such information, another important consideration is to develop the capacity to produce reports that are comparable with the products of other states and localities. Prior to 1999, there was no established, universal minimum data set for child death review, either nationally or statewide. Each local committee used methods and models consistent with the concerns of its community and commensurate with the resources at its disposal. In 1999, under the leadership of DOH, multiagency workgroups developed a standardized data collection instrument, both in hard copy form and as a computerized database application, and consensus guidelines for child death review procedures. (For further information contact: Vicki Sussman Gaelen, CDR Data Coordinator, at: vickisussman.gaelen@doh.wa.gov.) As more child death review committees become operational within Washington State, the incentives to use consistent methods hopefully will promote local acquisition of coherent, comparable data.

The SCCDRC is a multi-agency group composed of representatives with a broad range of training and expertise. It does not duplicate the data collection, analysis processes, or specialized investigative roles of any single, constituent agency. For example, the committee does not attempt any sort of "morbidity and mortality" medical review such as hospitals employ as part of their quality assurance activities, nor the complex legal evidentiary analysis appropriate to law enforcement agencies and prosecutors.

By examining information assembled from multiple agencies and sources, the committee has a better opportunity to observe the way community-wide problems can present separate aspects to different agencies. Underlying determinants of the events and circumstances leading to a child death are more easily recognized when presented collectively and from different points of view. Conducting reviews of resident child deaths can reveal recurrent patterns undetectable by selective review and prevent misplaced emphasis on factors which, though dramatic, occur only sporadically.

Prior to 1999, SCCDRC chose to review all child deaths in Spokane County, both of residents and nonresidents, hoping to gather the most informative data by casting the broadest net. Functionally, the Committee found that seeking information from out-of-county resources often posed a substantial obstacle to case review. It often was not able to obtain useful or necessary case report data despite substantial investment of staff time. With the advent of a statewide child death review system, the nonresident cases are now likely to undergo review in their counties of residence, which relieves SCCDRC of the need to assure adequate review of those cases.

Significantly, deaths of Spokane County residents who die in other localities are not reported locally, nor are data presumptively available for local review. There is a data system for Early Notification of Child Deaths (ENCD) at the Washington State Department of Health, Center for Health Statistics. In the SCCDRC's experience, the data system in its current form is not yet fully enabled to promote cross-jurisdictional case notification. The anticipated revised ENCD may expedite the review of out-of-county deaths of children in their county of residence. The DOH Child Death Review System staff and local child death review teams are discussing issues involving making agency records available to out-of-county local teams for review.

Child Death Review Methods and Definitions

The methods described in this section pertain to the review of 1996 through 1998 SCCDRC records using the data instruments and protocols locally developed. In future reports, these approaches will be modified by a review process transition to incorporate the data collection instruments and protocols developed by DOH Child Death Review System staff along with local review team participants.

SCCDRC Data Summary Review Record

As each case is considered using the professional specialty-specific worksheets, the SCCDRC completes and retains a computerized, summary evaluation data record. It contains a group of data elements which the Committee has come to regard as a minimal data set for interpreting individual case events and for aggregate and comparative purposes. The first section of the data record essentially parallels the death certificate submitted to the SCCDRC Vital Records Deputy Registrar. The second section examines issues particularly germane to child deaths. (See Appendices C1 - C3.) SCCDRC data currently are maintained in a confidential, computerized database which facilitates data analysis.

Evaluation Criteria

Cause of Death: There are three death certificate fields for the certifying physician to enter the proximate (or most immediate) cause of death, followed by underlying causes of death. All of these are entered verbatim into a SCCDRC database death certificate entry screen field. The database also has three separate entry fields for the Committee to enter one of 12 broad categories for primary and underlying causes of death:

Heart disease	Lung disease	Stroke	Renal disease
Gastrointestinal disease	Neurological disease	Infection	AIDS
Congenital malformations	Trauma	Poisoning	SIDS

These are useful for a summary partition of the relatively small amount of data, which would be overly fragmented by ungrouped WHO ICD-9 classification.

Manner of Death: This is a data field on the death certificate which permits five different options: accident, homicide, suicide, pending investigation, or indeterminate. A blank field left on the death certificate corresponds to a natural manner of death. These six options were incorporated as choices in the SCCDRC database death certificate entry screen.

Standards for Adequacy of Review

A child death case review was considered **adequate** if the components critical to that particular inquiry were available and complete. Clearly, these criteria vary markedly according to the case under consideration. Although a police report and death scene investigation would be crucial to review the death of a battered child, it would be less pertinent to a post-partum, in-hospital death of a child born with fatal congenital malformations.

In general, an accurately completed death certificate always is necessary for an adequate review. Other useful, often necessary data include:

- A complete medical death summary or discharge note
- A death scene investigation by the Coroner's/Medical Examiner's representative and/or a law enforcement agency
- A forensic autopsy by a forensic pathologist trained in child abuse, neglect, and injury recognition
- A record of social services and/or Child Protective Services involvement.

In the SCCDRC data summary review form, deaths are evaluated in three categories:

- **Maltreatment** (including abuse, neglect, or both)
- **Intentional injury** (including homicide and suicide)
- **Unintentional injury** (equivalent to accident)

For many deaths, such as most deaths due to natural causes, none of these categories may be applicable. For each category, a minimal set of descriptors describes relevant factors; for example, each includes drug or alcohol abuse associated with the event. Each section includes a "Comments" field to allow pertinent data to be recorded which lies outside the usual descriptors. The term "unintentional injury" is used rather than "accident" to avoid the connotation that the event was fated and inevitable, rather than potentially preventable. "Unintentional injury" is essentially value neutral in terms of preventability.

Maltreatment can be an element in deaths which are the result of either intentional or unintentional injury. Intentional or unintentional injury, however, are mutually exclusive categories. Unfortunately, making the distinction sometimes is problematic. Solitary driver, single motor vehicle accident fatalities sometimes are suicides, for instance, and often are indeterminate. Likewise, law enforcement investigations often are required to distinguish unintentional injury deaths from homicides with certainty.

Child death records the Committee reviews may include information regarding abuse or neglect in the decedent's history or in the history of other family members. Often, it is unclear whether the patterns described in the history bear some relation to the terminal events. Limiting the Committee's attention to those few cases with such a definite link would have concealed the pervasive but elusive influence which such patterns play in deaths of children. To avoid drawing unwarranted conclusions about causality, the Committee has chosen to report neglect and abuse history as an associated factor, recognizing the limited information that is the basis for evaluation. SCCDRC criteria for neglect include situations in which an isolated lapse in supervision (i.e., not habitual) leads to a child's death. This reflects the committee's focus not on who is at fault, but rather on whether the death could have been avoided or prevented.

Standards for Preventability

The final question the SCCDRC considers in reviewing each child death is whether it was **preventable**. A death was considered preventable if, within current or reasonably projected

community resources, interventions were available that might have prevented the death from occurring. The SCCDRC designated deaths as preventable only within the limits of its ability to evaluate. For example, in-depth medical practice review or legal analysis of criminal culpability were considered beyond the scope of the committee. Similarly, although some cases of child death can be viewed as the outcome of inadequate social support systems for the children's caregivers, the Committee lacked the data and resources to evaluate social settings extensively. This is a cautious standard for preventability rather than a widely inclusive one, which in the individual cases was less subject to speculation or dispute.

Examples of deaths considered preventable by this criterion are:

- Motor vehicle accident deaths in which safety restraints were not used
- Deaths pursuant to lack of child supervision in dangerous circumstances
- Deaths involving the impairment of an equipment operator or child supervisor due to drug or alcohol intoxication
- Deaths involving intentional injury to others with firearms or other weapons.

Preventability was classified **indeterminate** in cases for which the SCCDRC was not capable of meaningfully evaluating particular cases or could not propose feasible interventions, including:

- SIDS deaths, since (despite the apparent effectiveness of the "Back to Sleep" campaign) no single intervention has yet been demonstrated to abate SIDS risks in all cases
- Suicides, for lack of criteria to distinguish which cases are amenable to intervention and which are not
- Deaths from medical conditions or subsequent to medical treatment which would be more effectively evaluated in the setting of hospital morbidity and mortality review
- Deaths which involved equivocal legal or investigative evidence of abuse, neglect, or inflicted injury beyond the scope of the Committee to resolve
- Any record for which data were insufficient for informed judgment.

All other deaths the SCCDRC classified as **not preventable**, including:

- Medical deaths which are an expected outcome of a disease process, such as many severe congenital malformations or childhood cancers
- Natural disasters, such as floods, forest fires, or hurricanes
- Extreme prematurity incompatible with life.

Evaluators in other settings (e.g., medical morbidity and mortality reviews and legal proceedings) may have better access to data or more specialized expertise in particular cases. That may enable them to decide whether some of the cases the SCCDRC considered indeterminate potentially were preventable by their standards.

1996-1998 CASE REVIEW DATA AND DISCUSSION

Preventability of Deaths in Spokane County

(For causes of death classified as preventable, see Pages 13 and 14.)

Figure 1: Child Deaths in Spokane County, 1996 through 1998, Preventable by SCCDRC Criteria

Among the causes and manners of death considered preventable by SCCDRC criteria, most are traumatic in nature. They include: all intentional homicides; all accidental deaths amenable to intervention; and those natural deaths for which a readily accessible and widely understood remedy was available but was not provided.

Of the 52 child deaths classified as preventable on 1996-1998 death certificates, 31 were Spokane county residents. Thirty five cases, 23 of them Spokane county residents, were unintentional injuries (accidents). Twelve cases of homicide were classified as preventable, including for six Spokane county residents. The homicides included five gunshot wound deaths, four blunt trauma deaths, one stabbing, one "shaken baby" head injury including bleeding in the head, and one motor vehicular homicide. Two natural deaths were considered probably preventable on the basis of inadequately treated medical conditions.

Adequacy of Review

In reviewing records of the events surrounding child deaths, the SCCDRC on a number of occasions found the available records were insufficient to resolve essential questions. In some cases that reflected lapses in methods by which the resource agencies acquired data. In other

cases the data was not accessible because of legal, confidentiality, and agency protocol constraints; and in others the reason could not be determined. The cases are presented by category of death. Child death investigation information for out-of-state residents often was unavailable, and also was difficult to obtain for decedents who were residents of other Washington counties. Child death scene investigations of sudden infant deaths (SIDS) occurring in private residences often were incomplete. Although the number of case reviews considered inadequate in 1996 and 1997 were (respectively) 16 and 18, in 1998 only three reviews were categorized as inadequate.

Table 1: Adequacy of Data Reviewed, by Category of Death

Category of Death	Inadequate Portion for Review
Deaths from medical conditions/ natural causes other than SIDS - 12 cases	• death certificate only data source for 9 cases • death certificate not properly completed for 3 cases • Coroner's office report inadequate for 2 cases • autopsy report inadequate for one case • law enforcement report inadequate for one case • death scene investigation inadequate for one case • medical record inadequate for one case • CPS record inadequate for one case
SIDS deaths - 12 cases	• death certificate only data source for 2 cases (one out-of-county) • medical record inadequate for two cases • death scene investigation inadequate for 7 cases • law enforcement report inadequate for one case • Coroner's office report inadequate for 7 cases (one out-of-county) • autopsy report inadequate for one case

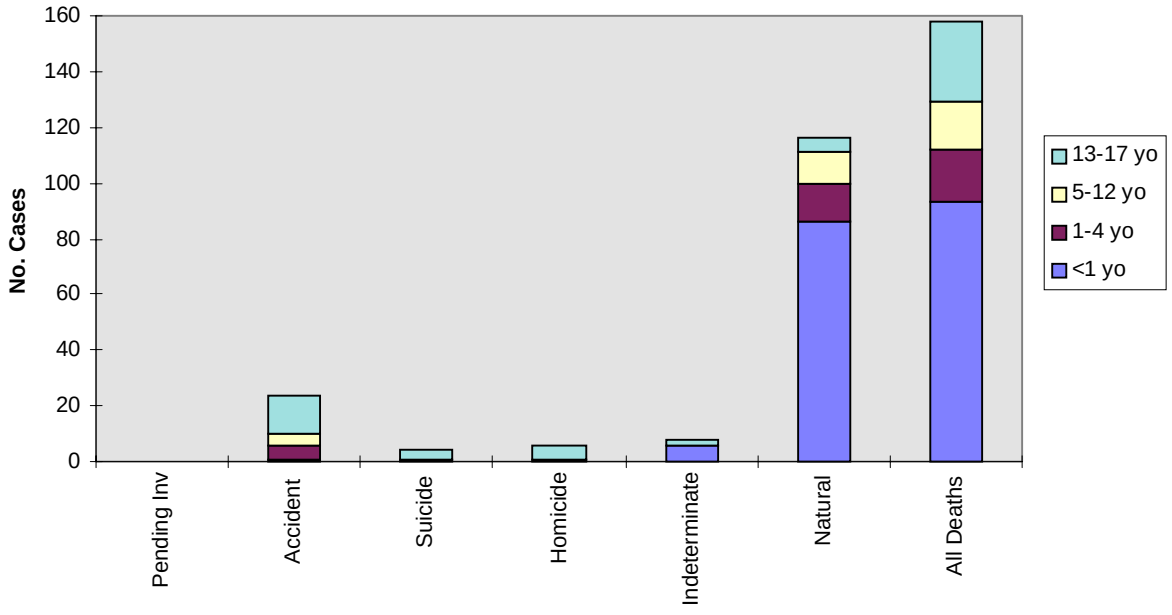
Table 1, cont'd: Adequacy of Data Reviewed, by Category of Death

Category of Death	Inadequate Portion for Review
Trauma deaths - intentional and unintentional injuries	
Accidents - six cases, five drownings, one compression asphyxia	• one out-of-state case, death certificate was the only available information • four cases with incomplete death scene investigations (one law enforcement, three coroner's office investigations of out-of-county cases) • one out-of-county case with inadequate autopsy results • one out-of-county case CPS record
Suicide - four cases	• no autopsy done in 4 cases • Coroner's office data inadequate in 4 cases • death scene investigation inadequate in 1 case
Homicide - four cases	• one out-of-state case with no data available except death certificate • one out-of-state case with inadequate medical record • one out-of-state case with inadequate CPS record • two cases with inadequate Coroner's office reports • one case with inadequate autopsy report

Manner of Child Deaths in Spokane County, 1996-1998

The "manner of death" field in the SCCDRC database is as recorded on the death certificate, unless there is a clear indication that the death certificate entry is erroneous. The death certificate entry field permits five different options—accident, homicide, suicide, pending investigation, or indeterminate—or may be left blank on the death certificate, corresponding to a natural manner of death. As the charts show, the frequency of each manner of death differs markedly according to age groups. Broadly speaking, natural deaths are much more likely to occur in infants and younger children, while young adolescents are more at risk than other age cohorts for accidental, suicidal, or homicidal events. Although proportionally less younger children die unintentional injury deaths, these events do occur, as is discussed in the categorical sections below.

Figure 2: Child Deaths in Spokane County Residents From 1996 through 1998 by Age and Manner of Death



(NB: Decedents may have multiple and /or related causes of death.
NB: "Pending Inv" = pending investigation)

Figure 3: Child Deaths Other Than Natural Deaths in Spokane County Residents From 1996 through 1998, By Age and Manner of Death

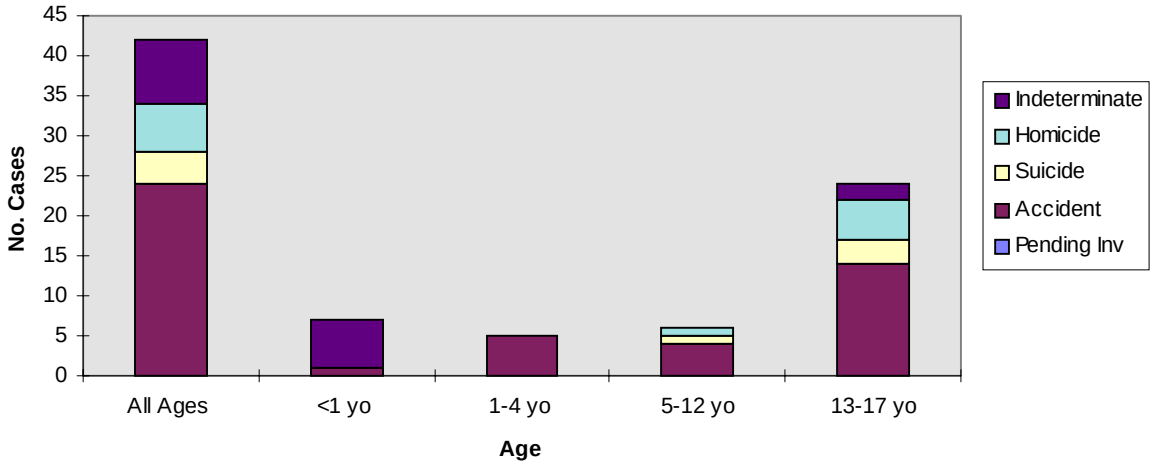
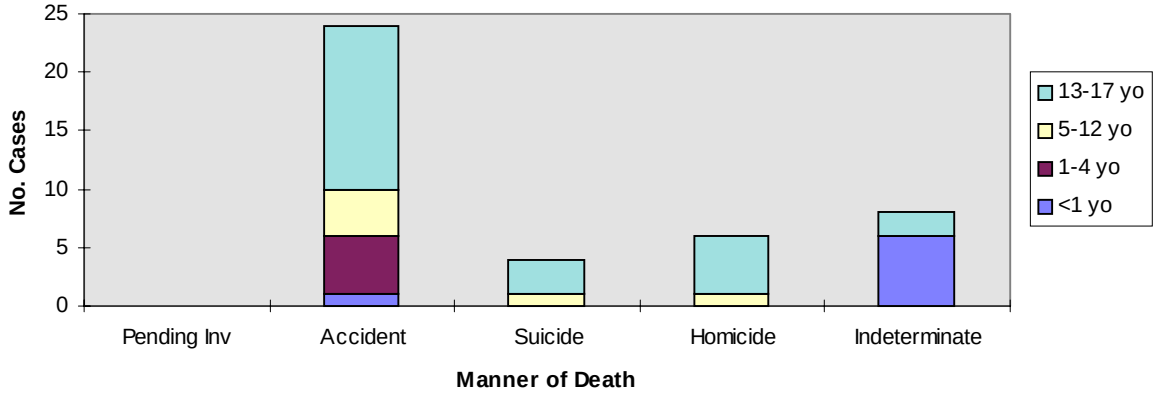


Figure 4: Child Deaths Other Than Natural Deaths In Spokane County Residents From 1996 through 1998, By Manner of Death and Age



(NB: "Pending Inv" = pending investigation)

Figure 5: Child Deaths in Spokane County Residents Less Than One Year Old From 1996 through 1998 by Manner of Death

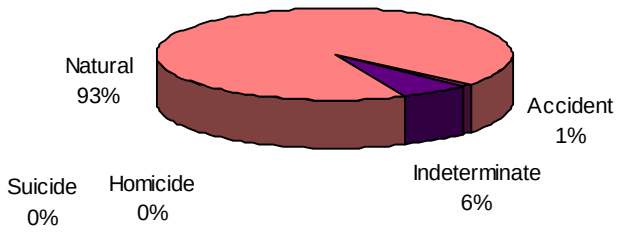


Figure 6: Child Deaths in Spokane County Residents from One through Four Years Old From 1996 through 1998 by Manner of Death

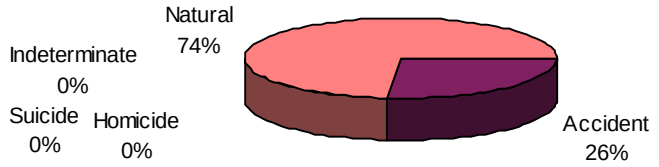


Figure 7: Child Deaths in Spokane County Residents from Five through 12 Years Old From 1996 through 1998 by Manner of Death

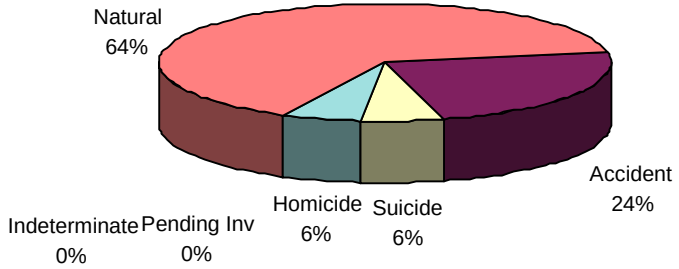
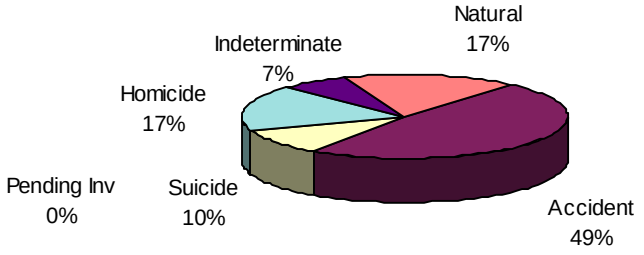


Figure 8: Child Deaths in Spokane County Residents From 13 through 17 Years Old From 1996 through 1998 by Manner of Death



(NB: "Pending Inv" = pending investigation)

CATEGORICAL REVIEW

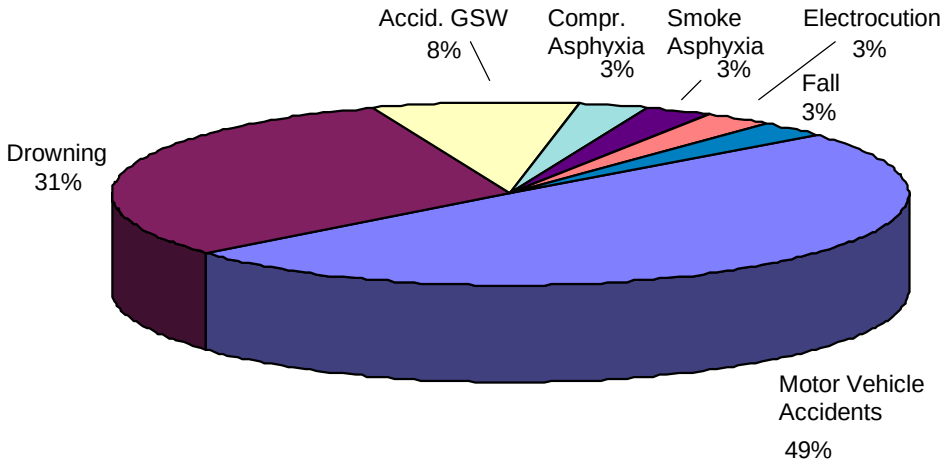
Unintentional Injury Deaths

Unintentional injury deaths to children constitute the largest category of preventable child deaths in Spokane County from 1996 through 1998. Of the 37 child deaths classified as accidents on 1996-1998 death certificates, 24 were Spokane county residents. Of these, 35 cases overall and 23 resident cases were considered preventable deaths. One accidental death not considered preventable was a case of a child struck by lightning. In another, a nonresident case for whom adequate data was not accessible, preventability was considered unknown. For both resident and nonresident cases, more accidents were reported as manner of death in the 13-17 year old group than in any other age category. (See Figure 3).

Table 2: Accidental Child Deaths, Spokane County 1996-1998, by Age Category and Residency

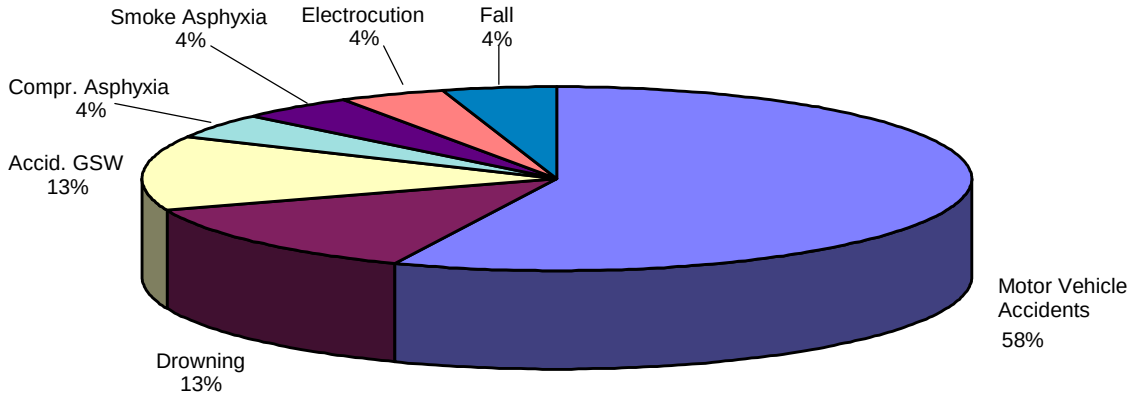
Accidents	All Ages	< 1 yo	1-4 yo	5-12 yo	13-17 yo
Spokane Resident	24	1	5	4	14
Nonresident	13	1	5	2	5
All cases	37	2	10	6	19

Figure 9: All Accidental Child Deaths in Spokane County, 1996 through 1998, by Causes of Death



(NB: "Accid. GSW" = accidental gunshot wound and "Compr. Asphyxia" = compression asphyxia)

Figure 10: Accidental Child Deaths in Spokane County Residents, 1996 through 1998, by Causes of Death



(NB: "Accid. GSW" = accidental gunshot wound and "Compr. Asphyxia"= compression asphyxia)

Table 3: Accidental Child Deaths, Spokane County 1996-1998, by Causes of Death by Residency

Cause of Death	All Cases	Spokane County Resident Cases	Nonresident Cases
motor vehicle accident	18	13	5
drowning/asphyxia	11	3	8
accidental gunshot wound	3	3	0
compression/asphyxia	1	1	0
smoke inhalation/asphyxia	1	1	0
electrocution	1	1	0
lightning	1	1	0
fall	1	1	0

Of note, motor vehicular accidents (MVA) accounted for nearly half of accidental deaths and more than half of preventable accidental deaths. Likewise, drowning accidents accounted for nearly one third of accidents and more than one third of of preventable accidental deaths. Accidental gunshot wound deaths accounted for nearly 1/12 of accidents. Although drowning deaths were noted in all childhood age brackets, accidental gunshot wound deaths occurred only among the 13-17 year old cases, and MVA deaths occurred most frequently in the same group. (See Tables 4 and 5.)

Table 4: Drowning, Gunshot Wound, and Motor Vehicle Victims among All Reported Accidental Child Deaths, Spokane County 1996-1998, by Age Categories

Cause of Death	All Ages	< 1 yo	1-4 yo	5-12 yo	13-17 yo
Drowning	11	1	5	2	3
Gunshot Wound	3	0	0	0	3
Motor Vehicle Accidents	18	0	3	4	11

Table 5: Drowning, Gunshot Wound, and Motor Vehicle Victims among Spokane County Resident Accidental Child Deaths, Spokane County 1996-1998, by Age Categories

Cause of Death	All Ages	< 1 yo	1-4 yo	5-12 yo	13-17 yo
Drowning	3	1	0	1	1
Gunshot Wound	3	0	0	0	3
Motor Vehicle Accidents	13	0	2	3	8

Of all 18 motor vehicle accident deaths, 13 involved documented lack of proper restraints (e.g., seat belts, bike helmets, etc.) Other risk factors were: ten involved excessive speed, seven had evidence of alcohol and drug use, and three involved an inexperienced driver.

For comparison, in 1994-1995, 34 unintentional injury child deaths were reported, 27 of them Spokane county residents. In 1994-1995, the means of unintentional injury death were: motor vehicle accidents (19 cases, 15 residents); drowning (4 cases, 2 residents); unintended asphyxia by suffocation (1 resident case); smoke and carbon monoxide asphyxia (8 resident cases); and hyperthermia (2 resident cases).

Many studies have shown that motor vehicle safety programs and equipment can favorably influence traffic accident outcomes. Seat belts, infant and child carseats, and airbags when properly installed and used, save lives. However, there is often considerable public confusion about how to use car restraints properly and the protection they confer. Among the many safety-related resources for professionals and policy makers are an American Academy of Pediatrics position statement (See: *Pediatrics,* July 1996, v.98, no. 5, "The Teenage Driver") ; the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control (See: http://www.cdc.gov/ncipc/duip/duip.htm) ; and Safe Ride News Publications, 5223 NE 187th St., Lake Forest Park, WA 98155. (See: http://www.twbc.com/srnfront.html .) Safe Ride News serves as a clearinghouse for information about legislation, trends and technologies relating to motor vehicle safety and children.

Unlike other types of traumatic injury causes of death (such as violent or suicidal behavior) which are difficult to predict or modify, unintentional injury outcomes can be modified by well-established strategies. Many programs have successfully curtailed childhood accident rates. Seat belt use, defensive driving, bicycle helmets, pedestrian safety, water safety, smoke alarms and fire safety all have been promoted nationwide with many instances in which lives were saved.

Drowning prevention efforts cannot be overemphasized. Spokane County has many lakes, rivers, streams and pools that pose particular hazards to children and adolescents especially when water temperatures are low. Health care providers, recreation specialists, and public health and safety educators would do well to understand the physiologic and behavioral factors that figure into child drowning deaths. (See: *Pediatrics*, January 1993, v.92, no.2, "Drowning in Infants, Children, and Adolescents".)

In these areas for which specific public interventions have been effective, continued program support has the best chance to prevent child deaths. Also, new technologies are becoming available that can help predict the likelihood of lightning strikes on golf courses and athletic fields. A resource for more information on this new technology is the Lightning Data Center at St. Anthony Hospital in Denver, Colorado. Dr. Michael Cherington, MD has written a concise review of this topic in the April 1995 issue of the Annals of Emergency Medicine.

Suicide Deaths

Of the five child deaths classified as suicides on 1996-1998 death certificates, four were Spokane county residents. One was less than 13 years of age, but the rest were older than 13. Three died from self-inflicted gunshot wounds to the head, and two died from asphyxiation by hanging. In one nonresident case, the source of the firearm was unknown to local agencies; in the other two firearm suicides, the firearms were available unlocked in the home. For comparison, in 1994-1995, there were 10 child suicide deaths ranging in age from 10 to 17 years. In 1994-1995, the means of suicidal death were: self-inflicted gunshot wounds (3), hanging (2), carbon monoxide intoxication (2), jumping from heights (2), and drug overdose (1).

Although the SCCDRC in its reviews does not categorize child and adolescent suicide cases as preventable, many authorities in suicidology propose that, in many persons considering suicide as an option, there are both suggestive signs and potentially effective interventions. Among the many suicide-related resources for professionals and policy makers are the QPR Institute, an organization in Spokane with a systematic approach to suicide prevention (See: http://www.qprinstitute.org); Centers for Disease Control and Prevention's National Center for Injury Prevention and Control (See: http://www.cdc.gov/ncipc/dvp/suifacts.htm ; http://www.cdc.gov/ncipc/dvp/yvpt/suicide.htm); and the American Academy of Pediatrics' position statement (See: *Pediatrics*, February 1988, v.81, no. 2, "Suicide and Suicide Attempts in Adolescents and Young Adults".)

Homicide Deaths

Of the 12 child deaths classified as homicides on 1996-1998 death certificates, six were Spokane County residents. Among these resident homicide deaths, five were between 13 and 17 years old and one in the 5-to-12 year old range. One case was a stabbing death, another was a vehicular homicide death, and the rest were from gunshot wounds. Among the six nonresident deaths classified on 1996-1998 death certificates as homicide, four were less than one year old, one was between one and four years old, and one was between 13 and 17 years old. All the nonresident, homicide victims less than four years of age died from blunt trauma or "shaken baby" syndrome, while the older case died from a gunshot wound. The difference in age distribution and means of injury between resident and nonresident cases may reflect different practice patterns of medical transport from outlying referral centers. Of the five perpetrators of homicidal gunshot wound deaths, two used stolen firearms; one involved an unknown perpetrator and firearm; one perpetrator was a family member using a registered pistol; and one was a stranger using a registered pistol in an altercation with the victim.

For comparison, in Spokane in 1993, six homicidal child deaths in one year (three in children less than eight years old due to familial maltreatment) provided a major incentive to launch the review of all child deaths here. In 1994-1995, there were 10 homicidal child deaths in Spokane county ranging in age from 8 to 17 years, eight of them county residents. In 1994-1995, the means of homicidal death were: blunt trauma (6), intentional gunshot wound(s) (3), and intentional asphyxia (1). Five of the blunt trauma homicide victims were younger than three years of age; four were Spokane county residents.

Table 6: Homicidal Child Deaths, Spokane County 1996-1998, by Causes of Death by Residency

Homicides: Cause of Death	All Cases	Spokane County Resident Cases	Nonresident Cases
All causes	12	6	6
gunshot wound	5	4	1
blunt trauma & "shaken baby" syndrome	5	0	5
stabbing	1	1	0
motor vehicular homicide	1	1	0

As homicide profiles involving young children have shown here and elsewhere, the assailant is often a family member, caretaker, or male friend. Child death review in Spokane County continues to highlight the need for health care, child care, social services, and other professionals and caretakers of young children to watch for, report, and investigate any suspicion or evidence of child abuse. (See: *Pediatrics,* May 1994, v. 93, no. 5, "Death of A Child in The Emergency Department"; and *Pediatrics,* November 1999, v.104, no. 5, "Investigation and Review of Unexpected Infant and Child Deaths".) Although a comprehensive review of factors relating to access to guns by minors and of violence commited upon children by other children (including

adolescents,) exceed the scope of the SCCDRC review process, they continue to be important issues for Spokane County deserving careful scrutiny by our community. (See: *Pediatrics*, January 1999, v.103, no. 1, "Role of The Pediatrician in Youth Violence Prevention in Clinical Practice And at The Community Level"; and *Pediatrics*, April pt. 2, 1992, v.89, no. 4, "Firearms and Adolescents" and "Firearm Injuries Affecting the Pediatric Population".)

Maltreatment Deaths

The number of substantiated child abuse cases reported in America each year far exceeds the number of child maltreatment deaths. In 1992, for example, an estimated nearly one million children were maltreated, but fewer than 2,000 were killed. While most people are aware of the tragedy of child physical or sexual abuse, many are unaware that child neglect can be highly lethal. Child neglect encompasses the failure to provide for a child's basic needs, and/or failure to supervise and intervene appropriately to prevent injury or death. Nationwide, the most common fatal incidents associated with neglect of supervision are fire, falls, drownings, poisonings, and ingestions. Parents cannot prevent all deaths, nor are they held legally to a standard of perfection. Laws in most states hold parents and caretakers to the standard of "reasonable" or "prudent" care.

Because child maltreatment may impair a child's capacity to recover from illnesses, the contribution of abuse or neglect to the outcome of a concurrent disease process such as an infection is not certain. The SCCDRC noted any case of a child death that occurred in an abusive or neglectful setting whether or not the abuse or neglect directly contributed to the death. In the cases the committee reviewed, neglect, abuse or a lack of age-appropriate supervision usually were well documented.

In reviewing 1996-1998 child deaths, the SCCDRC noted 25 cases which suggested circumstances with abuse, neglect, or both. Of these, 14 were Spokane county residents (see Table 8). Among the resident deaths, three were homicides (one adolescent by a boyfriend, one adolescent by a combatant, and one younger child by a mother). Two were suicides with history of abuse or violence in their families. Six cases had histories suggestive of inadequate supervision, including: three drownings, one bicycle/motor vehicle collision, one fall, and one asphyxia in a fire. One case considered a natural, infectious death had a history of medical neglect. Two SIDS cases had family history indicative of neglect which was not considered directly associated with their deaths.

Among nonresident 1996-1998 child deaths which suggested abuse, neglect, or both, two were motor vehicle accidents involving lapses in supervision or protective equipment use. Seven were homicides or pending cases suggestive of homicide. One was a firearms death in an adolescent. Six cases involved bludgeoning or "shaken baby" deaths of infants and toddlers younger than

two years old. For most of them, adequate data to review the cases was unavailable, but cases were noted involving a father, several mothers, and several mothers' partners as perpetrators.

Table 7: Maltreatment among Reported Nonresident Child Deaths, Spokane County, 1996-1998, by Age Categories (N=14)

Maltreatment Category	All Ages	< 1 yo	1-4 yo	5-12 yo	13-17 yo
Abuse	5	0	0	2	3
Neglect	7	3	2	2	0
Abuse and Neglect	2	0	0	1	1

Table 8: Maltreatment among Spokane County Resident Child Deaths, Spokane County, 1996-1998, by Age Categories (N=11)

Maltreatment Category	All Ages	< 1 yo	1-4 yo	5-12 yo	13-17 yo
Abuse	5	3	1	0	1
Neglect	3	1	1	1	0
Abuse and Neglect	3	1	1	1	0

Neonatal Deaths

Neonatal deaths are defined as those occurring during the first thirty days of life. From 1996 through 1998, 122 neonatal deaths occurred in Spokane County. Half of them (61 cases) were out-of-county residents, all of whom were hospitalized at the time they died. This is consistent with Spokane County's well-recognized role as a medical care referral center. Of the 61 resident neonatal deaths, 56 were hospitalized at the time they died. The five other resident neonatal deaths (all at private residences) included four sudden infant death syndrome (SIDS) deaths and one anticipated outcome of severe congenital abnormalities.

Proximate cause-of-death diagnoses on death certificates identified 58 neonatal deaths as related to gestational prematurity and 41 cases to congenital malformations. Six neonatal deaths, including two hospitalized cases, were attributed to SIDS.

Table 9: Neonatal Deaths in Spokane County by Categories of Death and by Several Causes of Death, 1996-1998

Categories of Death	Number of Cases, 1996-1998
Prematurity	58
Congenital Malformations	41
Pulmonary Disease	49
Heart Disease	34
Neurologic Disease	17
Infectious Disease	13
Renal Disease	5
Gastrointestinal Disease	2
SIDS	6
Perinatal Asphyxia	6
Hydrops Fetalis	3
conjoined twins	1
twin-to-twin transfusion	1

NB: Decedents may have multiple and /or related causes of death.

Data for the 114 neonates who died at Sacred Heart and Deaconess Medical Center from 1996 through 1998 were reviewed. Most of the decedents' mothers were more than 18 years of age, consistent with the greater likelihood of women older than 18 years bearing children. Many of the decedents had birthweights less than 1,000 gm. Self-reported usage patterns of alcohol, tobacco, and drugs were not inordinately high, but many decedents did not have that data in the medical record. Most of the decedents' mothers had obtained some degree of prenatal care.

Although Spokane area physicians and nursing intensivists were very helpful in reviewing neonatal deaths with SCCDRC members, there are many gaps in the information the Committee is able to review regarding neonatal deaths. As more child death review teams address these issues within the context of a statewide child death review system, there will be a greater incentive to make relevant data accessible. In future death reviews, SCCDRC will continue seeking useful data resources to characterize neonatal deaths, including: maternal drug or alcohol use, prenatal care, poverty, maternal age, prior maternal child deaths, and the timeliness and appropriateness of referral for tertiary care.

Spokane County Resident Neonatal Fatalities following NICU Admissions at Sacred Heart Medical Center and Deaconess Medical Center, 1996-1998

Table 10a

Maternal Age (m.a.)	Number of Deaths
15 yr.<m.a.<18 yr.	5
18 yr.≤ m.a.<30 yr.	26
30 yr.≤ m.a.<40 yr.	16
40 yr.≤ m.a.	2

Table 10b

Gestational Age (g.a.)	Number of Deaths
g.a.<20 wk.	1
20 wk.≤ g.a.<30 wk.	30
30 wk.≤ g.a.≤40 wk.	7
40 wk.<g.a.	0

(N.B.: 3 records stated “premature” without gestational age, 5 records stated “term” without gestational age)

Table 10c

Birthweight (b.w.)	No. of Deaths
b.w.≤ 1,000 gm	21
1,000 gm.≤ b.w.<2,000 gm.	4
2,000 gm.≤ b.w.<3,000 gm.	7
3,000 gm.≤ b.w.	5

Table 10d: Self-reported risk factor history

Risk Factor	Yes	No	Unk
drugs	4	25	32
alcohol	4	28	29
tobacco	16	17	28
prenatal care	37	1	21

(N.B.: 2 records stated “late prenatal care”, 1 record stated “first visit in 2nd trimester”)

Table 10e: Medical coverage:

DMC and SHMC Neonatal Fatalities

Source	Number of Deaths
public assistance	16
private/military	19
self-pay	0
unknown	25

Nonresident Neonatal Fatalities following NICU Admissions at Sacred Heart Medical Center and Deaconess Medical Center, 1996-1998

Table 11a

Maternal Age (m.a.)	Number of Deaths
14 yr.<m.a.<18 yr.	3
18 yr.≤ m.a.<30 yr.	21
30 yr.≤ m.a.<40 yr.	12
40 yr.≤ m.a.	0

Table 11b

Gestational Age (g.a.)	Number of Deaths
g.a.<20 wk.	0
20 wk.≤ g.a.<30 wk.	18
30 wk.≤ g.a.≤40 wk.	12
40 wk.<g.a.	3

Table 11c

Birthweight (b.w.)	No. of Deaths
b.w.≤ 1,000 gm	11
1,000 gm.≤ b.w.<2,000 gm.	5
2,000 gm.≤ b.w.<3,000 gm.	6
3,000 gm.≤ b.w.	7

Table 11d: Self-reported risk factor history

Risk Factor	Yes	No	Unk
drugs	0	20	41
alcohol	2	20	39
tobacco	6	17	38
prenatal care	26	0	35

(N.B.: 1 record stated “sporadic prenatal care”, 1 record stated “limited prenatal care”)

Table 11e: Medical coverage:

DMC and SHMC Neonatal Fatalities

Source	Number of Deaths
public assistance	17
private/military	8
self-pay	0
unknown	36

Sudden Infant Death Syndrome (SIDS)

Sudden Infant Death Syndrome is defined as a sudden, unexpected death in infancy for which no medical cause can be found and which remains unexplained after an adequate post-mortem examination. The predominant associated conditions—prone sleep position, prior or concurrent respiratory infection, and smoking in the home—are noted.

It is important to recognize SIDS as a diagnosis of exclusion. Emergency and medical personnel must consider carefully the full differential diagnosis of sudden death in infancy and must perform a thorough, adequate autopsy before applying the "SIDS" diagnosis to an infant death. A complete history, physical examination, toxicology screen, and death scene investigation are necessary to rule out identifiable natural causes, neglect, or foul play. A SIDS death on autopsy may reveal characteristic microscopic hemorrhagic lesions and other tissue markers of chronic or recurrent hypoxia.

SIDS statistics for Spokane County in 1996-1998 are similar to those for previous years (see Table 13) and to those described in the literature and in Washington State Vital Statistics publications. Victims were predominantly males, and respiratory infection, gestational problems, soft bedding, and sleep position appear to be important issues. (See Table 14). Thirty-three SIDS cases were reported in the three years from 1996 to 1998. More deaths occurred in the one-to-four month age group than for all other ages combined. Nearly twice as many boys were SIDS cases as girls. (See Table 12.) Since many SIDS deaths are evaluated at home and never reach a hospital setting, nonresident SIDS cases are more likely to have death certification in their own county. They are less frequently transported or certified in Spokane county medical facilities, as evidenced by the few nonresident SIDS death diagnoses.

Table 12: SIDS Deaths by Age, Sex, and Spokane County Residency, 1996-1998

Category	All Cases	Residents	Nonresidents
All SIDS Deaths	33	29	4
Age <1 month	6	6	0
Age 1 to <4 mo.	18	17	1
Age 4 to <12 mo.	8	5	3
Age 12 mo or older	1	1	0
Male	21	19	2
Female	12	10	2

Table 13: SIDS Deaths by Age, Sex, and Spokane County Residency, 1994 and 1995

SIDS Deaths	All Cases	Residents	Nonresidents
1994	15	12	3
1995	13	12	1

Figure 11: SIDS Deaths in Spokane County
By Sex and Residency, 1996 through 1998

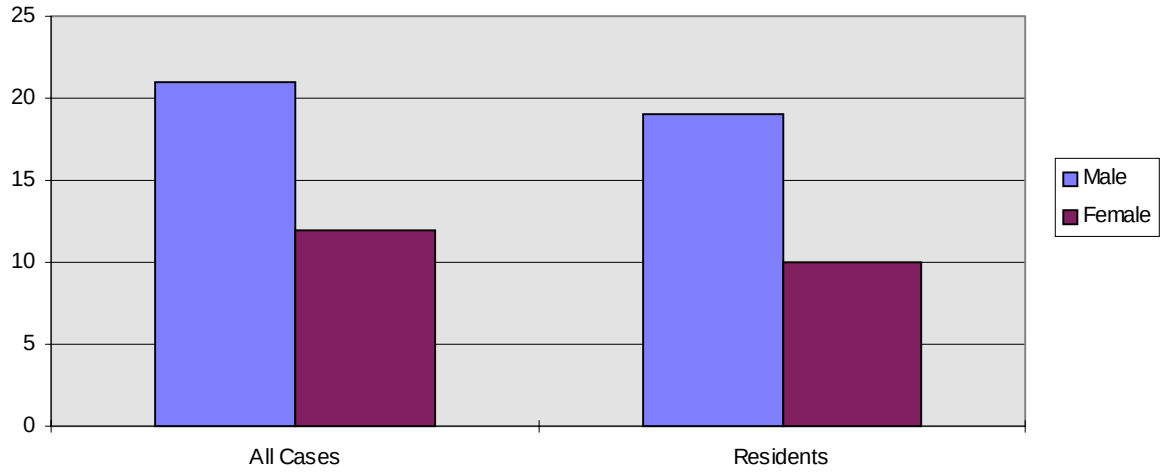


Figure 12: SIDS Deaths in Spokane County
By Age and Residency, 1996 through 1998

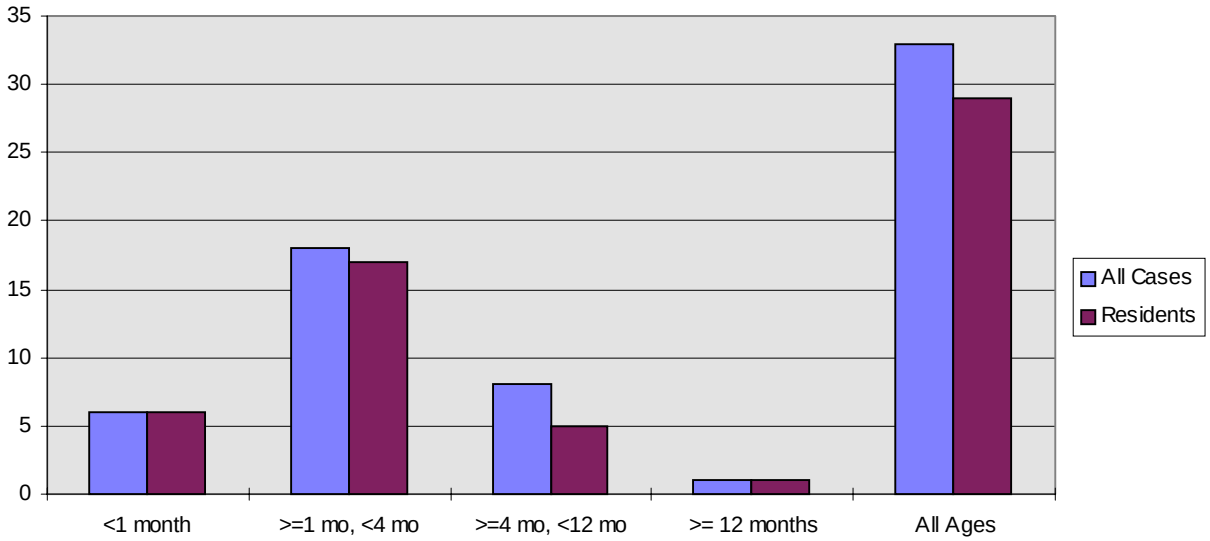


Table 14: Spokane County SIDS Deaths, All Cases, by Associated Conditions, 1996-1998

antecedent respiratory infection	11
prematurity or medically difficult pregnancy	8
on medications	7
soft bedding or waterbed	4
prone sleep position	3
very hot or cold room	2
immunizations within 24 hr	1
other SIDS cases in immediate family	1
drug-addicted mother	1

NB: Case reports contained death scene investigations in which associated condition inventories were partial and inconsistently applied

There are many theories that attempt to explain Sudden Infant Death Syndrome. Abnormal control of breathing reflexes during sleep, metabolic disorders of metabolism of glucose or other substances, adverse reactions to common viruses or bacteria, and abnormalities of temperature regulation in infants are all areas of current research worldwide. Studies in Europe and the USA have revealed an important association between sleep position and risk of sudden death in infancy, especially during seemingly mild respiratory infections. Although some researchers suggest that a portion of infant deaths classified as SIDS may be unrecognized instances of child abuse, the main body of SIDS-related research indicates that SIDS constitutes at least one valid diagnostic entity. (See: *Pediatrics,* July 1994, v.94, no. 1, "Distinguishing Sudden Infant Death Syndrome from Child Abuse Fatalities".)

Collaborative studies from Europe and Australia have shown decreases in the incidence of SIDS by as much as 50% with public and professional education campaigns to change infant sleeping position. This has led to a nationwide "Back to Sleep" campaign encouraging caregivers to place infants in a supine position for sleep. Since that campaign began, there has been a marked, concurrent fall in the incidence of SIDS deaths, but they certainly have not disappeared. These results should be powerful incentives to professionals, parents, and other caretakers of infants in the United States to follow the American Academy of Pediatrics (AAP) guidelines regarding infant sleep position and avoid prone (i.e., face-down) positioning of infants. (See: *Pediatrics*, December 1996, v.98, no. 6, "Positioning and SIDS Update".) Waterbeds and fluffy or thick, loose bedding also were significant hazards to infants in the data we reviewed.

While the exact cause of death in most cases of SIDS remains elusive, current research suggests that Spokane County parents and care providers may be able to decrease the number of local SIDS deaths by aggressively disseminating and following the AAP infant sleep guidelines. SCCDRC members advocate activities to improve SIDS death scene investigations, professional education related to SIDS, and promotion of the nationwide "Back to Sleep" campaign. The 1996-1998 data revealed that death scene investigation of infants who die suddenly and unexpectedly is a major area in need of improvement in Spokane County.

Dr. Richard Harruff, MD, PhD, has developed a standardized infant death investigation form currently in use in King County. In June 1996, the Centers for Disease Control and Prevention published in *Morbidity and Mortality Weekly Review* a useful model and reference for death investigators: "Guidelines for Death Scene Investigation of Sudden, Unexplained Infant Deaths: Recommendations of the Interagency Panel on Sudden Infant Death Syndrome," (MMWR 6/21/96, v. 45, no. RR-10). Although these resources are widely available in Spokane County, some obstacles to timely and thorough death scene investigation persist. The members of the SCCDRC encourage local agencies to help identify strategies to resolve these difficult issues.

COMMENTS AND RECOMMENDATIONS

Deaths in Spokane County related to trauma, neglect, homicide, and suicide represent a significant portion of potentially preventable child mortality. Unintentional injuries remain the most frequent manner of preventable, traumatic child death with motor vehicle and drowning accidents remaining important preventable causes of child deaths. The number of Sudden Infant Death Syndrome (SIDS) deaths, which are not categorized as preventable by Spokane County Child Death Review Committee(SCCDRC) criteria, appears to be slightly less than previous levels as has happened statewide and nationwide in conjunction with national campaigns addressing infant sleep position and bedding materials.

Spokane Regional Health District continues to promote public health education on the topics of infant sleep position, waterbed and soft bedding suffocation risk, suicide, and drowning prevention. Disseminating the information included in this report hopefully will continue motivating and mobilizing professional organizations, service groups, private and public agencies, the business community, and individuals to become involved in attempting to prevent some of these tragic deaths from occurring in the future.

Identifying and preempting preventable deaths in the future requires an adequate evaluation of those that already have occurred. The primary step is an adequate evaluation of the death scene. An autopsy, including appropriate laboratory studies, stands with the death scene evaluation as essential data to categorize many child deaths. The SCCDRC identified 38 instances in which incomplete information in one or more of these areas made it difficult or impossible to review the death completely. Thorough forensic evaluations require the commitment of time and resources, but yield critical information not accessible by any other means. The SCCDRC hopes that the information provided in this text will be useful in gauging the magnitude of the problem of preventable child deaths and the potential benefit of allocating resources to explore these difficult questions.

Data Quality

A major obstacle to understanding the determinants of child deaths has been incomplete data. The SCCDRC encountered gaps in records from many sources which limited its capacity to evaluate cases. Most frequently the lapses were records which were incomplete according to guidelines and forms already in place. The most valuable asset for child death review would be fully and carefully completed, standard records.

Data Sources

While enabling legislation provides the mandate for local child death review, uncertainties remain regarding access for committees to critical information, including medical records in cases not referred to the Spokane County Medical Examiner's office. Among the options to provide these records are:

- Legislation to provide access for local child death review committees to any pertinent medical records (as in the approach taken by the Missouri Child Death Review System)
- Legislation or agreement within the medical community to designate all child deaths as referrals to coroners or medical examiners
- Legislation to provide local child death review committees involved in assessment processes comparable access to data in confidential state databases that is available for academic research purposes.

Valuable sources of data already collected regularly should be accessible to local child death review committees. The stringent confidentiality requirements for child death review committees are comparable to confidentiality constraints for state data agencies and academic research. For example, the Washington State Department of Health Center for Health Statistics includes in birth certificate records a fairly extensive confidential data set. It contains various socioeconomic, demographic, and maternal health indicators which could provide worthwhile insights for the child death review process. Information and assessment from local review processes is essential to promote effective local community policy and planning. Local communities and the state as a whole would benefit from these data being available for review. Amending current state law to provide such data access would be a substantial, enabling step in improving the quality and effectiveness of child death review. Since Washington State Department of Health is developing a statewide child death review system in expectation of generating meaningful aggregate data from local death review team reports as the primary data source, the impact of local case data access extends across the entire system.

Education

As issues arise in child death review that warrant increased public awareness, the Committee refers them to member agencies to pursue. The preventable deaths in 1996-1998 involved motor vehicle accidents without safety restraints, accidental drowning, fires, and homicides by firearms and bludgeoning. One approach used in several US locations to decrease teen motor vehicle deaths is the graduated driver's license. This strategy attempts to shield inexperienced drivers from road conditions they are not yet skilled enough to handle. The gradual conversion of community norms that has made driving while intoxicated widely unacceptable, coupled with strict enforcement of prevention of underage drinking, will also save lives. Deaths of indeterminate preventability, but nonetheless disturbing, included suicide involving adolescent access to firearms. National and international studies concerning the association of SIDS with prone sleep position and soft bedding materials is a promising area in which a simple

intervention potentially may be widely beneficial. These issues suggest suitable topics for public information. They include:

- Motor vehicle safety restraints for children
- Water safety
- Fire safety
- Children's access to firearms
- Infant sleep position
- Reporting and intervention in suspected child abuse.

The primary objective of child death review is to make Spokane County a safer place for children to live. Hopefully, as information about child deaths becomes more widely available and visible, many sectors of this community will find it as compelling and disturbing as committee members have. Awareness of even a single child dying unnecessarily calls out for improvement, for developing effective means of prevention. This report is an incremental step in providing that knowledge to the professional communities and the general public, to augment the efforts of the many child advocates in this community diligently working toward the same goal.

APPENDIX A - REVISED CODE OF WASHINGTON STATE - RCW 70.05.170

RCW 70.05.170 - Child mortality review

(1)(a) The legislature finds that the mortality rate in Washington state among infants and children less than eighteen years of age is unacceptably high, and that such mortality may be preventable. The legislature further finds that, through the performance of child mortality reviews, preventable causes of child mortality can be identified and addressed, thereby reducing the infant and child mortality in Washington state.

(b) It is the intent of the legislature to encourage the performance of child death reviews by local health departments by providing necessary legal protections to the families of children whose deaths are studied, local health department officials and employees, and health care professionals participating in child mortality review committee activities.

(2) As used in this section, "child mortality review" means a process authorized by a local health department as such department is defined in RCW 70.05.010 for examining factors that contribute to deaths of children less than eighteen years of age. The process may include a systematic review of medical, clinical, and hospital records; home interviews of parents and caretakers of children who have died; analysis of individual case information; and review of this information by a team of professionals in order to identify modifiable medical, socioeconomic, public health, behavioral, administrative, educational, and environmental factors associated with each death.

(3) Local health departments are authorized to conduct child mortality reviews. In conducting such reviews, the following provisions shall apply:

(a) All medical records, reports, and statements procured by, furnished to, or maintained by a local health department pursuant to chapter 70.02 RCW for purposes of a child mortality review are confidential insofar as the identity of an individual child and his or her adoptive or natural parents is concerned. Such records may be used solely by local health departments for the purposes of the review. This section does not prevent a local health department from publishing statistical compilations and reports related to the child mortality review, if such compilations and reports do not identify individual cases and sources of information.

(b) Any records or documents supplied or maintained for the purposes of a child mortality review are not subject to discovery or subpoena in any administrative, civil, or criminal proceeding related to the death of a child reviewed. This provision shall not restrict or limit the discovery or subpoena from a health care provider of records or documents maintained by such health care provider in the ordinary course of business, whether or not such records or documents may have been supplied to a local health department pursuant to this section.

(c) Any summaries or analyses of records, documents, or records of interviews prepared exclusively for purposes of a child mortality review are not subject to discovery, subpoena, or introduction into evidence in any administrative, civil, or criminal proceeding related to the death of a child reviewed.

(d) No local health department official or employee, and no members of technical committees established to perform case reviews of selected child deaths may be examined in any administrative, civil, or criminal proceeding as to the existence or contents of documents assembled, prepared, or maintained for purposes of a child mortality review.

(e) This section shall not be construed to prohibit or restrict any person from reporting suspected child abuse or neglect under chapter 26.44 RCW nor to limit access to or use of any records, documents, information, or testimony in any civil or criminal action arising out of any report made pursuant to chapter 26.44 RCW. [1993 c 41 § 1; 1992 c 179 § 1.]

APPENDIX B1 - CONFIDENTIALITY CONSENT FORMS

SPOKANE COUNTY
CHILD DEATH REVIEW COMMITTEE

CONFIDENTIALITY STATEMENT
FOR
COMMITTEE MEMBERS

Spokane County Child Death Review Committee (SCCDRC) meetings may consider issues relating to professional practices, specific practitioners, or specific patients. Washington state code provisions protect the confidentiality of records used, case material discussed, and communications between participants. To protect all those involved and to ensure the integrity of SCCDRC proceedings, such confidential information shall not be revealed to or discussed with anyone except a committee member or staff of a member agency with a legitimate professional interest in the proceedings.

As a member of the SCCDRC, I certify that I am trained in the prevention, identification, or treatment of child abuse and neglect cases and/or represent an agency that is involved in those processes. I am aware of the confidentiality policy described above and will not reveal any case-identifying information to anyone other than SCCDRC members and staff members of agencies represented on the SCCDRC. By affirming this confidentiality statement, agency representatives on the SCCDRC affirm that any staff member of their agency with access to SCCDRC proceedings agrees to abide by this confidentiality statement.

Name: (Print): _____

Signature: _____

Agency: _____

Date: _____

FORM: Confidentiality No. 1 Members (Blank)

APPENDIX B2 - CONFIDENTIALITY CONSENT FORMS

SPOKANE COUNTY
CHILD DEATH REVIEW COMMITTEE

CONFIDENTIALITY STATEMENT
FOR VISITORS

Spokane County Child Death Review Committee (SCCDRC) meetings may consider issues relating to professional practices, specific practitioners, or specific patients. Washington state code provisions protect the confidentiality of records used, case material discussed, and communications between participants. To protect all those involved and to ensure the integrity of SCCDRC proceedings, such confidential information shall not be revealed to or discussed with anyone except a committee member or staff of a member agency with a legitimate professional interest in the proceedings.

Periodically, the SCCDRC may solicit information and presentations from consultants in the prevention, identification, or treatment of child abuse and neglect cases, representatives of agencies involved in those processes, or authorities in related fields. As such a consultant, I am aware of the confidentiality policy described above and will hot reveal any case-identifying information to anyone other than SCCDRC members.

Name: (Print): _____

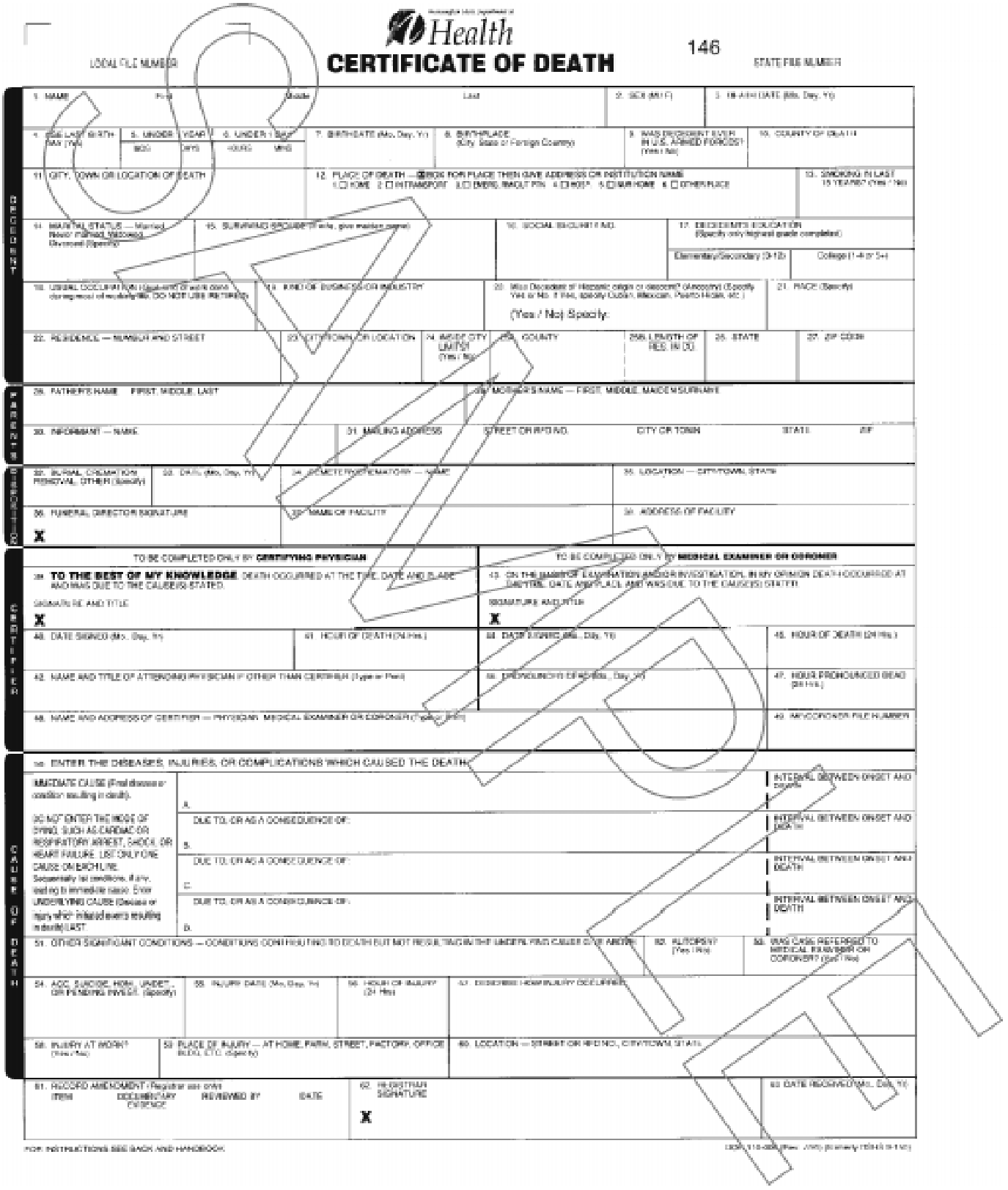
Signature: _____

Agency: _____

Date: _____

FORM: Confidentiality No. 2 Visitors (Blank)

APPENDIX C1 - WASHINGTON STATE DEATH CERTIFICATE



Health

CERTIFICATE OF DEATH

146

LOCAL FILE NUMBER

STATE FILE NUMBER

PERSONAL DATA

1. NAME — First / Middle / Last
2. SEX (M/F)
3. DATE (Mo., Day, Yr.)
4. DATE OF BIRTH (Mo., Day, Yr.)
5. UNDER 1 DAY — (HOURS / MINS)
6. UNDER 1 YEAR — (MOS / DAYS)
7. BIRTHDATE (Mo., Day, Yr.)
8. BIRTHPLACE (City, State or Foreign Country)
9. WAS DECEDENT EVER IN U.S. ARMED FORCES? (Yes / No)
10. COUNTY OF DEATH
11. CITY, TOWN OR LOCATION OF DEATH
12. PLACE OF DEATH — CHECK ONE BOX FOR PLACE THEN GIVE ADDRESS OR INSTITUTION NAME: ☐ HOME ☐ HOSPITAL/POR ☐ EMERG. RM/OUT PTN ☐ DOA ☐ OUR HOME ☐ OTHER PLACE
13. SMOKED IN LAST 15 YEARS? (Yes / No)
14. MARITAL STATUS — Married / Never married / Widowed / Divorced / (Specify)
15. SURVIVING SPOUSE (If wife, give maiden name)
16. SOCIAL SECURITY NO.
17. DECEDENT'S EDUCATION (Specify only highest grade completed) — Elementary/Secondary (0-12) / College (1-4 or 5+)
18. USUAL OCCUPATION (Type of work done during most of working life. DO NOT USE RETIRED)
19. KIND OF BUSINESS/INDUSTRY
20. Was Decedent of Hispanic origin or descent? (Ancestry) (Specify Yes or No. If Yes, specify Cuban, Mexican, Puerto Rican, etc.) (Yes / No) Specify:
21. RACE (Specify)
22. RESIDENCE — NUMBER AND STREET
23. CITY, TOWN OR LOCATION
24. INSIDE CITY LIMITS? (Yes / No)
25. COUNTY
25B. LENGTH OF RES. IN (3)
26. STATE
27. ZIP CODE

PERSONAL DATA

28. FATHER'S NAME — FIRST, MIDDLE, LAST
29. MOTHER'S NAME — FIRST, MIDDLE, MAIDEN SURNAME
30. INFORMANT — NAME
31. MAILING ADDRESS — STREET OR R.F.D. NO. / CITY OR TOWN / STATE / ZIP

DISPOSITION

32. BURIAL, CREMATION, REMOVAL, OTHER (Specify)
33. DATE (Mo., Day, Yr.)
34. CEMETERY/CREMATORY — NAME
35. LOCATION — CITY/TOWN, STATE
36. FUNERAL DIRECTOR SIGNATURE
X
37. NAME OF FACILITY
38. ADDRESS OF FACILITY

CERTIFICATION

TO BE COMPLETED ONLY BY **CERTIFYING PHYSICIAN**

39. **TO THE BEST OF MY KNOWLEDGE**, DEATH OCCURRED AT THE TIME, DATE AND PLACE AND WAS DUE TO THE CAUSE(S) STATED.
SIGNATURE AND TITLE
X
40. DATE SIGNED (Mo., Day, Yr.)
41. HOUR OF DEATH (24 Hrs.)
42. NAME AND TITLE OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type or Print)

TO BE COMPLETED ONLY BY **MEDICAL EXAMINER OR CORONER**

43. ON THE BASIS OF EXAMINATION AND/OR INVESTIGATION, IN MY OPINION DEATH OCCURRED AT THE TIME, DATE AND PLACE AND WAS DUE TO THE CAUSE(S) STATED
SIGNATURE AND TITLE
X
44. DATE SIGNED (Mo., Day, Yr.)
45. HOUR OF DEATH (24 Hrs.)
46. DATE PRONOUNCED DEAD (Mo., Day, Yr.)
47. HOUR PRONOUNCED DEAD (24 Hrs.)
48. NAME AND ADDRESS OF CERTIFIER — PHYSICIAN, MEDICAL EXAMINER OR CORONER (Type or Print)
49. ME/CORONER FILE NUMBER

CAUSE OF DEATH

50. ENTER THE DISEASES, INJURIES, OR COMPLICATIONS WHICH CAUSED THE DEATH.

IMMEDIATE CAUSE (Final disease or condition resulting in death).
a.
INTERVAL BETWEEN ONSET AND DEATH

DO NOT ENTER THE MODE OF DYING, SUCH AS CARDIAC OR RESPIRATORY ARREST, SHOCK, OR HEART FAILURE. LIST ONLY ONE CAUSE ON EACH LINE.
Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE (Disease or injury which initiated events resulting in death) LAST.

DUE TO, OR AS A CONSEQUENCE OF:
b.
INTERVAL BETWEEN ONSET AND DEATH

DUE TO, OR AS A CONSEQUENCE OF:
c.
INTERVAL BETWEEN ONSET AND DEATH

DUE TO, OR AS A CONSEQUENCE OF:
d.
INTERVAL BETWEEN ONSET AND DEATH

51. OTHER SIGNIFICANT CONDITIONS — CONDITIONS CONTRIBUTING TO DEATH BUT NOT RESULTING IN THE UNDERLYING CAUSE GIVEN ABOVE
52. AUTOPSY? (Yes / No)
53. WAS CASE REFERRED TO MEDICAL EXAMINER OR CORONER? (Yes / No)

INJURY

54. ACC, SUICIDE, HOM, UNDET, OR PENDING INVEST. (Specify)
55. INJURY DATE (Mo., Day, Yr.)
56. HOUR OF INJURY (24 Hrs.)
57. DESCRIBE HOW INJURY OCCURRED
58. INJURY AT WORK? (Yes / No)
59. PLACE OF INJURY — AT HOME, FARM, STREET, FACTORY, OFFICE BLDG, ETC. (Specify)
60. LOCATION — STREET OR R.F.D. NO., CITY/TOWN, STATE

61. RECORD AMENDMENT / Registrar use only — ITEM / DOCUMENTARY EVIDENCE / REVIEWED BY / DATE
62. REGISTRAR SIGNATURE
X
63. DATE REGISTERED (Mo., Day, Yr.)

FOR INSTRUCTIONS SEE BACK AND HANDBOOK.

DOH 210-035 (Rev. 7/97) (formerly DOH 9-112)

APPENDIX C2 - SUMMARY DATA REVIEW FORM

SPOKANE COUNTY CHILD DEATH REVIEW COMMITTEE
CONCLUSIONS OF COMMITTEE DELIBERATIONS - PAGE 1

Adequate investigation: Y/N/U _____

Sources: (if any)	Data reviewed	Inadequate portion
Medical record		
Death scene investigation	_____	_____
Autopsy report	_____	_____
Death certificate information	_____	_____
CPS information	_____	_____
Law enforcement information	_____	_____
Coroner's office information	_____	_____
Prosecutor's office information	_____	_____
Other	_____	_____

Comments:

Maltreatment death: Y/N/U _____

If yes: Was there abuse or neglect of victim or others in the home related to death or by history?

Abuse _____ Neglect _____ Abuse/Neglect _____

Siblings in the home: Y/N/U _____

Absent or inadequate supervision: Y/N/U _____

comments:

Intentional injury death: Y/N/U _____
If yes: homicide _____ suicide _____

Agent(s) of injury: blunt object, rifle, handgun, hot liquid, starvation, shaking, dropping, striking, suffocation, poisoning, fire, burns, motor vehicle, hanging, drowning, exposure, other
If firearm: rifle, handgun, shotgun, other

Was it available in the home? Y/N/U _____
comments:

APPENDIX C3 - SUMMARY DATA REVIEW FORM

SPOKANE COUNTY CHILD DEATH REVIEW COMMITTEE
CONCLUSIONS OF COMMITTEE DELIBERATIONS - PAGE 2

Unintentional injury death: Y/N/U _____

Agent(s) of injury: blunt object, rifle, handgun, hot liquid, starvation, shaking, dropping, striking, suffocation, poisoning, fire, burns, motor vehicle, hanging, drowning, exposure, other

If firearm: rifle, handgun, shotgun, other: _____

Was it available in the home? Y/N/U _____

If motor vehicle incident:
Was decedent automobile driver, passenger, motorcyclist, bicyclist, pedestrian: _____

Proper safety restraints (age/size appropriate car seat, seat belt, bicyclist/motorcyclist helmet used) Y/N/U _____

If No, specify: _____

Comments:

All categories:
Alcohol or other substance abuse associated with this event: Y/N/U _____

If yes, in parent , decedent , caretaker
Were criminal charges filed? Y/N/U _____

Preventability:
In the Committee's estimation, was this death preventable:
Yes _____ No _____ Indeterminate _____

Comments:

SPOKANE COUNTY CHILD DEATH REVIEW COMMITTEE – REPORT OF 1996-1998 ACTIVITIES - DECEMBER 1999

Executive Summary

The Spokane County Child Death Review Committee, a multi-agency, multidisciplinary team, has examined problems surrounding local deaths of children since 1991. At the same time, many federal and state health, criminal justice, and social services agencies, including some in Washington state, have demonstrated increased interest in the causes of child deaths. In 1994, the SCCDRC began reviewing all deaths of children less than 18 years of age occurring in Spokane County and systematically collecting data about them. This process is sanctioned by Washington State law codified in RCW 70.05.170, which also assures full confidentiality of all Committee proceedings.

The Committee has developed a data system to establish the deceased children's causes of death, manner of death, the adequacy and accuracy of assembled data, whether the death was preventable by means of intervention available within the community, and other relevant data. The Committee specifically examines whether deaths involved unintentional injury, intentional injury, or maltreatment.

For the 1996-1998 activities report, the Committee examined 284 child deaths occurring in 1996 through 1998, 161 of them residents of Spokane County. Of these 284 deaths, 52 were considered preventable, 67 of indeterminate preventability, and 165 not preventable. The preventable deaths included 12 homicides, 35 unintentional injury deaths, two natural deaths, and three nonresident deaths listed as of undetermined manner or pending investigation but suggestive of violent deaths of infants. The 35 unintentional injury deaths included 18 motor vehicle accidents, 11 accidental drownings, three accidental firearm deaths, one electrocution, one fire-related death, and one death from accidental asphyxiation from compression. Drowning deaths occurred in lakes, spas, and backyard pools. Attempts to cross or swim in cold water and inadequate supervision were important risk factors noted in drowning deaths. Lack of seat belt use, excessive speed, inexperienced drivers and alcohol were important risk factors in the motor vehicle deaths. Twelve homicides were reported, including 5 adolescent firearm deaths, 5 blunt trauma deaths to infants and toddlers, a motor vehicular homicide of an infant, and a stabbing death of a young child. Of the five suicides in 1996-1998, three were from self-inflicted gunshot wounds and two were hanging deaths. Suicides are categorized as of indeterminate preventability in this report. Of the six firearm deaths listed as suicides or accidents, four were from unsecured firearms accessible in the home.

The report includes data from Spokane newborn intensive care facilities regarding neonatal deaths, including: maternal age, gestational age, birthweight, and other factors. Most of the 12 SIDS deaths reported were younger than 4 months old. Associated conditions were: antecedent respiratory infection, prematurity or medically difficult pregnancy, on medications, soft bedding or waterbed, prone sleep position, and a very hot or cold room.

The report describes the need for improved forensic data collection in death inquiries, particularly the need for standardized, thorough death scene investigations. It mentions a 1996 Centers for Disease Control publication of guidelines for infant death scene investigations. It discusses the development of a Washington State Department of Health Child Death Review (DOH CDR) System. The DOH CDR System will enable teams in all Washington local jurisdictions to perform child death reviews. Local teams will provide deidentified local data to the DOH CDR System for description, analysis, and discussion about child deaths in Washington state. The report mentions the recommendation from the American Academy of Pediatrics and various federal agencies to avoid soft, fluffy bedding or prone sleep position for normal infants. It discusses measures to improve and extend access to useful data. Finally, it lists several public health education measures which could mitigate some of the child deaths occurring in Spokane County, addressing motor vehicle safety restraints for children, water safety, children's access to firearms, and infant sleep position.

For further information regarding this report, please contact:

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