



Report of the

Paediatric Death Review Committee

and

Deaths Under Five Committee

**Office of the Chief Coroner
Province of Ontario**

June 2010

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

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Table of Contents

Message from the Chair	1 -2
Classification of Death	3
Deaths of Children Investigated by the Office of the Chief Coroner of Ontario	4
Overview of Child Death Review Process in Ontario	5
Overview of Death Investigation of a Child Receiving Service from a Children's Aid Society	6 - 7
Deaths Under Five Committee	8 - 9
Trends in Infant Deaths	9
Sudden Infant Death Syndrome (SIDS)	10
Sudden Unexpected Death in Infancy (SUDI)	10 - 11
Unsafe Sleep Environments and Bed Sharing	11 - 22
Overview - Paediatric Death Review Committee: Medical and CAS Case Reviews	23
Public and Patient Safety Initiatives	24 - 29
PDRC Medical Reviews: Themes and Recommendations	30 - 36
Medical Case Reviews: Themes	37
PDRC Medical Review Article – Codeine, Ultrarapid-Metabolism Genotype, and Postoperative Death	38 - 39
PDRC Medical Case Review	40 - 43

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Research Study – Accidental Deaths of Children in Ontario, 5-10 years old, 2004-2007	45 - 51
PDRC and the Ontario Children’s Aid Societies (CAS) – Overview and Background	52
2009 Deaths of Children with CAS Involvement - Analysis	53 - 57
2009 PDRC Reviews of Cases with CAS Involvement – Analysis and Cases Examples	58 - 65
Internal Child Death Reviews – Overview and Analysis	66 - 68
Initiatives by Children’s Aid Societies	69 - 71
Training for CAS’s by Office of the Chief Coroner - A Team Approach to Forensic Paediatric Death Investigations	72
Themes Identified in 2009 PDRC Reviews of Cases with CAS Involvement	73
Enhancing Child Welfare Practice through Lessons Learned from Child Death Reviews Recommendations to CAS - Themes	74 - 77
Enhancing Child Welfare Practice through Lessons Learned from Child Death Reviews Recommendations to the Ministry of Children and Youth Services - Themes	78 - 81
Enhancing Child Welfare Practice through Lessons Learned from Child Death Reviews Recommendations to the Ontario Association of Children’s Aid Societies - Themes	82 - 83
Enhancing Child Welfare Practice through Lessons Learned from Inquests – Excerpt from the Verdict Explanation for M. R. Inquest - Themes	84 - 89
Current Initiatives and Future Directions	90
Key Messages	91
Committee Membership	92 - 93
Acknowledgements	94
References and Contact Information	95

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Message from the Chair

It is my pleasure to provide to you the Annual Report of the Paediatric Death Review Committee and the Deaths under Five Committee of the Office of the Chief Coroner (OCC).

In July of 2009, the provincial government proclaimed *Bill 115, the Coroners Amendment Act*. Codified in the new *Coroners Act* and arising from the Paediatric Forensic Pathology Inquiry are the formal recognition of forensic pathology in the death investigation paradigm, as well as new powers assigned to both the Chief Forensic Pathologist, and the Chief Coroner:

- The creation of the Ontario Forensic Pathology Service, the function of which shall be to facilitate the provision of pathologists' services.
- The recognition of the Chief Forensic Pathologist in legislation, who is responsible for the administration and operation of the Ontario Forensic Pathology Service and who will supervise and direct pathologists in the provision of the service.
- The creation of a registry of pathologists to perform medicolegal autopsies.
- The Chief Coroner will have the ability to bring the findings and recommendations of a coroner's investigation, which may include personal information as defined in the *Freedom of Information and Protection of Privacy Act*, to the attention of the public, or any segment of the public, if the Chief Coroner reasonably believes that it is necessary in the interests of public safety to do so.

Following the recommendations of the Report of the Commission of Inquiry into Paediatric Forensic Pathology, the Attorney General of the Province of Ontario struck a committee to review paediatric head injury deaths, including those diagnosed as resulting from Shaken Baby Syndrome (SBS). The overarching consideration of the review is to restore and enhance public confidence in Paediatric Forensic Pathology and its future use in the Criminal Justice System.

The Shaken Baby Death Review Team is focused on ensuring that criminal convictions involving SBS and related fatal paediatric head injury cases (i.e. short fall cases) are sustainable in light of the current scientific knowledge. The review is being conducted by a team of medical and legal experts led by The Honourable Justice Donald A. Ebbs, of the Ontario Court of Justice. Other team members include Dr. Michael Pollanen, Chief Forensic Pathologist, Dr. Dirk Huyer, Regional Supervising Coroner, Marie Henein, Senior Defence Counsel and Mary Nethery, Senior Crown Attorney and Director – Justice Excellence.

The team commenced a review of 142 cases identified as potential fatal paediatric head injuries by Dr. Pollanen. Cases where convictions had occurred, and which are not currently before the courts at the trial, appellate or s.696.1 review level, were identified for further review by the team. The review team is working towards completion of their report to the Attorney General, having recently received case-based advice from an international panel of medical experts.

In the past year, the Paediatric Death Review Committee and the Office of the Chief Coroner continue to enhance relationships with First Nations People. The Deputy Chief Coroner was invited with the Provincial Advocate for Children and Youth, and the Executive Director of the Ontario Association of Children's Aid Societies to *Tikinagan* Child and Family Services 25th *Annual Chiefs' Assembly* in Sandy Lake First Nation on August 18-20, 2009. In addition, the OCC has developed a project charter to review the deaths of 16 children between 12 and 17 years of age in the years 2006-2008 at the Pikangikum First Nation, where the manner of death was suicide. Broad consultation was sought during the development of the project, including input from the Chief and Council, Grand Chief Stan Beardy of the Nishnawbe-Aski Nation, and a variety of medical experts in primary care and psychiatric care, as well as child welfare. Members of the

2 PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

OCC and First Nations guests attended in both Sioux Lookout and Pikangikum on March 5-7, 2010. The work, which will examine the deaths, will make recommendations directed toward the avoidance of death in the future and is ongoing.

Lastly, we continue to review deaths of children where the family has been receiving service or did receive service from a Children's Aid Society (CAS) in the year prior to death. The Office of the Chief Coroner conducts a death investigation into each one of these deaths. The results are available to CASs upon request, and assists them in executing their mandate under the *Child and Family Services Act, R.S.O. 1990*.

Pursuant to the Joint Directive, the OCC will review each death of a child who has been receiving services from a CAS, and in certain cases, will do a quality assurance review of the death, with a copy of this report forwarded to the CAS and the Ministry of Children and Youth Services. Regular meetings were scheduled with Ministry officials during the year to share insights arising from the death reviews.

I hope you find this report informative, and as we move forward, our office remains committed to serve the living through high quality death investigations and inquests to ensure that no death will be overlooked, concealed or ignored.



Dr. A. E. Lauwers
Deputy Chief Coroner - Investigations
Chair, Deaths Under Five Committee
Chair, Paediatric Death Review Committee

Classification of Death

1. **Natural:**

A death is natural if it is due to a natural disease or known complication thereof; or known complication of treatment for the disease.

2. **Accident:**

A death is accidental if it is due to an occurrence, incident or event that happens without foresight or expectation.

An accidental death is caused by an external factor, where death or harm was not foreseen or expected.

3. **Suicide:**

A death is a suicide if it results from an intentional act of a person knowing the probable consequence of what he/she is about to do—that is his/her own death.

There is to be a presumption against suicide at the outset. In order to rebut this presumption, there must be sufficiently clear, cogent and convincing evidence of a non-accidental action initiated by the deceased, that led to his/her own death.

Suicide is a finding of fact, not of law or morality. A finding of suicide does not imply agreement with, or understanding of the decision of the deceased.

4. **Homicide:**

A death is a homicide if it resulted from the “action of a human being killing another human being” (Oxford dictionary definition).

The action must be non-accidental and originate from a person other than the deceased. A finding of homicide in the coroners’ system is a finding of fact and does not carry with it a determination of guilt. It is however, a serious finding and should be made only on clear and convincing evidence of a non-accidental action of a person that led to the death of another person.

5. **Undetermined:**

A death is classified as undetermined if: a full investigation has shown no evidence for any specific classification; or there is equal evidence or a significant contest among two or more classifications; or the death is a suicide that does not meet the Beckon test requiring a high degree of probability; or the death is an apparent suicide of a child under the age of 10.

A finding of “undetermined” is a positive and appropriate finding, after a full investigation and careful consideration of all the evidence. It should not be considered a failure to reach a conclusion.

In the Province of Ontario, death classification falls into one of five categories

Deaths of Children (0-19 yrs of age) Investigated by the Office of the Chief Coroner by Manner of Death

The table below summarizes the children's deaths investigated by the Office of the Chief Coroner on an annual basis. The statistics for 2008 remain preliminary at the time of printing. Clearly, the largest numbers consistently fall into the *natural* and *accidental* categories.

The deaths reviewed by the PDRC represent a fraction of the total number of children who died in Ontario. The Office of the Chief Coroner investigates approximately 46% of the total number of deaths of children between 0 - 19 years of age. The OCC does not investigate deaths of children due to natural causes, generally, where death is expected. On average, Children's Aid Societies have been involved with less than 20% of those deaths investigated by a coroner.

MANNER	2005	2006	2007	2008*
Natural	218	218	192	165
Accident	235	229	199	154
Suicide	65	48	68	49
Homicide	26	41	46	30
Undetermined	71	71	62	57
Total # Coroners Cases	615	607	567	455*
TOTAL # Deaths in Ontario **	1335	1249	1297	N/A

*2008 are preliminary statistics. These figures may change once the statistical year is completed.

**Source: Statistics Canada. *Table 102-0504 - Deaths and mortality rates, by age group and sex, Canada, provinces and territories, annual, CANSIM (database).*

http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.exe?Lang=E&CNSM-Fi=CII/CII_1-eng.htm
(accessed: April 27, 2010)

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Overview of the Child Death Review Process in the Province of Ontario

There are approximately 320 coroners in the Province of Ontario. The province is divided into 4 regions with 9 Regional Supervising Coroners overseeing the investigations in each region.

The Paediatric Death Review Committee (PDRC) reviews medically complex deaths where the cause and/or manner of death may be in question, or where there are concerns regarding the medical care. The Committee may also review selected cases where concerns are raised by family members or caregivers.

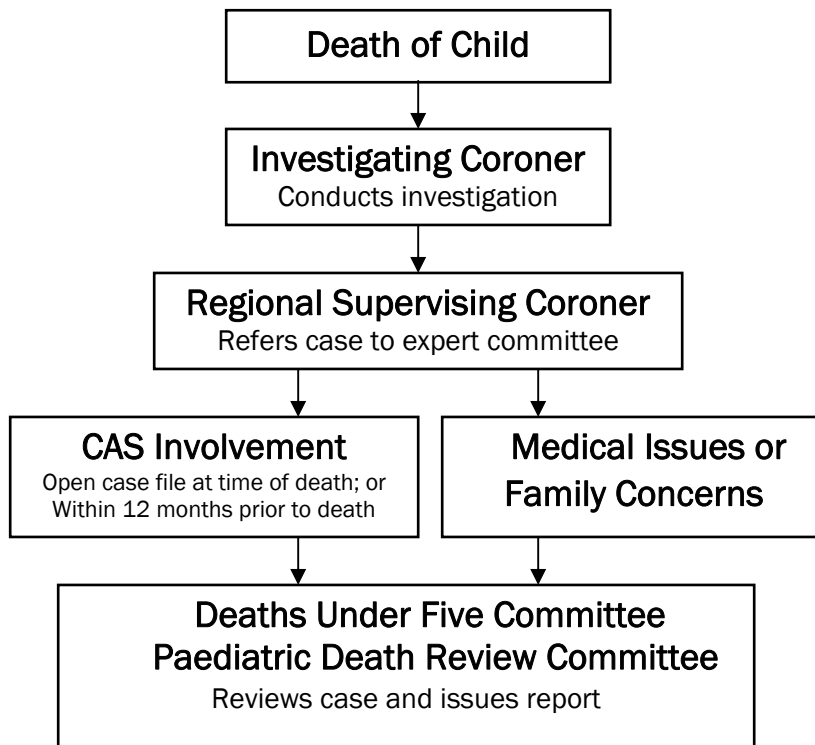
The Deaths Under Five Committee (DU5C) reviews the deaths of children under five years of age in Ontario, assists in the classification of cause and manner of death, and may forward the case for further review to the PDRC as required.

The Regional Supervising Coroner, having decided that the case requires a review, will refer the case to the PDRC. Items reviewed by the PDRC will include the Coroners Investigation Statement, autopsy report, toxicology report, ancillary reports, police report, child welfare documents and medical files.

All cases where the deceased child had an open file with a Children's Aid Society (CAS) at the time of death, or within the preceding 12 months, are reviewed.

The contents of the file are distributed to the various experts on the Committee and a report is generated by a Committee member who is designated as the primary reviewer. At the monthly meeting, the entire Committee, with representation from all disciplines, discusses the report and a consensus report, including recommendations, is developed by all members. The final PDRC report is forwarded to the Regional Supervising Coroner, the CAS, if involved, and the Ministry of Children and Youth Services (MCYS). The Regional Supervising Coroner may decide to send the recommendations to other relevant agencies depending on the circumstances of the case.

Flow of Information in Ontario's Child Death Review Process



Overview of the Death Investigation of a Child Receiving Services from a Children's Aid Society in Ontario

The Joint Directive: Office of the Chief Coroner and the Ministry of Children and Youth Services

This documents the comprehensive investigation of a child who dies while receiving services from a Children's Aid Society (CAS) in Ontario as per the Joint Directive (2006). It includes:

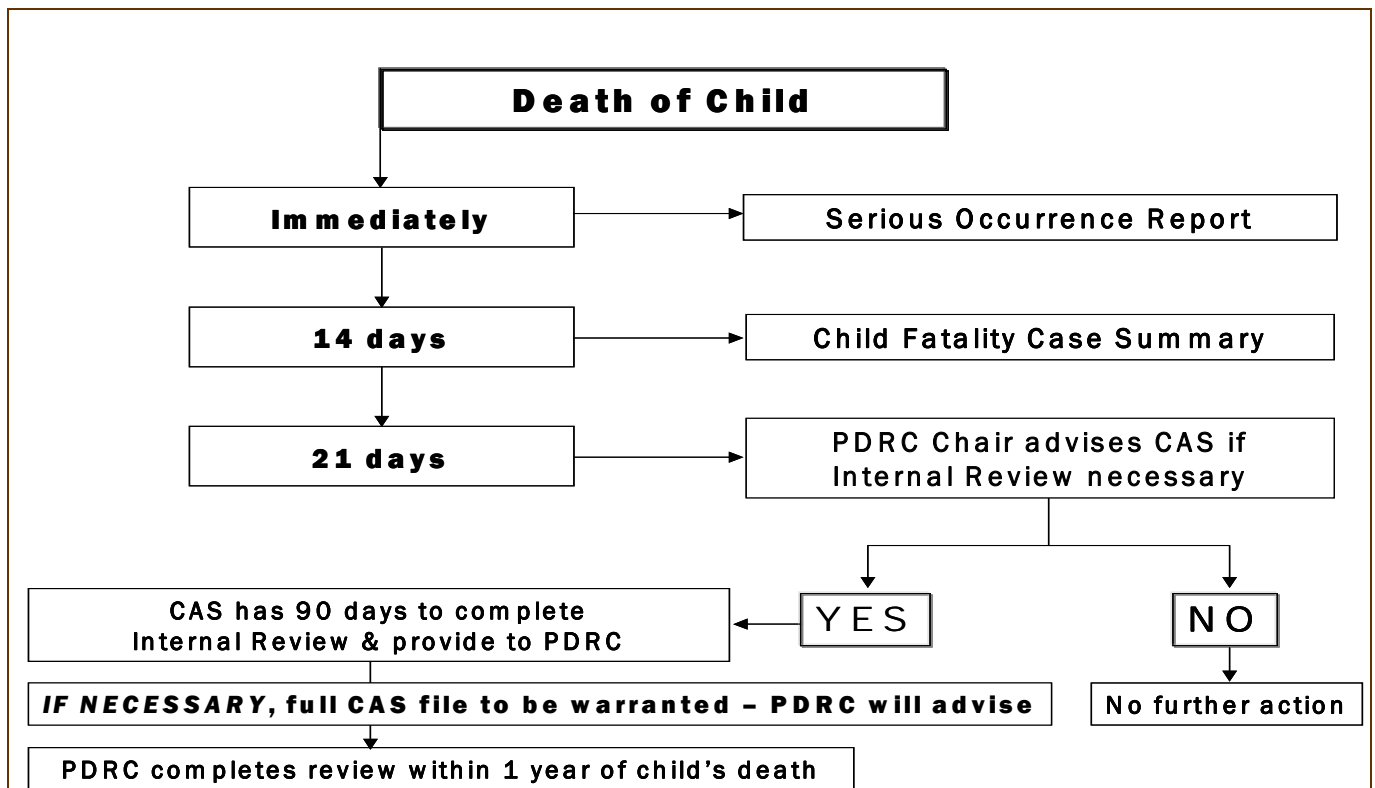
1. A Serious Occurrence Report, provided by the CAS to the Office of the Chief Coroner (OCC), immediately.
2. A Child Fatality Case Summary, provided by the CAS to the Office of the Chief Coroner within 14 days.
3. At this point, and upon review of the circumstances of the death, the OCC will notify the CAS if a full Internal Review is necessary. This notification will occur within 21 days of the death. For example, a child that dies as a result of a motor vehicle collision may not require an Internal Review. However, if a child died under one year of age while in the family home where there is a history of substance abuse with the parents, an Internal Review would be considered mandatory.
4. The Internal Report must be completed by the CAS within 90 days of the death. All of these reports are shared with the PDRC.
5. A coroner's investigation. The police assist the coroner and provide such assistance as is necessary for the purposes of carrying out the coroner's duties.
6. If the death is a homicide or criminally suspicious, a parallel police investigation will be conducted for the criminal justice system.
7. An autopsy by a forensic and/or paediatric pathologist. In criminally suspicious cases, the forensic pathologist may attend the scene.
8. A toxicologist's report.
9. A radiologist's report.
10. A case conference is often convened. This meeting is generally chaired by the Regional Supervising Coroner, and involves police, the investigating coroner, the pathologist, the toxicologist, a neuropathologist when required, and a child welfare expert. This meeting will determine what, if any investigative issues may need to be addressed. It may also facilitate development of opinions as to cause and manner of death.
11. The investigating coroner will conclude the investigation, and send his Coroner's Investigation Statement to the Regional Supervising Coroner (RSC). The RSC will review the case for any errors or omissions, and may choose to send the case for further review to an expert committee. If the child was under the age 5 years, referral to the Deaths Under Five Committee is *mandatory*. The age and circumstances surrounding the death will determine a referral to the Paediatric Death Review Committee.
12. A review of the death by the Deaths Under Five Committee will be conducted. This multidisciplinary Committee consisting of coroners, pathologists, a child maltreatment expert, homicide detectives, a crown attorney, and child welfare experts has a quality assurance mandate. The officers assigned to the Committee will inquire of the original investigating police service about the nature of the investigation utilizing a summary framework. When providing their findings to the Committee they will provide death scene and selected autopsy photographs. These officers are senior homicide detectives.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

A pathologist will review the original pathologist's autopsy report, and provide a written report of the findings. If there are any concerns about the pathologist's original autopsy report identified, the Chief Forensic Pathologist is asked to review the case. This Committee will make findings of cause and manner of death. This report will then be forwarded to the RSC, who will review the report and make any necessary updates to the Coroner's Investigation System. The Committee will also make recommendations regarding quality-related issues in the death investigation. In addition, the Committee may refer the death to the PDRC for further review.

13. A review by the Paediatric Death Review Committee will be completed. The members include child welfare experts, coroners, homicide detectives, paediatricians, and pathologists, who create the reports of the Committee. The report may focus on the child welfare aspects of the death, the medical/paediatric aspects of the death, or both. Recommendations will be developed and sent to the RSC, the CAS, and the Ministry of Children and Youth Services. The Committee is independent of both the Ministry and the CAS.
14. The CAS will implement the recommendations where practical and usually provide feedback to the PDRC about the Committee's findings. The Ministry of Children and Youth Services will independently report expectations arising from the death to the CAS through its regional offices and will respond to any recommendations directed to them.

The chart below shows the flow and timelines as outlined in the Joint Directive for Child Death Reporting and Review:



Deaths Under Five Committee

In 1995, the Office of the Chief Coroner introduced a protocol to be used in investigating the death of any child under 2 years of age. Over the years, the protocol has been significantly refined, and in December 2006, it was felt appropriate to issue an up-to-date version of the protocol, to be used by the death investigation team (police, coroners, pathologists) to investigate sudden and unexpected deaths of all children **under 5 years** of age. As a result, the *Deaths Under Two Committee* was renamed the *Deaths Under Five Committee* to encompass the new age range.

Coroners and other members of the death investigation team were once again reminded of the importance of not reaching a conclusion that death was due to Sudden Infant Death Syndrome (SIDS) until the investigation is complete. This includes a full police investigation, a forensic autopsy at one of the designated paediatric units (including x-rays, histology and toxicology), and review by the Deaths Under Five Committee at the Office of the Chief Coroner. On occasion, families, CAS and police are advised that deaths are due to SIDS before the investigation is complete. In many cases, this means that police and the CAS close their investigations prematurely believing the case is a natural death and therefore, not preventable or warranting further investigation.

National Association of Medical Examiners (NAME) Guidelines for Classifying Deaths

The Office of the Chief Coroner uses the National Association of Medical Examiners (NAME) guidelines when classifying infant deaths. This allows for consistent classification in the Coroners system. The following NAME Guidelines have been used by the Paediatric Death Review Committee and Deaths Under Two Committee (now the Deaths Under Five Committee) since 2002:

Definitions:

COD: Cause of Death

BWM: By What Means (Manner of Death)

Group 1	<p>COD: A specific disease, injury, or other condition identified as cause of death (i.e. pneumonia, CHD, overlaying, head trauma, etc).</p> <p>BWM: Classified based on the circumstances</p>
Group 2	<p>COD: "Classic" SIDS – no cause of death identified after complete autopsy, toxicology, other lab tests, scene investigation, review of medical history.</p> <p>BWM: Natural</p>
Group 3	<p>COD: Consistent with SIDS – but evidence of a disease condition (such as focal bronchiolitis) is found but the role of the condition in causing or contributing to death is not known.</p> <p>BWM: Natural</p>
Group 4	<p>COD: Sudden unexpected death in infancy – evidence of external condition or risk factor exists (bed sharing with adults, sleeping face down on a soft pillow or adult mattress). Again the role of the external condition/risk in causing or contributing to the death is not truly known or difficult to evaluate, prove, or disprove.</p> <p>BWM: Undetermined (<i>also list the contributing external factors</i>)</p>
Group 5	<p>COD: Unexpected and undetermined cause</p> <p>BWM: Undetermined</p>

Deaths of Children 0–5 years of age Investigated by a Coroner in Ontario (2004 – 2008)

Age 0 to 5 yrs Manner of Death	2004	2005	2006	2007	2008*
Natural	178	136	134	122	100
Accident	34	33	43	36	21
Homicide	5	10	13	7	1
Undetermined	41	53	58	52	52
Total	258	232	248	217	174

*NB: 2008 are preliminary statistics. These figures may change once the statistical year is completed.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Data on Cases Reviewed in 2009 by the Deaths Under 5 Committee

- A total of 92 cases were reviewed this past year
- 60 (65%) of 92 deaths were classified as Undetermined
- 38 (63%) of the Undetermined cases involved unsafe sleeping environments
- 24 (63%) of these unsafe sleeping deaths were related to cases involving bed sharing

Manner of Death for 92 Cases Reviewed

Natural	Accident	Undetermined	Homicide
16	14	60	2

Year of Death for 92 Cases Reviewed

1996	2005	2006	2007	2008	2009
1	2	4	32	52	1

Trends in Infant Deaths in Ontario

- Decrease in the number of SIDS
- Increase in the number of SUDI
- Unsafe sleeping, bed sharing were contributing factors to the SUDI total

According to Statistics Canada:

(www.statcan.gc.ca)

Infant Mortality Rates: (per 1000 live births)	2003	2004	2005	2006	2007
Ontario	5.3	5.5	5.6	5.0	5.2

In 1991, there were approximately 140 deaths classified as SIDS in the Province of Ontario. Clearly, since that time, the numbers have decreased to an average of 3 per year (2006-2008), likely due to:

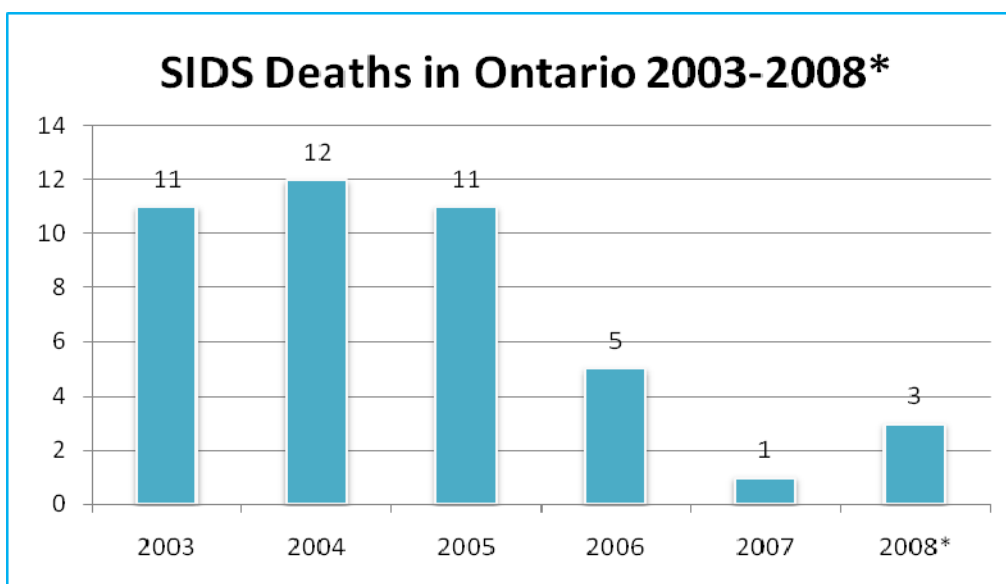
- 1) **Education:** Back to Sleep Program - referring to placing a baby on their back (supine position) when putting them down to sleep.
- 2) **Stricter Definition of SIDS:** The Office of the Chief Coroner uses the National Association of Medical Examiners (NAME) guidelines when classifying infant deaths. This allows for a consistent classification of manner of death in the coroner's system.
- 3) **Deaths Under Five Investigation Questionnaire:** Designed by the Coroner's Office, the questionnaire assists coroners and police officers to ensure that all aspects of a comprehensive scene investigation have been addressed.

SIDS: Sudden Infant Death Syndrome

Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant under one year of age, which remains unexplained after a thorough case investigation, which must include a complete autopsy, examination of the death scene, a police investigation and a review of the clinical history.

It is clear from this definition that the diagnosis of SIDS cannot be made by autopsy alone, but can only be made by the Coroner when the results of the full investigation (police, autopsy, x-rays, toxicology, clinical history) are known. **SIDS is a diagnosis of exclusion.**

SIDS is a **diagnosis of exclusion**, providing all other aspects of the death investigation are negative.



*2008 are preliminary statistics. These figures may change once the statistical year is completed

SUDI: Sudden Unexpected Death in Infancy

If **any** part of the death investigation in a child under one year of age is positive, then the death will not be classified as SIDS. The following are some examples where this would apply:

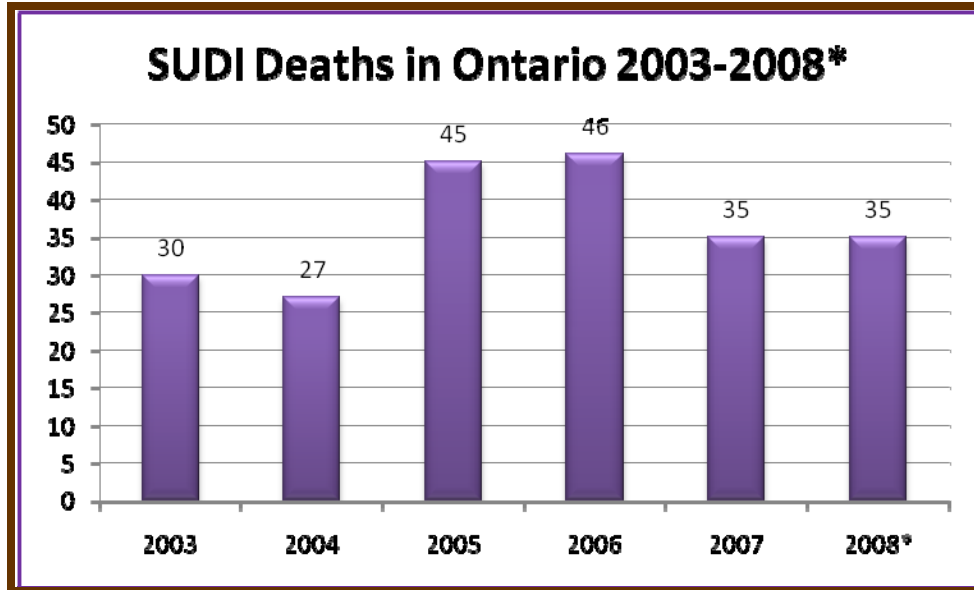
- Negative autopsy, but evidence of an old healed fracture, which has not been adequately explained by the investigation.
- Negative autopsy, but a previous history of child abuse.
- Negative autopsy, but some positive toxicology, which although not considered to be a cause of death, cannot be explained.
- Negative autopsy, but evidence of an unsafe sleeping environment.

Where there is any significant concern regarding any part of the death investigation the cause of death should be classified as a "Sudden Unexpected Death in Infancy", and the manner of death will be recorded as "undetermined".

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Contributing Factors can include:

- Bed sharing
- Sleeping face down
- Unsuitable sleeping surface (i.e. adult bed, sofa, car seat)



*2008 are preliminary statistics. These figures may change once the statistical year is completed

UNSAFE SLEEP ENVIRONMENTS:

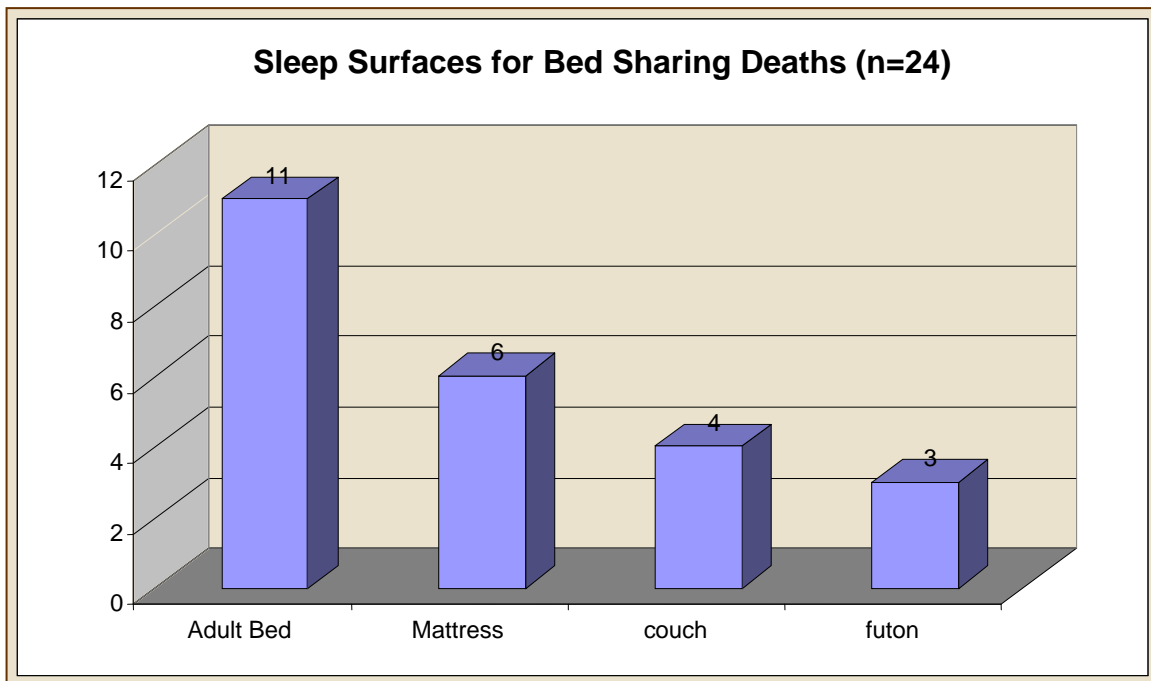
More information about the 38 unsafe sleeping related deaths reviewed by the Deaths Under 5 Committee in 2009 is presented below.

GENDER: 14 of the infants were female; 24 were male

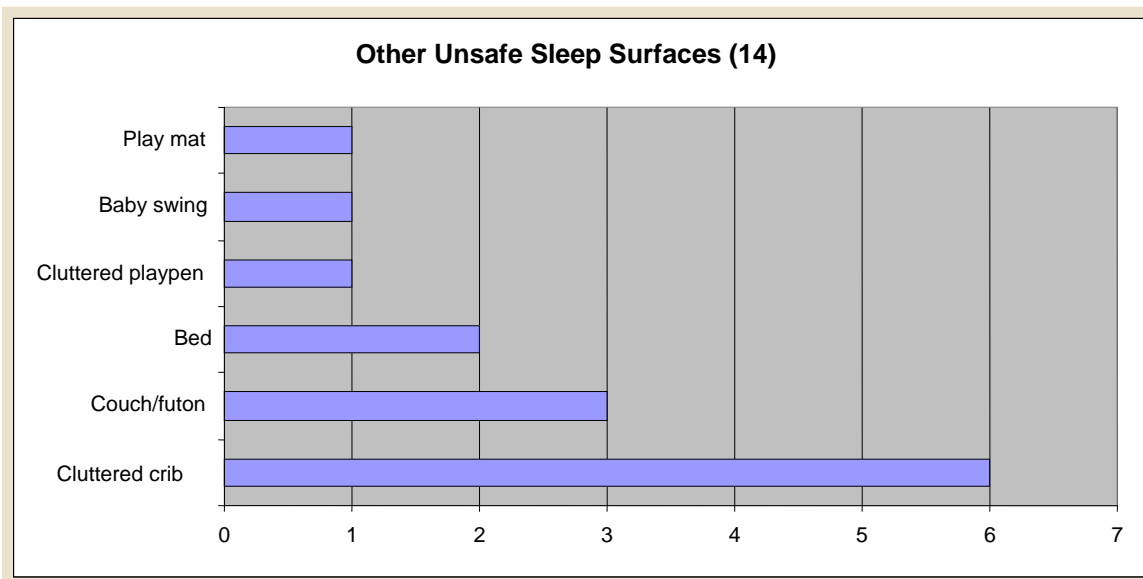
AGE: 37/38 of the infants who died in unsafe sleeping situations were 5 months of age or younger (25 of which were under 3 months old) and 1 was 8 months old, stressing the increased risk of sharing a sleep surface with very young babies.

Of the 24 unsafe sleeping related deaths with bed sharing, 23 involved one or both parents, one involved an adolescent babysitter and in 3 cases another child was also in the bed. A breakdown of who was sleeping with the infant and on what surface (most common being an adult bed) follows:

Mother only	12
Father only	3
Both parents	5
Baby sitter	1
Mother and Sibling (s)	3



14 infants died alone in unsafe sleep environments, most often involving the clutter of toys, pillows, blankets and clothing.



Note: In addition to these identified “unsafe sleeping” related deaths, two other SUDI deaths were reviewed where the infants died in “sling” type infant carriers on an adult’s chest. Parents are cautioned to keep a close eye on babies while using these carriers, not to over-heat them, and not to leave babies in them for extended periods of time.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Many Child Death Review teams in a number of jurisdictions have similar findings and several organizations have taken a strong stance and have issued position statements and warnings about the risks associated with bed sharing (see text boxes on page 15).

This message is meant to raise the awareness of parents, alternate caregivers, and professionals who work with young children, as it is critical in the prevention of future deaths. Further education and research in this area is warranted and is ongoing.

The Public Health Agency of Canada has revised and is now distributing its Safe Sleep Brochure for Infants. The brochure and the following one page handout is available at: www.publichealth.gc.ca/safesleep

A Baby's Safe Sleep Environment

1. Always place baby on back for naps and at night.
2. No smoking around baby.
3. Baby sleeps alone in crib.
4. Crib empty of toys and loose bedding.
5. Crib next to adult's bed for first 6 months.
6. Firm crib mattress, tight-fitting sheet.
7. Crib meets Canadian safety regulations.
8. Baby's face uncovered.
9. Baby in light clothing, not too hot.
10. Share this information with anyone who may care for your baby.

For more information and resources please visit:
www.publichealth.gc.ca/safesleep
www.healthcanada.gc.ca/cps
www.sidscanada.org

Public Health Agency of Canada / Agence de la santé publique du Canada

Canada

Unsafe Sleeping and Bed Sharing Case Examples

1. Unsafe Sleep Environment:

A 3 month-old female was fed at 4:00 a.m. and was then placed on her blanket, between two soft cushions on a chair, in the living room (temperature approximately 17 degrees C). At 8:00 a.m., the mother was awakened and found her baby face down and not breathing. She performed CPR and called 911. The infant was pronounced dead at the hospital. The toxicology report was negative.

Cause of Death:

No definitive anatomic or toxicologic cause of death; SUDI (Sudden Unexpected Death in Infancy) in an unsafe sleeping environment (cushions on a chair).

Manner of Death:

Undetermined



2. With Bed Sharing:



The mother, father and a 2 month-old went to sleep in the couple's bed. The father was sleeping on the outside of the bed, the mother in the middle, and the baby was next to the mother and the wall. At approximately 8:00 a.m. the father awoke and observed the infant to be lying on his stomach and not breathing.

Cause of Death: No definitive anatomic or toxicologic cause of death; Sudden Unexpected Death in Infancy (SUDI) in the presence of bed sharing in an unsafe sleeping environment (adult bed)

Manner of Death: Undetermined

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

(Box 1)

Safe Sleeping Position Statements and/or Warnings Issued:

1999	U.S. Consumer Product Safety Commission
1999	American Medical Association
1992 - 2008	American Academy of Pediatrics
2004	U.K. Department of Health
2004	Canadian Paediatric Society
2004	Michigan Department of Community Health (Report of the Safe Sleep Work Group)
2007- 2010	Ontario Office of the Chief Coroner – PDRC
2007- 2010	Canadian Foundation for the Study of Infant Death
2008	Health Canada Consumer Product Safety
2010	Public Health Agency of Canada

(Box 2)

Data from other Child Death Review Teams

British Columbia Coroners Service, Child Death Review Unit, reported these findings in 2009:

- The majority of (113) sudden infant deaths (2003-2007) occurred between 2-4 months of age.
- Modifiable risk factors were present in many of the infants' lives (i.e. adult smoking).
- Cluttered sleep surfaces were present in the majority of cases.
- 50% were placed to sleep on an adult mattress.
- 45% of the infants were bed sharing at the time of death.
- Less than half of the infants were placed to sleep on their back.
- 18/113 did not have a safe sleep surface available to them.

St. Louis Safe Sleep Task Force reported that between 2002-2004, 93% of the 99 sudden unexpected infant deaths in that region were related to unsafe sleeping environments.

The City of Milwaukee Health Department reported that in 2007, its infant mortality rate was 9.8 per 1000, a rating of 7th worst in the top 53 largest U. S. cities. About 10-15% of Milwaukee's infant deaths are attributable to a combination of Sudden Infant Death Syndrome (SIDS) and Sudden Unexpected Death in Infancy (SUDI) and unsafe sleep. Of these deaths, the majority died in an unsafe sleep environment.

Oklahoma Child Death Review Board reported 105 unsafe sleeping related deaths in 2007. It recommends safe sleep education for parents in hospital prior to discharge and upon well-baby visits, crib distribution for low-income families, and safe sleep policies for hospitals.

The Michigan Child Death Review Team reported 125 bed sharing sleep related deaths in 2005-2006 and recommended state-wide consistent safe sleep messages for parents.

The Florida Child Abuse Death Review Committee (2008) reported that 48 infants between the ages of 0-6 months died in unsafe sleep related circumstances, including bed sharing and cluttered sleep surfaces (4 infants were left unattended for 11-16 hours).

New Zealand's Child and Youth Mortality Committee reported 150 known (some data was not available) SUDI cases involving bed sharing between 2003-2007; at least 130 were infants under four months of age. Several recommendations focus on the delivery of clear, consistent messages and extensive awareness and education efforts for parents at various stages of their parenthood experience.

Commentary

Time for a National Preventative Medicine Educational Program Risks of Bed Sharing Outweigh Benefits

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A 16 day-old infant was brought to the hospital by paramedics a few minutes after 6 a.m. on Dec 24, 2005. Minimal resuscitative measures were undertaken at that time because of the physical appearance of the infant. The mother had put the infant to bed next to her at about 9:30 p.m. at which time the infant had been fed. The mother stated that she woke up shortly after 5 a.m. and found the infant blue and unresponsive beside her. She had called an ambulance which had been dispatched at about 5:13 a.m. Resuscitative efforts were unsuccessful and the infant was pronounced deceased upon arrival at the hospital.

Cause of death: No definitive anatomic or toxicologic cause of death. Sudden Unexpected Death in Infancy (SUDI) in the presence of bed sharing in an unsafe sleeping environment (adult bed).

Manner: Undetermined

The above real case scenario as presented, and variations of similar circumstances, unfortunately have become and remain an ever-increasing repetitive theme in the investigation of cases of sudden unexpected death in infants in Ontario.

The Office of the Chief Coroner for Ontario (OCCO) through the comprehensive review process of the Deaths Under Five Committee (DU5C) and the Paediatric Death Review Committee (PDRC) has identified trends over recent years which feature bed-sharing as a significant factor in Sudden Unexpected Death in Infancy (SUDI).

The OCCO acknowledges and has learned through continuous research and stakeholder meetings that the information and literature regarding bed-sharing is not without controversy. Parents and caregivers are consistently being given conflicting information and advice by friends, family and even health care providers regarding safe sleeping practices at a very vulnerable and often stressful time in their lives.

Literature produced by advocacy groups around the world promoting breastfeeding is easily referenced on the internet and sends very strong and emotional messages regarding the benefits of bed sharing with respect to breastfeeding. One such message reads, “*Make it easy at **night time**. Your baby will need to breastfeed during the night. Worldwide and throughout history mothers have found that breastfeeding has been made easier at night by taking their babies into bed with them and feeding lying down; they say that they rest better this way and it can make night feeds a real pleasure.*”¹

A further example, “*There are many ways of cosleeping*. Some mothers keep their babies in bed with them all the time....Cosleeping can be a safe and warm way to parent babies*”.²

The scientific literature and the field of research on the topic often add to the challenge of clarifying the risks of bed sharing. “*Breast feeding and co-sleeping, including breast feeding in the context of bedsharing, are often mutually reinforcing and constitute an integrated system.. ...the choice to breast feed leads, in many cases, to increased bedsharing behaviour ... which increases breastfeeding frequency and extends duration of breast feeding in months.*” Bedsharing outcomes “are best conceptualized as falling

* Cosleeping is used interchangeably with the term bed sharing in this reference

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

along a benefit-risks continuum, with degree of risk or protection from sudden infant death syndrome (SIDS) being determined by the presence or absence of breast feeding behaviour and independent adverse risk factors.”³

More compelling, is the fact that many of these advocacy groups reference and/or quote these scientific papers, which *may be* biased or non-evidence based to support their position. *“Studies have shown that co-sleeping with a breastfeeding infant promotes bonding, regulates the mother and baby’s sleep patterns, plays a role in helping the mother to become more responsive to her baby’s cues, and gives both the mother and baby needed rest... (<http://www.nd.edu/~jmckenn1/lab/faq.html>)”.*⁴ The research community is also juxtaposed on this issue, again raising more questions for debate: *“However, no epidemiologic studies have reported a protective effect from bed sharing, and bed sharing hence should not be encouraged as a method of reducing SIDS risk”.*⁵

In June 2009, the PDRC and DU5C released its annual report; some of the Sudden Unexpected Death in Infancy (SUDI) data presented included:

- A total of 96 cases were reviewed last year
- 40 of 96 deaths were classified as Undetermined
- 33 (75%) of the Undetermined cases involved unsafe sleeping environments
- 19 (58%) of these unsafe sleeping related cases involved bed sharing
- 11 of the infants were female; 22 were male
- 31 of the infants were 7 months of age or younger and 2 were 10 months old, stressing the increased risk of sharing a sleep surface with very young babies. ⁶

In the 19 unsafe sleeping related deaths with bed sharing, all involved one or two adults and in one case, another child was also in the bed. Comprehensive post-mortem examinations did not identify causes of death. It is our belief that a significant number of these deaths may have resulted from respiratory interference due to airway obstruction and/or compression of the torso, for which there is no anatomic correlate.

The safest and most effective way to reduce risk and prevent harm to a newborn is to place the child in the parents’ room in an approved crib. This proximity facilitates breastfeeding and bonding as the neonate, following feeding, is placed back in the safety of its own crib. Bed sharing with an infant carries a risk of death and this outweighs any benefit. Bed sharing on a soft sleep surface or an inappropriate sleep environment such as an adult bed, couch, recliner, air mattress or armchair is dangerous and carries an even *higher* risk.

A clearly stated and defined message, with a well developed educational program which is embraced and promoted by all stakeholders is long overdue. This commentary trumpets the call for a *Canadian National Preventative Medicine Educational Program* directed to newborn parents and delivered by primary care physicians, health care providers, public health agencies and government ministries about proper sleeping environments for children. Parents of new children should be educated about the risk of bed sharing and the utilization of unsafe sleep environments at the time of hospital discharge, and at early new baby check-ups.

Bed sharing deaths are preventable and the preventable death of one child, is one too many.

18 PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

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3. McKenna, J.J. and T. McDade. “Why babies should never sleep alone: A review of the co-sleeping controversy in relation to SIDS, bedsharing and breast feeding”, in *Paediatric Respiratory Reviews* (2005) 6:134-52.
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6. Annual Report of the Paediatric Death Review Committee and Deaths Under Five Committee, Office of the Chief Coroner, Ontario, June 2009

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Bed Sharing: What is all the Fuss About?

The parental bed was not designed with infant safety in mind and poses a risk beyond any association with SIDS in terms of overlaying, entrapment and infants falling out of bed. The adult bed presents a greater risk than cribs for suffocation, entrapment and strangulation as adult beds are not required to meet the same safety standards that are required for cribs and cradles. Perhaps as a result of the lack of standards not only for the adult bed, but also for the bedding and the placement in the room, the adult bed has been identified as 40 times more of a risk for infant sleep than cribs. Adult beds were also found to be hazardous because of their location near a wall, the presence of pillows or soft bedding or because of bed sharing. Infants may also be at great risk in the adult bed because of their immature motor skills and lack of ability to escape threats in the sleep environment such as entrapments or overlays. When studied, 70% of infants overlain were younger than 3 months old and more than half of these deaths occurred in an adult bed.¹

Introduction

Why is the Office of the Chief Coroner of Ontario fussed about bed sharing? Why do we recurrently bring it to the attention of Ontarians in each Annual Report?

In 2007, our office reviewed 149 deaths of infants under the age of 12 months. Of those deaths, 24 of the infants died while bed sharing and another 9 died in an unsafe sleep environment. Fully, 33 of 149 deaths of children under the age of one were related to unsafe sleep environments, either bed sharing or an improper sleep surface, or both (16). ***This represents 22% of the deaths of children investigated by a coroner under the age of a year.*** Sadly, these deaths are most certainly largely preventable. Extrapolated over a 10 year period, this could translate into the preventable deaths of ***330 children!***

Definitions

Bed sharing

A sleeping arrangement in which an infant shares the same sleeping surface (e.g. bed, couch, futon, armchair, water bed, beanbag chair) with another person (parent, sibling).

Room sharing

A sleeping arrangement in which the infant does not share the same sleeping surface as a parent or sibling but sleeps in the same room separate but proximate to the parents.²

Infant Mortality Rate

The number of deaths of infants under one year of age in a given year per 1,000 live births in the same year. The rate is used as indicator of the level of health in a country.³ In Canada, the Infant Mortality Rate is 5.04.

Sudden Infant Death Syndrome

The sudden death of an infant under one year of age, which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene and review of the clinical history.⁴

¹ Trifunov, Wendy, The Practice of Bed Sharing: A Systematic Literature and Policy Review, Public Health Agency of Canada, pg. 1

² Trifunov, Wendy, The Practice of Bed Sharing: A Systematic Literature and Policy Review, Public Health Agency of Canada, pg. 2

³ [Http://www.indexmundi.com/Canada/infant_mortality_rate.html](http://www.indexmundi.com/Canada/infant_mortality_rate.html)

⁴ Willinger, M., et al, Defining the sudden infant death syndrome (SIDS): Deliberations of an expert panel convened by the National Institute of Child Health and Human Development. *Fetal and Pediatric Pathology*, 11, 5, 677-684.

Sudden Unexpected Death in Infancy (SUDI)

Sudden Unexpected Death of an Infant is any infant death that is unexpected and initially unexplained. It would traditionally include:

- SIDS
- Accidental injury
- Non-accidental injury due to neglect or abuse, and
- Previously undiagnosed natural disease process.⁵

This definition more closely approximates that developed by the Confidential Enquiry into Stillbirths and Deaths in Infancy study in the United Kingdom.⁶

Why is the death rate of SIDS going down and the rate of SUDI going up?

Likely, this trend is attributable to two causes:

1. The *Back to Sleep* program to sleep children on their backs as opposed to their stomachs.
2. Unsafe sleep environments negating SIDS diagnosis and shifting these to SUDI.

Frequently, however, a cause of death is determined after a thorough investigation and autopsy, and in Ontario, a cause and manner of death would therefore be properly ascribed and the death not considered a SUDI.

The deaths that remain unexplained following the *autopsy* were traditionally defined as SIDS. SIDS was considered a type of Sudden Unexpected Death in Infancy. The Office of the Chief Coroner in Ontario has departed from this paradigm. We apply the strict definition of SIDS, and therefore do not consider the presence of an unsafe sleep environment at a death scene, typically consisting of bed sharing, or unsafe sleep surfaces for infants, or both to allow us to classify the cause of death as SIDS. This trend is occurring with increased frequency outside of Ontario as well.

*“Although the rate of sudden infant death syndrome (SIDS) has decreased over the last two decades, medical examiners and coroners are increasingly unwilling to use the SIDS diagnosis, particularly where there is an unsafe sleep environment that might pose a risk for asphyxia”.*⁷

Prevalence of Bed Sharing

Ateah and Hamelin studied mothers' practices and experiences with bed sharing and their infants. The participants were the mothers of infants aged 3 months, who were asked to complete a questionnaire. This Canadian study was remarkable in several ways:

- 89% of participants agreed that sleeping with one's baby had risks associated with it.
- 72% reported that they bed shared with their baby on either a regular or occasional basis.
- Mothers who breast fed were twice as likely to bed share.
- 13% of respondents who had bed shared reported an experience with bed sharing in which they had rolled onto or partway onto their infant.

In Ontario, there are approximately 134,000 live births per year.⁸ Based on Ateah's incidence of 72%, this gives an approximate figure of 95,500 mother/infants that have been involved in bed sharing in the first year of life. Literature from other jurisdictions tends to support Ateah's findings.⁹

⁵ Office of the Chief Coroner, Province of Ontario, June 2008.

⁶ Fleming, P., et al, Sudden unexpected deaths in Infancy: The CESDI SUDI studies 1993-1996. London. The Stationary Office: 2000.

⁷ Randall, B., et al, A practical classification schema incorporating consideration of possible asphyxia in cases of sudden unexpected infant death, *Forensic Sci Med Pathol* (2009) 5:254-260.

⁸ <http://www.statcan.gc.ca/pub/84f0210x/2005001/4068676-eng.htm>

⁹ Ball, H., Bed-sharing and co-sleeping, *New Digest* 48, October 2009

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

<i>Table 1</i>	<i>Bed Sharing Prevalence</i>	<i>Up to 6 months of age</i>
Van Sleuwen et al (2003)	40% 210 Dutch families	questionnaires
Tuohy et al (1998)	43% 6,268 NZ families	Interviewed at clinics
Gibson et al (2000)	46% 410 Philadelphia families	questionnaires
Rigda et al (2000)	46% 44 Australian families	questionnaires
Ball (2002)	47% 253 NE UK families	interviews/sleep diaries
Brenner et al (2003)	48% 394 Inner city	mothers interviewed
Willinger et al (2003)	47% 8,453 US caregivers	telephone survey
Blair & Ball (2004)	48% 1,095 UK CESDI control families	interview
Bolling et al (2007)	49% 12,290 UK mothers	postal survey
Ateah & Hamlyn (2008)	72% 293 mothers in Canada	surveyed in Manitoba
Lahr et al (2005)	77% 1,867 US families	Oregon PRAMS surveys

Key Messages

These key messages are provided by the Canadian Paediatric Society:

1. The safest place for babies to sleep is in their own cribs, and in the parents' room for the first six months of life.
2. The crib should meet the Canadian government's safety standards.
3. Infants should sleep on their backs.¹⁰

Key messages from other sources include:

4. Other than a firm mattress and fitted sheets, there is no need for extra items in the crib; this means no toys, blankets, pillows, or bumper pads. Extra items in the crib could increase the risk of injury due to suffocation.
5. Infants less than one year of age should not sleep in an adult bed, couch, futon, pillow, water bed, chair, beanbag, or air mattress.
6. Infant car seats are for travel, and should not be utilized as a substitute for proper infant sleep surfaces, such as an approved crib or bassinet.
7. Do not smoke around infants and children.
8. Bed sharing is unsafe because babies can suffocate if they become trapped between the sleeping surface and the parent, or another object.

Recommendations

Given the prevalence of bed sharing, and the potential danger that it poses to infants, the Office of the Chief Coroner urges and supports:

1. A Canadian national preventative medicine educational program that should be created and directed to parents of newborns and delivered by primary care physicians, health care providers, public health agencies and government ministries about proper sleeping environments for infants.
2. Parents of newborns should be educated about the risk of bed sharing and taught about safe sleep environments before being discharged from all Ontario hospitals.

¹⁰ Recommendations for safe sleeping environments for infants and children, Paediatric Child Health, Vol. 9, No. 9, November 2004.

Conclusion

One may be mollified by the vast number of those who bed share in Ontario versus the actual number of bed sharing deaths, and interpreting this as a sign of safety. If you accept Ateah's figure of bed sharing at 72%, this means that there are approximately 95,500 women who either regularly or occasionally sleep with their infants in Ontario each year. In 2007, 24 infants died while bed sharing in the province. There is no consolation or solace for those that lose their children in these circumstances.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

OVERVIEW - PAEDIATRIC DEATH REVIEW COMMITTEE MEDICAL AND CAS CASE REVIEWS 2004-2009

The Paediatric Death Review Committee and the Deaths Under Five Committee review a large number of cases annually. The intake, preparation and review of these cases are labour intensive and have increased over time.

In 2004 the PDRC conducted 60 case reviews including 27 Medical and 33 CAS reviews.

In 2005 the PDRC conducted 49 case reviews including 21 Medical and 28 CAS reviews.

In 2006 the PDRC conducted 86 case reviews including 23 Medical and 63 CAS reviews.

The information and table below outlines the reviews completed over the last three years.

In **2007**, 91 cases were reviewed including 18 Medical and 73 CAS cases.

In **2008**, 138 cases were reviewed; reports were issued on 82 cases including 40 Medical and 41 CAS plus one non-CAS case). 56 of the CAS cases were reviewed and resolved by the Executive Committee of the PDRC

In **2009**, **135** cases were reviewed; reports were issued on **61** cases including **28 medical and 33 CAS** cases. These 61 cases and reports are analyzed in detail throughout this report. **74** of the CAS cases reported were reviewed and resolved by the Executive Committee of the PDRC, requiring no further review.

There has been a clear increase in the number of CAS cases the PDRC has reviewed since the revised Joint Directive between the Office of the Chief Coroner and the Ministry of Children and Youth Services, effective March 31, 2006 allowing for a timelier and more streamlined approach to reviewing CAS files. This agreement is discussed on pages 6 & 7 of this report.

Manner of Death	2007		2008			2009		
	Medical	CAS	Medical	CAS	Executive Review	Medical	CAS	Executive Review
Natural	17	10	30	2	27	19	1	34
Accident	0	23	1	1	11	2	9	12
Homicide	0	10	1	4	3	0	3	6
Suicide	1	8	0	14	1	0	6	2
Undetermined	0	15	8	21	3	7	14	7
Still Under Investigation	-	7	-	-	11	-	-	13
Total Case Reviews:	18	73	40	42	56	28	33	74

Public and Patient Safety Initiatives

Working to Improve Patient Care: How does the Paediatric Death Review Committee enhance the public safety mandate of the Office of the Chief Coroner?

The Office of the Chief Coroner (OCC) has a specific mandate to promote public and patient safety. If a potential issue of safety is identified, the OCC has a number of methods to ensure that this issue is brought to the attention of appropriate organizations and agencies. Examples of approaches that the OCC may use to promote public safety include case specific recommendations, high level meetings, information disclosure to appropriate parties and finally, inquests.

The following case report illustrates how the Paediatric Death Review Committee can help to enhance public safety by contributing to improvement of patient safety.

Case Report

A five year-old boy was born prematurely at 25 weeks gestation. He remained in a level 3 neonatal intensive care unit (NICU) for 4 months after birth. He was transferred to a level 1 NICU for an additional month prior to discharge home with his parents. Home oxygen was provided for bronchopulmonary dysplasia until he was 14 months of age. His general condition, specifically his respiratory status, improved significantly and he was developmentally normal by the time of his death.

Over the years prior to his death he was noted to be using Salbutamol and Budesonide for viral illness episodes, but was not on any other medications. He had infrequent minor illness until the months preceding his death.

He presented to the emergency department of a secondary pediatric facility about 5 months prior to his death after a sudden loss of consciousness, suggestive of a seizure or syncope. A CAT scan (CT) of the head was normal. An ECG was completed which, upon retrospective review (during Paediatric Death Review Committee evaluation), demonstrated changes of significant right ventricular hypertrophy. This finding was not documented by the assessing paediatrician during the ER visit. The lack of documentation coupled with referral for an EEG (subsequently completed and found to be free of abnormality) suggested that the paediatrician believed the clinical presentation was seizure related.

About 10 days later, the child was admitted with status asthmaticus with a discharge note (after 5 days) documenting room air oxygen saturations of 91-98%. He was admitted again about 3 weeks later with possible pneumonia (chest x-ray opacification). He was discharged after one day. His hemoglobin was 138 with normal white blood cell count. When seen in follow up by his regular paediatrician, he was noted to have had three seizure like episodes. A sleep deprived EEG was planned.

He returned to the emergency department about 1 month prior to his death after a witnessed sudden loss of consciousness while sitting on a couch. No concerning abnormality was detected during medical assessment with a discharge diagnosis of seizure or syncope. A chest x-ray noted background chronic lung disease. The cardiac contour was noted to be normal. When seen in follow up by his paediatrician 5 days later, a recent history of chest pain was noted. His hemoglobin was 171. A Holter ECG, an MRI, pulmonary function studies and a sleep deprived EEG were planned. Both the Holter ECG and sleep deprived EEG were normal.

At least 3 more episodes of sudden loss of consciousness occurred prior to a return visit to the emergency department 2 days before his death. At that time, he was described to have been sitting on the toilet when he was observed to become pale with cyanosis of his lips prior to loss of consciousness. Retrospective review of the ECG completed in the ER noted changes felt to be representative of significant right ventricular hypertrophy. This finding was not documented by the attending paediatrician at the time of assessment. Cardiomegaly, increased perihilar markings and prominence of the pulmonary artery were

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

documented on the chest x-ray. His hemoglobin was 161. He was discharged home with a diagnosis of vasovagal syncope.

On the day of his death, he was sitting on the couch when he suddenly became rigid with loss of vital signs. Resuscitation attempts were undertaken unsuccessfully.

A post mortem examination demonstrated severe right ventricular hypertrophy, severe pulmonary hypertension and cor pulmonale. The forensic pathologist provided the cause of death as, severe cor pulmonale due to long term complications of bronchopulmonary dysplasia.

Paediatric Death Review Committee

The investigating coroner identified potential medical care related concerns. A case review by the Regional Supervising Coroner concurred with the concerns highlighted by the investigating coroner with recognition that these were present within the context of a medically complex death. The relevant medical records and primary testing material (i.e. ECG tracings, chest x-ray images) were obtained and forwarded to the Paediatric Death Review Committee (PDRC) for expert review.

PDRC medical reviews are undertaken to provide clarity to medical issues involved in the time preceding a child's death to ensure that there is a complete understanding of the circumstances of the death and develop any recommendations that may flow from the case evaluation.

In this case, the primary reviewer was a paediatrician from a comparable hospital setting.

A review of the ECG tracings noted a definitive abnormality indicating significant right ventricular hypertrophy 5 months prior to the death. These findings were present on the ECG completed 2 days before his death. Sequential review of the chest x-rays demonstrated a progressive abnormality over the same 5-month period.

After a thorough review, the primary reviewer presented the findings at the PDRC monthly meeting, where the entire Committee, with representation from all disciplines, discussed the report and a consensus report, including recommendations, was developed by all members.

The Committee members believed that the death resulted from significant cardiac abnormality (right ventricular hypertrophy) secondary to bronchopulmonary dysplasia and chronic lung disease. They provided an opinion that the clinical evaluation of his probable syncopal episodes, (given the ECG and chest x-ray findings with persistent polycythemia), coupled with the history of bronchopulmonary dysplasia and chronic lung disease, should have included an Echocardiogram, which would have most likely diagnosed his underlying condition.

Recommendations that arose from the PDRC review were:

1. The treating hospital should conduct a Quality of Care Review, QCIPA 2004 on the care and management of this child with specific reference to:

- a) The accuracy, reporting and interpretation of ECG's and chest x-rays.
- b) Mechanisms for the reporting of test results to ordering and consulting physicians.
- c) Timely interpretation and reporting of abnormal values to physicians.

2. The Fetal and Newborn Committee and follow up group of the neonatal and prenatal section of the Canadian Paediatric Society, should be provided with a copy of this report to highlight the necessity of examining the occurrence of long term medical complications of survivors of neonatal intensive care.

3. The Ontario Hospital Association should advise that all hospitals have Quality Assurance mechanisms in place which are specifically focused on “high risk” investigations including paediatrics (i.e. ECG’s, Echocardiograms).

Quality of Care Reviews

A Quality of Care Review process, allows the health care organization, which has a far better understanding of its human and fiscal resources, to develop internal processes and policies to avoid similar outcomes in the future. Under the Quality of Care Information Protection Act, 2004 (QCIPA), disclosure of quality of care information is limited to those situations permitted by QCIPA. This is to foster free and frank discussion within the institution.

The health care organization is asked to inform the Regional Supervising Coroner of recommendations that arise from their internal review process to demonstrate that the potential patient safety issue has been addressed. The Ontario Hospital Association has provided guidance to hospitals that upon conducting a Quality of Care review, the hospital is permitted to advise the OCC of the facts stemming from the QCIPA review, and the recommendations that the hospital has implemented, or has begun to implement.

In the case presented, the hospital undertook a Quality of Care review which was reportedly well attended with both clinical and administrative representation. Physician and medical attendees included staff from emergency medicine, radiology, paediatrics and laboratory along with the Director of Risk Management, the Chief Nursing Officer and the Chief of Medical Staff. Following the review, the hospital moved forward with a systematic analysis of their entire ECG reporting and documentation process with the goal to provide comprehensive solutions. Paediatric echocardiogram options were being explored and finally, a performance improvement team was exploring methods to improve communication of abnormal testing results between the radiology and emergency departments.

While the Quality of Care Review focused upon case specific issues identified within a single institution, the other recommendations from the PDRC were illustrative of those provided by the OCC to broadly promote patient safety. Appropriate organizations are identified to assist with information dissemination or to provide a leadership role to help facilitate policy change.

Regional Supervising Coroner’s Reviews

Another modality available to the Office of the Chief Coroner to facilitate patient safety improvement is a Regional Supervising Coroner’s Review. Regional Supervising Coroner’s Reviews have been conducted for a number of years as an alternative to an Inquest where there appear to be specific areas that may be the focus of recommendations and in matters where the medical issues may be complex. This is especially true when issues identified are confined to one hospital department.

These meetings allow opportunity for clarification of any issues identified by the investigating coroner and allow reflective learning through discussion. The Regional Supervising Coroner chairs the meeting summarizing the details of the case as understood from the review of the medical record and the coroner’s investigation. PDRC expert report(s) will assist with case discussion illustrating any issues identified. An expert may attend to assist the Regional Supervising Coroner in the discussion.

These meetings provide an opportunity for those present to receive suggested recommendations and consider approaches for implementation. By involving those who participated in the child’s care, recommendations that are insightful, reasonable and practical, and enhance medical organizational effectiveness will hopefully result from the discussion.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Summary

The Paediatric Death Review Committee is one of a number of expert committees that assist the Office of the Chief Coroner with advancing coroners' death investigations. These committees bring unique perspectives to understanding the circumstances of a particular death. As paediatric care issues are unique, evaluation requires expert paediatric focus. The PDRC provides this expertise and frequently identifies issues that can benefit from recommendations that will help facilitate improvement in patient care and help to fulfill the public safety mandate of the Office of the Chief Coroner.

REGIONAL CORONER'S REVIEW ON THE DEATH OF A.M.F.

In 2007, the Paediatric Death Review Committee reviewed the death of a 16 year-old female who was a Crown Ward of a Children's Aid Society, placed and living in a group home. A.M.F. reported that she had been experiencing medical symptoms, was sent to hospital by ambulance on her own from the group home, where she was treated and released. A.M.F. was discharged from hospital with no notification to the group home or child welfare agency involved. She did not return to the group home and went AWOL (Absent without Leave). Unfortunately, A.M.F. subsequently died in a motor vehicle collision.

Issues identified in the review included the need to review policies and procedures regarding accompanying children in care to hospital and the importance of information sharing between placement agencies, child welfare agencies and hospitals in such cases. The hospital had no information that A.M.F. was a youth in care, and the group home and Children's Aid Society were not aware that she had been treated and released.

There were a number of recommendations made by the Paediatric Death Review Committee. One related to the transfer of information between the agency that sent the crown ward to emergency and the hospital involved with the youth in question:

It is further recommended that a case conference/review be held with the hospital administration and relevant participants to review admission, discharge and communication protocols that exist or may need to exist as they relate to Crown Wards. The outcome of this process should be communicated to all Children's Aid Societies group homes and hospitals with the assistance with the Ministry, Ontario Association of Children's Aid Societies (OACAS), Children's Mental Health Ontario and other professional associations deemed appropriate for the group home system.

The Regional Supervising Coroner convened a review meeting at the Office of the Chief Coroner with representatives from several Children's Aid Societies, Children's Mental Health, Ministry of Children and Youth Services, Ministry of Health and Long Term Care, Ontario Association of Children's Aid Societies, and the Ontario Hospital Association. The discussion resulted in agreement that information sharing would be enhanced if a form was developed and sent to all Ontario hospitals and children's aid societies. The group proceeded to devise such a form (see attached) which will be distributed and brought into effect. While recognizing that best practice would ensure any child in care be accompanied to a hospital emergency department, it was decided to recommend that this form and information sharing process be part of each child welfare agency's policies and procedures in the event a youth in care is sent alone. It is hoped that this effort will assist in the prevention of future deaths in similar circumstances.

Emergency Health Care Request: Child/Youth Unaccompanied

Re: Name of Child/Youth: _____

Date of Birth _____

Health Card #: _____

Please be advised that _____

(name of child/youth)

is a child in the care of _____

(name of CAS).

1. Active medical condition(s): (check boxes as applicable)

Active Health Condition		Describe
Acquired Brain Injury	<input type="checkbox"/>	
AIDS / HIV positive	<input type="checkbox"/>	
Allergies - Drugs/Food/Environmental	<input type="checkbox"/>	
Asthma	<input type="checkbox"/>	
Cancer	<input type="checkbox"/>	
Cerebral Palsy	<input type="checkbox"/>	
Congenital Abnormalities (including chromosomal)	<input type="checkbox"/>	
Cystic Fibrosis	<input type="checkbox"/>	
Developmental Delay	<input type="checkbox"/>	
Diabetes	<input type="checkbox"/>	
Diagnosed Mental Health	<input type="checkbox"/>	
Fetal Alcohol Spectrum Disorder	<input type="checkbox"/>	
Haemophilia	<input type="checkbox"/>	
Hearing Impaired	<input type="checkbox"/>	
Heart Disease/Kidney Disease	<input type="checkbox"/>	
Hepatitis - A, B or C positive	<input type="checkbox"/>	
Pervasive Development Spectrum Disorder	<input type="checkbox"/>	
Seizure Disorder	<input type="checkbox"/>	
Sickle Cell Disease	<input type="checkbox"/>	
Transplant Recipient	<input type="checkbox"/>	
Tuberculosis	<input type="checkbox"/>	
Visually Impaired	<input type="checkbox"/>	

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

2. Medications (List dosage; and when last taken)

Name of Medication	Dosage	Time of last dose	Reason for Medication	Prescribing Doctor

3. Alerts -issues which may pose an immediate risk to the child or medical staff (check boxes as applicable)

Life Threatening Allergy	<input type="checkbox"/>
Suicidal Behaviour	<input type="checkbox"/>
Aggressive/Violent Behaviour	<input type="checkbox"/>
Frequent Running Away Behaviour (AWOL)	<input type="checkbox"/>
Suspected Drug Use	<input type="checkbox"/>
Pregnancy	<input type="checkbox"/>
Other *(if checked, explain below)	<input type="checkbox"/>

* if other, please explain:

Please contact _____

(name of contact and phone number) **for further information and prior to discharge.**

PDRC Medical Reviews: Themes and Recommendations

Purpose of the PDRC Medical Review

Medical reviews are undertaken to provide clarity to medical issues involved in the time preceding a child's death to ensure that the Regional Supervising Coroner has a complete understanding of the circumstances of the death. The cause and manner of death are provided, and recommendations may flow from the findings or the Committee review. Themes may emerge from each review, but also over time as similar issues are identified in other reviews.

Commonly, recommendations are directed to health care facilities and suggest that the organization:

1. Review the death through a Quality of Care Review Process, allowing the health care organization, which has a far better understanding of its human and fiscal resources, to develop internal processes and policies to avoid similar outcomes in the future. The health care organization will be asked to inform the Regional Supervising Coroner of the recommendations that arise from their internal review process.
2. Review a health care provider's performance.
3. Participate in a Regional Coroner's Review, or occasionally, an inquest.
4. Conduct an educational meeting utilizing the circumstances of the death to illustrate historical facts and medical issues with health care providers.

PDRC Medical Reviews 2009

The PDRC was able to successfully review all historical and legacy cases during 2008 and 2009 and is currently up to date with its case load. Twenty-eight medical reviews were completed in the past year.

The following chart depicts the manner of death for the 28 cases reviewed.

Manner of Death	Number
Natural	19
Undetermined	7
Accident	2
Suicide	0
Homicide	0

The cause of death for cases reviewed in 2009 showed certain trends that were similar, such as the preponderance of cases due to infectious causes and cardiac causes. However, the emergence of opioid intoxication in 3 deaths which could not have been foreseen, suggest the need for clinicians to reflect carefully on the need and use of these medications in children. This precautionary approach is even more relevant, given the evolving literature with respect to the unknown potential of each child to be able to metabolize these substances, and the potential for drug-drug interactions.

Tragically, the PDRC continues to see the deaths of infants due to unsafe sleep environments. Our long history of attempting to bring this important issue to the public consciousness is however, gaining momentum. The Public Health Agency of Canada commissioned a report by Wendy Trifunov which was published in May 2009. (See related article, page 20)

Lastly, there were two concerning cases with respect to the deaths of children with diabetes. One case due to the acute fluid management of a child with diabetic ketoacidosis which ultimately led to a cerebral oedema, and the second, a case concerning the long term follow-up and management of diabetes.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

System/Mechanism	Number	Medical Causes of Death
Infectious causes	6	<ol style="list-style-type: none"> 1. Pneumococcal Meningitis. 2. Septic Complications of Right Facial Staphylococcus Aureus Cellulitis. Probable Toxic Shock Syndrome. 3. Dehydration due to Gastro-Enteritis-like illness. 4. Acute Septic Peritonitis due to Perforation of the Stomach following Herniation and Incarceration of the Fundus of the Stomach. 5. Sepsis due to Bronchopneumonia in a child with Obstructive Sleep Apnea. 6. Complicated Malaria (Plasmodium falciparum).
Cardiac causes	3	<ol style="list-style-type: none"> 1. Ventricular Tachycardia due to Complex Congenital Heart Disease and Myocarditis. Contributing Factors: Pneumonia, Metapneumovirus Infection, and Wolff-Parkinson-White Syndrome. 2. Acute decompensation following ductal closure in an infant with Transposition of the Great vessels. 3. Complex Congenital Heart Disease. Contributing Factors: Unsafe sleeping environment.
Respiratory causes	1	<ol style="list-style-type: none"> 1. Pulmonary Veno-occlusive Disease.
Neurological causes	1	<ol style="list-style-type: none"> 1. Acute on Chronic Aspiration Pneumonia due to Chronic Encephalopathy.
Congenital causes	5	<ol style="list-style-type: none"> 1. Severe Cor Pulmonale due to long term complications of Bronchopulmonary Dysplasia. 2. Complications of Prematurity. Contributing Factors: Acute Chorioamnionitis and Chronic Residual Hemorrhage. 3. Complications of Duchenne Muscular Dystrophy. 4. Multiorgan Failure due to Group A Streptococcal Toxic Shock due to Immune Deficiency Disorder (NOS). 5. Hypoxic-ischemic Encephalopathy due to Cardiopulmonary Arrest (resuscitated) due to Bronchopneumonia in a child with Glutaric Aciduria Type I. Contributing Factor: Hyperthermia.
Metabolic causes	2	<ol style="list-style-type: none"> 1. Cerebral Oedema due to Diabetic Ketoacidosis. 2. Diabetic Ketoacidosis.
Sudden Unexpected Death in Infancy	3	<ol style="list-style-type: none"> 1. No definitive anatomic or toxicologic cause of death. Sudden Unexpected Death in Infancy (SUDI) in a child with a history of Neonatal Apnea and Seizures. Contributing Factors: Unsafe sleeping environment (4 blankets & comforter in crib). 2. No definitive anatomic or toxicologic cause of death. Sudden Unexpected Death in Infancy (SUDI) in an unsafe sleeping environment (baby swing). Contributing Factors: Ventricular Septal Defect, Upper Respiratory Tract Infection.

		3. No definitive anatomic or toxicologic cause of death. Sudden Unexpected Death in Infancy (SUDI).
Unascertained	2	1. No definitive anatomic or toxicologic cause of death (in a child 2 years and 8 months of age). 2. Hypoxic-ischemic Encephalopathy due to Cardiac Arrest (resuscitated) due to Unascertained. Contributing Factors: Idiopathic Pulmonary Hemosiderosis.
Adverse events	3	1. Probable Hemoaspiration and Aspiration Pneumonia a/w Dental Extractions in a child with Global Developmental Delay. Contributing Factors: Codeine Toxicity due to Dextromethorphan-induced inhibition of Codeine Metabolism (CYP3A4 & CYP2D6). 2. Aspiration Pneumonia due to Hydrocodone Toxicity. Contributing Factors: Reduced cytochrome P450 enzymatic function and Clarithromycin ingestion. 3. Morphine and Codeine Toxicity post Tonsillectomy in a child with Obstructive Sleep Apnea Syndrome (OSAS). Contributing Factors: Anemia, CYP2D6 Ultra-rapid Metabolizer Allele, and Aspiration Pneumonia.
Trauma	1	1. Complications of Craniocerebral Trauma.
Poisoning	1	1. Carbon Monoxide Poisoning in a child with overheating.

This year, as in past years, five cases representing a cross section of the twenty-eight medical cases reviewed, are presented. Identifiers have been removed in the interests of confidentiality. The following cases highlight:

1. The diagnosis of malaria.
2. The management and follow-up of diabetes.
3. The approach and management of heart murmurs in newborns.
4. The death of a child from apparent cardiac causes and the need for family follow-up.
5. The need for health care providers treating children to perform vital signs.

Case #1

The Diagnosis of Malaria

This 16 year-old child was obese, and suffered with asthma and Type II diabetes for which she received Metformin and insulin. She travelled to Ghana, West Africa for a 27-day period and was prescribed malaria prophylaxis with Chloroquine. She was febrile while in Ghana, and upon her return to Ontario where she sought medical care in an emergency department. Blood work was done and pharyngitis was diagnosed and treated with Azithromycin. Three days later, she was seen by her family doctor with body aches, diarrhea and vomiting. She was given Imodium and told to continue the Azithromycin. Two days later, she was seen in a walk-in clinic with body pains, a heart rate of 154, a respiratory rate of 40 and a temperature of 39.4. She was agitated and delirious and an ambulance was called. She collapsed in the office, and CPR was initiated. She was transferred to hospital where she was pronounced deceased following attempted resuscitation.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Post Mortem Findings

A pathologic diagnosis of complicated malaria with extensive body involvement was made. There was bacterial co-infection with Group B Streptococcus and Salmonella typhimurium.

Cause of Death: Complicated Malaria (*Plasmodium falciparum*).

Manner: Natural

Themes

1. The malaria prophylaxis prescribed was inadequate. *Plasmodium falciparum* constitutes 85% of the isolates from Ghana and Chloroquine resistance is reported. (The Committee could not determine where the prophylactic treatment had occurred.)
2. Opportunities to intervene and identify her illness were not realized in her visits to the emergency department and family physician. The Public Health Agency of Canada has indicated that “fever occurring in a traveller within three months of returning from a malaria-endemic area is a medical emergency and should be investigated urgently with thick and thin blood films for malaria”.
3. Severe malaria is caused mostly by *Plasmodium falciparum* with clinical deterioration beginning 3-7 days after the onset of the fever. Case fatality rates are high (10-15%) in spite of therapy.

Recommendations

The Chief of Staff of the Community Hospital should conduct a Quality of Care review of this case with specific focus on the recognition of the patient travel history and relevant and appropriate treatment pertaining to patients who have travelled to a major malaria risk country within the prior three months of presentation to the emergency department.

Case #2

The Management and Follow Up of Diabetes

This 14 year-old child developed diabetes at 4 years of age and had been followed at a diabetes clinic. He had never had an episode of diabetic ketoacidosis. He was regularly followed in the clinic, with his last appointment occurring in April 2008. His haemoglobin A1C at that time was 0.088. He was checking his own sugars, and managing his diabetes. His parents had separated, and he missed 2 appointments in the summer of 2008, for which the clinic sent letters to both parents.

On October 3, 2008, he was unwell with nausea and vomiting and did not attend school. His mother, who went to work called at 11:00 hours and advised him to stop taking his insulin. When his mother returned from work, he was snoring at 16:30 hours on the couch, where she found him deceased at 18:30 hours.

Post Mortem Findings

Vitreous glucose was elevated at 34.7 mmol/L, and was positive for ketones. He had microscopic changes of diabetic kidney disease and non-alcoholic steatohepatitis.

Cause of Death: Diabetic Ketoacidosis

Manner of Death: Natural

34 PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Themes

1. When does failure to follow up with scheduled clinic appointments with a child constitute medical neglect? In the six months prior to his death, this child had not been in touch with the clinic. Neglect is reportable to a Children's Aid Society.
2. The available resources were not accessed on behalf of this youth. This diabetic clinic had a 1-800 number available and a paediatrician on call 24/7 to provide direction and offer admission if necessary.

Recommendations

1. The Network of Ontario Paediatric Diabetes Programs should develop:
 - a. Formal protocols with respect to notification of parents and care providers when appointments are missed.
 - b. Guidelines with respect to notification of a Children's Aid Society (CAS).
 - c. Shared care models until children are 18 years of age.

Case #3

The Approach and Management of Heart Murmurs in Newborns

This infant had been born at 36 weeks gestation and had received minimal antenatal care. On day 2 of life, she had a normal cardiac exam and no murmurs were noted. She was seen in a tertiary care hospital at 3 weeks of age where a heart murmur was noted. Instructions were given to follow up with a paediatrician. She was placed on waiting list for an appointment. This appointment never occurred.

At 4 months of age, on February 1st, she developed a cough and was seen in a walk-in clinic. An upper respiratory infection was diagnosed and she was prescribed Ibuprofen. On February 2nd at 22:00 hours, she was breast fed and placed in her crib to sleep. At 05:00 hours on February 3rd, she was congested and coughing and was placed in a baby swing. At 10:00 hours, she was found deceased by her mother.

Post Mortem Findings

There was a large muscular ventricular septal defect (VSD) with cardiomegaly, biventricular hypertrophy and right ventricular dilatation. There was pulmonary congestion. There was no infectious cause of death.

Cause of Death: No Definitive Anatomic or Toxicologic Cause of Death. Sudden Unexpected Death in Infancy (SUDI) in an Unsafe Sleeping Environment (baby swing).

Contributing Factors: Ventricular Septal Defect, Upper Respiratory Tract Infection

Manner: Undetermined

Themes

1. The heart murmur detected at 3 weeks of age was not followed up sufficiently to make a cardiac diagnosis before the baby died.
2. The documentation at the walk-in clinic was very limited with no recorded weights, lengths, and **no** recorded vital signs.
3. The only safe sleep environment for infants less than one year of age is an approved crib or bassinet.

Recommendations

1. The tertiary care hospital should conduct a review of the emergency department visit at 3 weeks of age with a focus on the disposition and follow up of a 3 week-old neonate with a newly diagnosed murmur.
2. The walk-in clinic should review the care provided to this baby emphasizing the need for the recording of growth parameters, weight gain and in particular, vital signs.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Case #4

The Death of a Child from Potential Cardiac Causes

This child died at 2 years and 6 months of age. He had been well up to this time. A paternal cousin had died at 17 years of age of an unknown heart-related ailment.

He developed an earache and attended a walk-in clinic where he was given a script for Amoxicillin. Over the next two days, he took 6 doses. He was febrile, but otherwise well. He was put to bed April 3rd at 21:30 hours. The following morning at 1100 hours, he was found deceased by a parent in his bed.

Post Mortem Findings

He was at >95% for weight, 90% for height. No anatomic cause of death was found, specifically, there was no evidence of otitis, meningitis or other septic process. X-rays and toxicology were negative.

Cause of Death: No definitive anatomic or toxicologic cause of death.

Manner of Death: Undetermined

Themes

1. This child died a sudden and unexpected death, with no findings at autopsy. A distant cousin died prematurely of a heart-related illness. One might postulate an arrhythmia, but this is conjecture.
2. Genetic testing is available at this time for certain types of cardiac disorders.
3. Even with a full post mortem examination by a duly qualified pathologist conducting a thorough and complete autopsy, peer review and a quality assurance process through the Deaths Under Five Committee, a definitive cause of death can not always be found.

Recommendations

1. The Regional Supervising Coroner should contact the family and advise that the immediate family members undergo a genetics consultation to rule out a "cardiac channelopathy", given the history.
2. The stored, retained blood specimen obtained at the post mortem examination should be sent for genetic testing.

Case#5

The Need for Health Care Providers Treating Children to Perform Vital Signs

This 3 year-old child had a congenital pigmented naevus involving his right cheek and right periorbital area. A decision was made by a plastic surgeon for elective excision with tissue expansion as the first step. A tissue expander was placed and the incision closed. The child was discharged home the following day with appropriate instructions.

10 days after the operation, he developed a fever, malaise and spiked a temperature. He was seen by a paediatrician, and a throat swab and CBC were performed. Pharyngitis was diagnosed, and Motrin and Tempra were administered for fever. An antibiotic was not provided.

Over the next 24 hours, he was irritable and slept in his parents' bed. At 01:00 hours, he got up and collapsed on the floor. He was brought back to his own bed, and was found deceased the following morning.

Post Mortem Findings

A suppurative inflammation of the subcutaneous tissue at the site where the tissue expander had been inserted was noted. Bacterial cultures at the site were positive for *Staphylococcus aureus*.

36 PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Cause of Death: Septic Complications of Right Facial Staphylococcus aureus Cellulitis. Probable Toxic Shock Syndrome.

Manner of Death: Natural

Themes

1. No vital signs were recorded at the visit the child had to the paediatrician's office. As such, it was not possible to ascertain if the child had early warning signs of sepsis at that stage.

Recommendations

1. The Regional Supervising Coroner should discuss the following recommendation with the paediatrician in this case:
 - a. The paediatrician's documentation of his examination of the child should have been more comprehensive including recording the vital signs, and specifically, noting any evidence of infection at the incision site.
2. The report should be provided to the Quality Risk Manager at the Hospital where the child had his surgery.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Medical Case Reviews: Themes

Since its inception in 1991, the Paediatric Death Review Committee has compiled a number of common themes that have recurred in the review of children's deaths. Our reviews echo the findings of an increasing volume of literature on errors in medicine, which suggests that tragedies rarely result from a single fatal error or flaw and are more likely to arise from a series of latent flaws in both systems and in performance. The occurrence of multiple imperfections is frequently synergistic.

In 2009, a total of 28 medical cases were reviewed by the PDRC and upon completion of the comprehensive review and analysis of each case, 25 of the 28 cases were determined to be associated with 6 major themes. These themes and a brief description of inclusive characteristics have been outlined as follows:

1. **Treatment – Quality of Care**
 - failure to record vital signs
 - failure to appreciate abnormal vital signs
 - errors in diagnosis and subsequent intervention
 - poor follow up and monitoring of compliance and attendance of patients at follow up appointments
 - lack of adherence to established protocols
2. **Differential Diagnosis**

Non-recognition or lack of appreciation of symptoms, laboratory test results, diagnostic imaging, vital signs or patient response to current treatment. This subsequently precluded the initiation of
3. **Documentation**
 - failure to document patient records in a timely and/or qualitative consistent manner
 - poor or illegible hand writing
 - failure to document and report sentinel events
4. **Communication**
 - lack of transfer and/or discussion of vital patient information between and among physicians and medical specialty departments
 - lack of attention and acknowledgement of expressed patient concerns
 - lack of comprehensive and failure to articulate discharge advice/instruction
5. **Investigation**
 - failure by investigating coroner to order autopsies in certain paediatric deaths
 - assignment of autopsies to facilities with insufficient paediatric expertise.
 - ancillary testing not performed or requested by pathology where it may have been indicated
6. **Medical Transport**
 - delays in EMS or ORNGE transport of critically ill paediatric patients
 - communication issues with transferring and receiving health facilities
 - paediatric resource issues
 - transfer record issues

Total no. of cases associated with themes: 25

THEMES	No. of CASES	% of TOTAL
1. Treatment - Quality of Care	16	64
2. Differential Diagnosis	8	32
3. Documentation	3	12
4. Communication	13	52
5. Investigation	4	16
6. Medical Transport	1	4
*TOTAL	45	

* Some cases are associated with more than one theme

Paediatric Death Review Committee: Medical Review

Codeine, Ultrarapid-Metabolism Genotype, and Postoperative Death

To the Editor: Obstructive sleep apnea is not rare in children with hypertrophic tonsils, and the common curative procedure is adenotonsillectomy.¹ Codeine is commonly prescribed for pain after adenotonsillectomy.² The respiratory depressant effects of opioids may influence the occurrence of respiratory complications.³ An estimated one third of cases of apnea in children are not resolved after adenotonsillectomy.⁴

We report on the case of a healthy 2-year-old boy weighing 13 kg, with a history of snoring and sleep-study-confirmed sleep apnea, who underwent elective adenotonsillectomy. The outpatient surgery was uncomplicated, and 6 hours after surgery the boy received 10 mg of meperidine and 12.5 mg of dimenhydrinate intramuscularly and was sent home with instructions for 10 to 12.5 mg of codeine and 120 mg of acetaminophen syrup to be administered orally every 4 to 6 hours as needed. On the second evening after surgery, fever and wheezing developed in the child. At 9 a.m. the next day, the child's vital signs were absent, and resuscitation efforts failed.

Postmortem examination showed evidence of chronic tracheitis, aspiration of food particles, and bilateral consolidation in the lungs that was consistent with bronchopneumonia. Codeine (0.70 mg per liter) and morphine (32 ng per milliliter) were detected in the femoral blood by means of gas chromatography-mass spectrometry; there was no evidence of other drugs or metabolites. Cytochrome P-450 2D6 (CYP2D6) genotyping revealed functional duplication of the *CYP2D6* allele, resulting in the ultrarapid-metabolizer phenotype.

In this case, the prescribed and administered dose of codeine was within the recommended range of 1 to 3 mg per kilogram of body weight per day.^{1,2} Increased conversion of codeine to morphine due to ultrarapid metabolism resulted in

toxic accumulation of morphine. The concentration of 32 ng per milliliter of morphine at autopsy exceeded therapeutic levels and may have contributed to respiratory depression and death. Respiratory depression has been shown in young children with serum morphine concentrations exceeding 20 ng per milliliter.³

The boy had other contributing factors that should be considered. Autopsy results indicated evidence of bronchopneumonia, further enhancing the risk of hypoxemia. As many as a third of young children with obstructive sleep apnea remain symptomatic after adenotonsillectomy,⁴ showing decreased responsiveness to increases in the partial pressure of carbon dioxide.⁵ Recurrent episodes of hypoxemia may lead to alterations in the μ -opioid receptor and increased sensitivity to morphine. A child who has recurrent episodes of hypoxemia and who is also an ultrarapid metabolizer of codeine may have a significantly increased risk of respiratory depression. We are unaware of any other fatalities attributable to the ultrarapid metabolism of CYP2D6 in this susceptible population.

Because of the polymorphic nature of codeine metabolism and the fact that adenotonsillectomy does not reverse all cases of obstructive sleep apnea, codeine cannot be considered a safe outpatient analgesic for young children after adenotonsillectomy.

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PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

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Paediatric Death Review Committee: Medical Case Review

This case involved a female baby born at 31 weeks gestation with a birth weight of 1928 grams. The baby's Apgar scores were 9 at 1 minute and 9 at 5 minutes. Although she did not require resuscitation at birth, she did require some oxygen. She was hospitalized for 5 weeks largely for feeding and growth support. The baby had a cleft lip and palate, but no other dysmorphism. The cleft lip was repaired at 3 months of age and the cleft palate was repaired at approximately 1 year of age. At two years of age, her parents reported a history of noisy breathing and the occasional gasping at night during sleep. Obstructive sleep apnea was suspected and an ear, nose and throat (ENT) consult was obtained. She was reviewed in the ENT clinic after obtaining oximetry tests, the results of which, showed the presence of apneic periods and numerous desaturation spells. The child spent 16% of the night with oxygen saturations below 90%. The longest desaturation period recorded was 2 minutes, 24 seconds. A note was made of large tonsils and adenoids by the ENT surgeon and plans were made to proceed with a tonsillectomy and partial adenoidectomy in the near future. There was no record that an actual polysomnogram (sleep study) in a registered "sleep clinic" was performed.

Terminal Events

A few days later, the mother put her toddler to bed after supper and a bath at 20:00 hours. The child fell asleep by 21:00 hours. When the mother attempted to awaken the child at 08:55 hours the following morning, she was unable to rouse the child. The mother ran with the child to her neighbour's home, who proceeded to call 911. The paramedics arrived at the scene and initiated cardiopulmonary resuscitation. The child was subsequently taken to the emergency department at a Primary Care Hospital. In the emergency department, a note was made of post mortem lividity on the left side of the face, the left leg and foot. There was vomitus on the child's clothing. No further attempts were made to resuscitate the child and she was declared deceased. This was communicated to the family and after appropriate discussion; the child's body was transported to an Ontario Forensic Pathology Service (OFPS) Regional Centre for an autopsy.

Post Mortem Findings

The autopsy showed a normally developed, well nourished female toddler with no significant traumatic injuries. Both the tonsils and adenoids were symmetrically enlarged. There were intrathoracic petechiae, pulmonary oedema and mild patchy acute bronchopneumonia as well as chronic inflammation, mild to non-specific, in the larynx and the trachea. Post mortem bacterial culture showed *Streptococcus pneumoniae*, *Branhamella* (*Moraxella*) *catarrhalis*, and non hemolytic streptococcus in the blood. Both lungs showed mixed floras.

The cause of death as discussed by the pathologist in the autopsy report was felt to be either due to acute bronchopneumonia causing respiratory failure, or sepsis. Although the pneumonia was not felt to be widespread, based on the clinical story, fatal sleep apnea, as supported by the presence of intrathoracic petechiae and hemorrhagic pulmonary edema, was the most likely cause of death.

Cause of death: Sepsis *due to* Bronchopneumonia in a child with Obstructive Sleep Apnea Syndrome (OSAS).

Manner: Natural

Comments and Issues Raised

The main issue for discussion is whether a tonsillectomy and adenoidectomy (T&A) should have been performed earlier and if so, would it have changed the outcome. The oximetry tests were reported as grossly abnormal, showing a significant period of apnea and 16% of the night with an oxygen saturation below 90%. Whereas this test is clearly abnormal, at this time there is no consensus in the discipline of respiratory medicine as to how soon the surgery should be performed once this result becomes available to the clinician, or if the child should be admitted to the hospital for further observation. In this case, the ENT surgeon had clearly intended to perform a T&A and had discussed all of the pros and cons with the family. Unfortunately, the child was discharged home where she died a few days later.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Recommendations

1. The Primary Care Hospital's ENT and Respiriology Departments should conduct an internal review of this case to determine if appropriate hospital based guidelines were followed with specific reference to triaging the need for a tonsillectomy and/or adenoidectomy.

Rationale: Although scheduled for surgery, the criteria for emergent, urgent and elective therapy remains unclear. Did the Primary Care Hospital have actual internal guidelines governing this process?

2. The Chair of the Paediatric Death Review Committee should write to the Division Chief of Respiratory Medicine at the Hospital for Sick Children in Toronto as well as the Children's Hospital of Eastern Ontario in Ottawa, and request the development of guidelines with respect to Obstructive Sleep Apnea Syndrome (OSAS) and;

- (a) how the results of oximetry testing in the absence of a polysomnogram (sleep study) should be interpreted to identify children in need of emergent, urgent, or elective tonsillectomy and adenoidectomy.

- (b) when a child with OSAS and abnormal oximetry testing should undergo a polysomnogram instead of proceeding directly to tonsillectomy and adenoidectomy.

Rationale: Currently, all paediatric polysomnograms are conducted at two locations in the province, that is, the Hospital for Sick Children and the Children's Hospital of Eastern Ontario. In utilizing guidelines developed to govern clinical decisions based on oximetry, it may be possible for second tier assessments and definitive treatment to be carried out in peripheral community hospitals.

Development of Guidelines for the Management of Obstructive Sleep Apnea

Planning Adenotonsillectomy in Children With Obstructive Sleep Apnea: The Role of Overnight Oximetry

Gillian M. Nixon, Andrea S. Kermack, G. Michael Davis, John J. Manoukian, Karen A. Brown and Robert T. Brouillette

Pediatrics 2004;113;

Obstructive sleep apnea (OSA) is a common condition in childhood, affecting approximately 1% to 3% of children.^{1,2} The morbidity associated with OSA includes sleep disruption, failure to thrive, and cor pulmonale.³ In addition, potential neuropsychological and cognitive consequences are being increasingly recognized, including lower academic performance^{4,5} and higher rates of behavioral problems,⁶ when compared with unaffected children of the same age. Most otherwise normal children with OSA have adenotonsillar enlargement, and adenotonsillectomy (T&A) is usually a highly effective treatment.^{7,8} Approximately 6% to 12% of healthy children have habitual snoring.⁹ In this group, clinical history and examination findings fail to distinguish clinically significant OSA from benign snoring (snoring without impairment of oxygenation or ventilation and without sleep disruption).¹⁰ Polysomnography (PSG), involving an overnight stay in a sleep laboratory, provides a detailed evaluation of both sleep quality and breathing during sleep¹¹ and is currently the best method available for diagnosis of OSA.¹² However, in many centers, such an evaluation either is not available or involves a considerable waiting time. In addition, waiting lists for T&A may be long and clinicians must prioritize cases for surgery. For these reasons, alternatives to full PSG for the evaluation of suspected OSA are often sought.¹³ Periodic clusters of desaturation on continuous overnight recording of oxygen saturation with 3 or more desaturations <90% has been demonstrated to have a 97% positive predictive value for OSA in otherwise healthy children.¹⁴ Since September 2000, children without other medical problems and with a history strongly suggestive of OSA plus a positive overnight oximetry have been referred directly for T&A in our center, without proceeding to a more detailed sleep study. It had been our practice to expedite T&A in children with more severe desaturation during sleep, rather than have these children wait on the surgical waiting list.

The case review by the Paediatric Death Review Committee which precedes this discussion, raised issues with reference to the use of oximetry in the assessment and ultimate decision-making by physicians with respect to the need for surgery in children with obstructive sleep apnea.

The PDRC made the following recommendation:

The Chair of the PDRC should write to the Division Chief of Respiratory Medicine at the Hospital for Sick Children in Toronto as well as the Children's Hospital of Eastern Ontario in Ottawa, and request the development of guidelines with respect to Obstructive Sleep Apnea Syndrome (OSAS) and;

- (a) how the results of oximetry testing in the absence of a polysomnogram (sleep study) should be interpreted to identify children in need of emergent, urgent or elective tonsillectomy and adenoidectomy.
- (b) when a child with OSAS and abnormal oximetry should undergo a polysomnogram instead of proceeding directly to tonsillectomy and adenoidectomy.

The following responses were provided by Dr. Ian MacLusky, head Respiratory Medicine, Children's Hospital of Eastern Ontario:

How the results of oximetry testing in the absence of a polysomnogram (sleep study) should be interpreted to identify children in need of emergent, urgent or elective tonsillectomy and adenoidectomy

"There is actually a "scoring system" in place for using overnight oximetry to assess obstructive sleep apnoea (OSA) severity and urgency of adenotonsillectomy: the McGill Oximetry Score¹⁵ (MOS). Although many clinicians use it as an aid to clinical decision making, it is not generally used as a "stand alone" guideline to determine clinical care, as the authors originally hoped, simply because of the problems inherent with oximetry recording in the community.

In reality assessing severity and prioritizing patients for therapeutic intervention is a complicated problem;

a) Utility of the McGill Oximetry Score

- *Although there is a correlation between the results of an overnight oximetry and the severity of obstructive sleep apnoea¹⁶ this test can not be used to reliably diagnose obstructive sleep apnea in adults, let alone children.¹⁷*
- *There are too many variables affecting both the reliability of the oximetry, and how it relates to severity of sleep apnoea.*
- *Consequently, a formal polysomnogram remains the definitive study for diagnosing and assessing severity of obstructive sleep apnoea.*
- *In Ontario, there is over a 1 year waiting list to obtain a PSG for a child.*

b) Oximetry Interpretation

Interpretation of the oximetry needs to be made based on;

- *The ability to recognize erroneous data (movement artefact, loose probes, lying on the probe).*
- *Knowledge of the different types and causes of desaturation in children; not only on the number and severity of desaturations, but also the particular pattern of desaturations, and the baseline saturation in light of the child's condition.*
- *Particularly in small children, both central and obstructive sleep apnoea may present with repeated episodes of desaturation.*

To adequately interpret oximetry therefore requires an understanding of the pathophysiology of paediatric sleep and sleep apnoea. It therefore needs to be read by a physician experienced in reading overnight oximetries in children, with knowledge to recognize the specific patterns of desaturation associated with differing disease (not simply OSA) as against erroneous recordings (patient awake and moving). Due to these issues, most clinicians therefore use some combination of the McGill Oximetry Score and clinical evaluation for decision making."

When (should) a child with OSAS and abnormal oximetry undergo a polysomnogram instead of proceeding directly to tonsillectomy and adenoidectomy?

"The recommendations from the American Academy of Paediatrics are that any child undergoing adenotonsillectomy with obstructive sleep apnoea as the underlying diagnosis warrants a polysomnogram prior to surgery. This is intended to both confirm the diagnosis, and evaluate the severity in order to assess both

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

urgency, and potential perioperative/postoperative risks.¹⁸ Even now, however, there remains debate about this recommendation, largely due to unavailability of paediatric sleep laboratories to perform these studies. Currently, there are two dedicated paediatric sleep laboratories in Ontario, with a total of six beds. As a consequence...the waiting list at both of the dedicated paediatric sleep centres is at least one year...In Ontario, it is impossible to comply with these recommendations.

Conclusion

The important point that needs to be emphasized is, (as quoted from the article on page 41 by Dr. Robert Brouillette et al), **“children without other medical problems and with a history strongly suggestive of OSA plus a positive overnight oximetry have been referred directly for T&A on our center, without proceeding to a more detailed sleep study”**.

It appeared that the child is first assessed in the centre before sending for the “screening” oximetry. This means that the oximetry is performed after a detailed history and physical has been performed by a physician knowledgeable in the diagnosis and differential diagnosis of childhood OSA, and that the overnight oximetry is interpreted similarly. This was not actually a trial, but simply a report on their protocol and its use. Most paediatric sleep centers use a variation or adaptation of this approach, but at the same time, feel that the oximetry alone (in the absence of the detailed history and clinical evaluation) is too unreliable to be used as a stand alone “screening tool”.

As noted, overnight oximetry cannot act as a stand alone test, but has to be evaluated in combination with a detailed history and physical examination. Moreover, the data has to be standardized with full overnight, rather than abbreviated oximetry, since the pattern of OSAS may vary markedly with position/sleep state (at least 6 hours in a child, 8 hours in an infant)...rather than recommending using oximetry as an imprecise “screening tool”, would it not be more useful to recommend appropriate funding of the gold standard, which is formal paediatric polysomnography, thereby making it much more available in the community? This will therefore allow for definitive testing of children who are deemed at risk, as well as incorporating appropriately trained paediatric sleep physicians into these children’s clinical evaluation”.

The PDRC would like to extend our gratitude to Dr. Ian MacLusky, Head, Respiratory Medicine, Children’s Hospital of Eastern Ontario for his comments and assistance with this case and discussion.

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Research Study

Accidental deaths of children in Ontario 5 to 10 years old during the years 2004 to 2007

By: Sonia Syed, University of Toronto at Mississauga, Karen Bridgman-Acker, Child Welfare Specialist, OCCO and Dr. James Edwards, Regional Supervising Coroner, OCCO.

Background

Every year in Ontario, children die in accidents that may have been prevented by taking the appropriate safety measures and educating the public about the associated risks. While research and statistics on accidental deaths in children are readily available for other regions, the focus is generally widespread and encompasses all children 0-18 years of age. The obviously vast differences between infants and teenagers necessitate that the age range be broken down into more practical groups. Until now, a study specifically of accidental deaths involving children 5-10 years old had not been undertaken. The purpose of this study is to determine the types of fatal accidents 5-10 year olds are involved in and if there are any possible measures which may have prevented the accident in each case from either occurring or resulting in a fatality. This information will aid in the creation of prevention programs and targeting such programs towards the appropriate group.

Materials and Methods

The database of the Office of the Chief Coroner of Ontario (OCCO) was searched for all accidental deaths of children in Ontario between the ages of 5-10 years old during the years 2004-2007. All completed cases from this time period were included in this study (n = 89). While the majority have been completed, not all death investigations from 2007 are currently completed, and as such, could not be included in this study. Since this only relates to a few deaths from 2007, it was assumed that including the incomplete data from 2007 would not skew the results of this study. Information about the child's age and gender, the date and year of death, and the location and type of accident was input into Microsoft Excel and Minitab statistical software. Possible preventative measures and any comments about each accident were also recorded.

Chi-square tests for homogeneity were performed in order to determine if differences between groups were or were not significant. The number of accidental deaths for each age was graphed for both males and females. In order to clarify the difference due to gender, all deaths where the child was a passenger in a motor vehicle were removed because it can be generally assumed that in this type of fatal accident all of the children played passive roles (Figure 2). The child's gender or any other personal characteristic would not contribute to the motor vehicle collision. Not all of the deaths are independent of one another and deaths of siblings caused by the same or related accidents were recorded. In those cases where related deaths affect the interpretation of results, the relationships have been noted.

Results

Of the 89 accidental deaths involving children between the ages of 5 and 10 during the years 2004 to 2007, 27 (30.3%) were caused by single or multiple-vehicle collisions where the child was a passenger in one of the motor vehicles (Figure 1). The second leading cause of death in this age group was drowning, accounting for 24 deaths (27.0%) (Figure 1). Accidents where the victim was a pedestrian struck by a motor vehicle caused 10 deaths (11.2%) in this age group, tying with the "Other" fatal accidents category for third leading cause of accidental death (Figure 1). Fire, which is usually observed as the third leading cause of death among children, was only responsible for 6 deaths (6.7%) during this time period however, 4 of these 6 deaths were of siblings who died in the same house fire (Figure 1) (1). For all fatal accidents, males outnumbered females (n = 54 and n = 35, respectively) and this difference between the two groups was determined to be significant (p = 0.02). This difference between the two genders exists for the 5 to 9 year-olds so that any fluctuation in the accidental death rate from one age to another is paralleled in both genders and the female death rate is always lower (Figure 2).

However, the difference between male and female accidental death rates seems to disappear when looking at fatalities among 10 year-olds (Figure 2).

The annual trend for the number of all accidental deaths in this age range was examined and demonstrated as insignificant ($p = 0.307$, Chi-Square = 3.610, DF = 3, Chi-Square Analysis for Homogeneity). The slightly lower number of accidental deaths observed for 2007 ($n = 16$) may be related to the fact that a minority of death investigations from that year have not yet been completed. Accidental deaths were found to be unevenly distributed throughout the year, with significant increases in the number of fatalities during March, July, and August ($p = 0.005$, Chi-Square = 27.016, DF = 11, Chi-Square Analysis for Homogeneity). Together, these three months accounted for 44.9% of all the accidental deaths in this age group. Accidental deaths were evenly distributed across age with no significant trend demonstrated ($p = 0.737$, Chi-Square = 2.762, DF = 5, Chi-Square Analysis for Homogeneity).

Of the 27 motor vehicle collisions where the child victims were passengers, the number of accidents was too small by month to perform any statistical tests, however, August and December were found to have the highest number of fatal MVCs among this age group ($n = 5$ each) (Figure 6). Although these two months with very different weather conditions appear to be equally dangerous, 10 of the 27 motor vehicle collision-related deaths (37.0%), corresponding to 8 accidents, involved hazardous winter road conditions as a contributing factor. Of the 27 motor vehicle collision deaths, 2 involved the child sitting in the front passenger seat or in an unknown position in the vehicle, 5 involved the child not wearing a seatbelt (however, one of these children was on a school bus), and 7 involved not using a car or booster seat for a child 8 or under. Interestingly, only 2 of the 7 cases where car seats were not used occurred before the law was changed in September of 2005 to extend car seat use to children under 36kg or 8 years old (2). Of the 42 accidental deaths involving motor vehicles (MV, MV-Pedestrian, and MV-Bicycle collisions), 6 (14.3%) involved criminal or illegal behaviour on the part of one of the drivers, such as running a stop sign or driving under the influence. Between the years 2004 and 2007, four deaths of children between the ages of 5 and 10 involved all-terrain vehicles (ATVs). 3 of the four deaths involved the child flipping the ATV onto their self and being unable to get out from underneath due to the weight of the vehicle. One child drowned in the shallow water they had driven into and the other two died of asphyxia.

Drowning was the second leading cause of accidental death with 24 drowning deaths of 5 to 10 year-olds in total. Interestingly, no 10 year-olds drowned during the years included in this study. This could be the reason for the drop in the male death rate among 10 year-olds observed in Figure 2 because in this study population, males were found to be almost four times more likely to be involved in a fatal drowning accident than females ($n = 19$ and $n = 5$, respectively, $p = 0.0002$). Nationally, males are only two to three times more likely to be involved in a fatal drowning incident than females (3). Drowning deaths in lakes, ponds, rivers, streams, and quarries accounted for 14 of the 24 deaths (58.3%) (Figure 5). The annual trend for the number of all drowning deaths was examined and demonstrated as insignificant ($p = 0.129$, Chi-Square = 5.658, DF = 3, Chi-Square Analysis for Homogeneity) however, the P-value was close to threshold. Again this could be due to the lower number of drowning deaths in 2007, possibly due to some remaining ongoing investigations from that year. The number of drowning deaths is too small to permit statistical analyses by age or month of death however, 79.2% ($n = 19$) of the fatalities occurred in the summer months (June, July, and August).

The main concerns with the drowning deaths were a lack of active supervision and personal flotation device use. 14 of the drowning deaths (58.3%), plus one incident where the child died of complications from a near drowning incident when they were two years old, involved a lack of supervision. 6 of the drowning deaths involved not wearing lifejackets when they should have been used and another 10 accidents involved cases where "lifejacket/personal flotation device" were not listed as involvements in the case file or Coroner's Report. In these last 10 cases it is impossible to determine whether or not the victim was wearing a personal flotation device at the time of the drowning incident. These 10 ambiguous lifejacket involvement cases included all 7 deaths which occurred at either public or private pools. Only 3 of the drowning deaths did not involve at least one of the three above issues and 10 of the drowning deaths had both supervision and lifejacket issues.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Figures

Note: Some bar graphs show lines running across at a specific value of the y-axis. This indicates the value which each bar in the graph would have if the number of deaths was evenly distributed and consequently the values which were used in any chi-square tests for homogeneity.

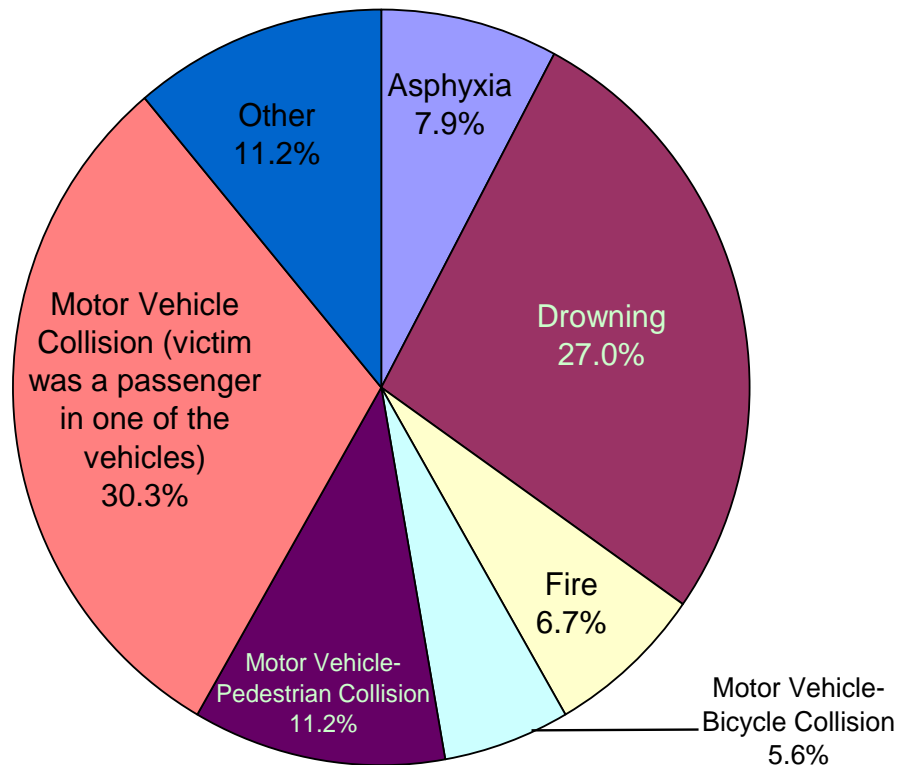


Figure 1. Accidental deaths of children 5-10 years old between the years 2004-2007 by death factor.

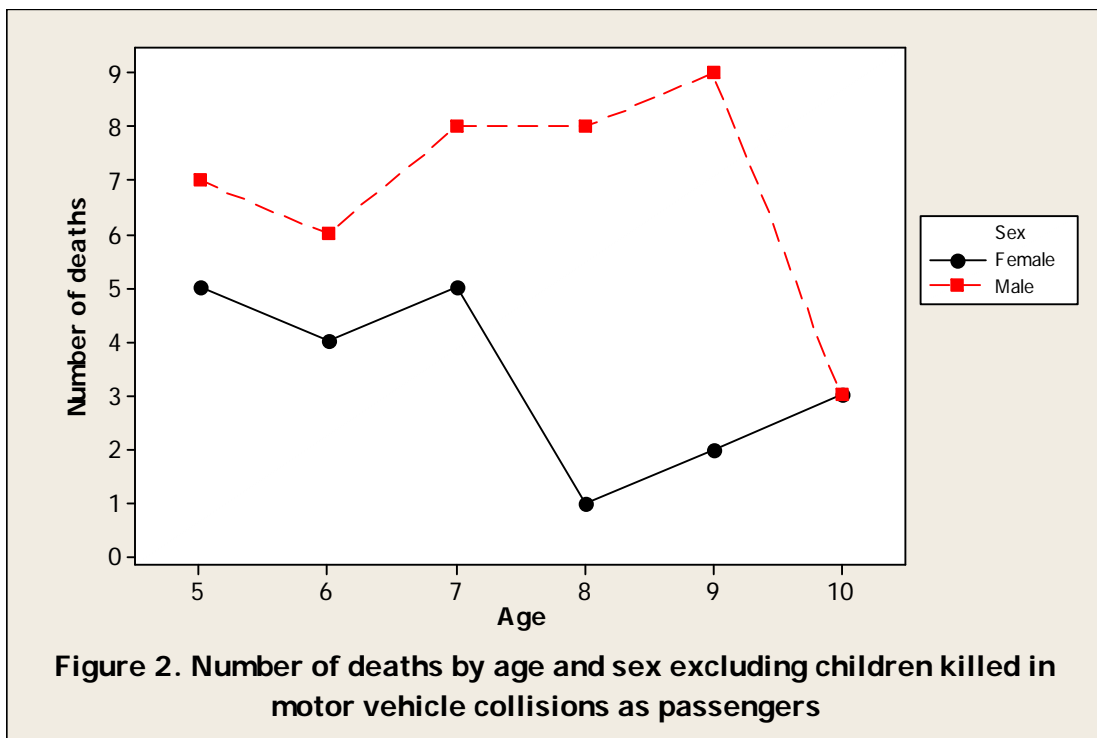
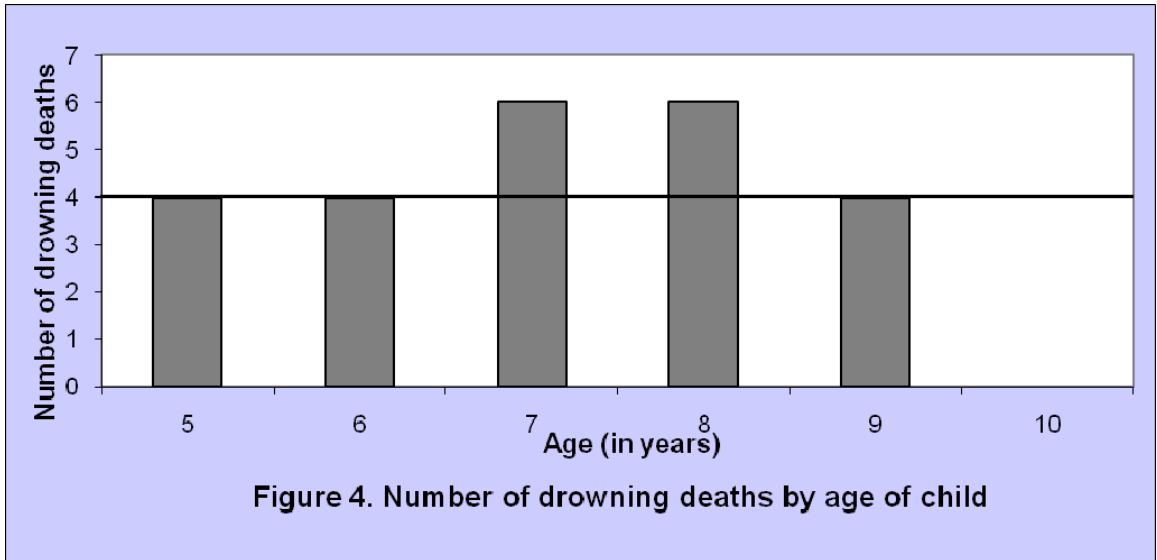
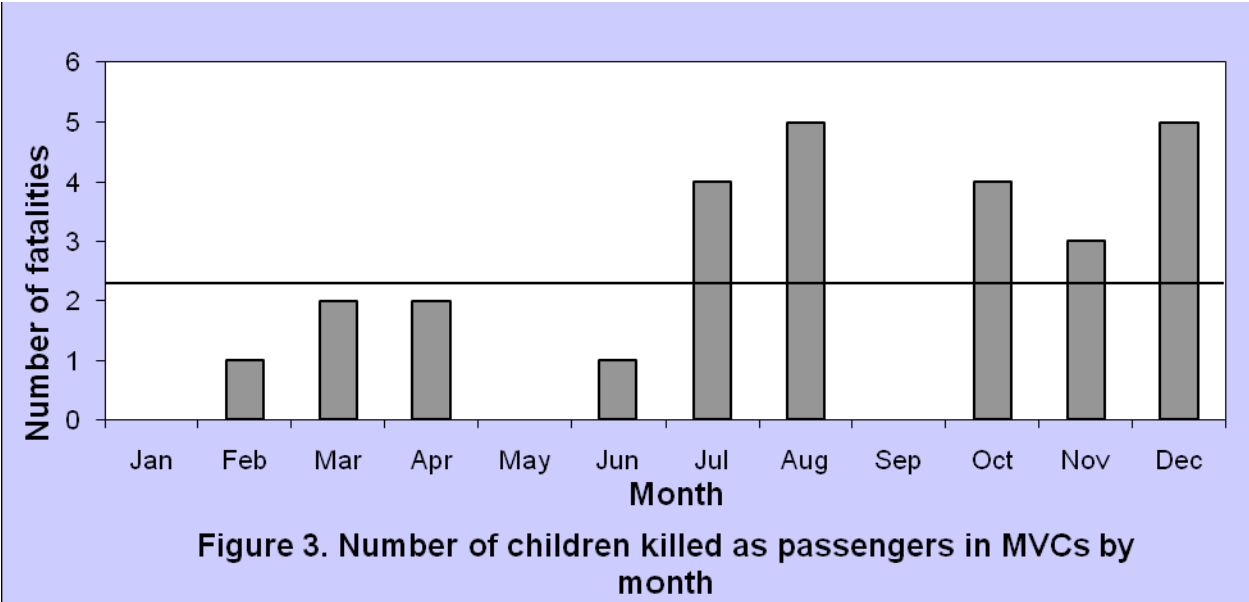


Figure 2. Number of deaths by age and sex excluding children killed in motor vehicle collisions as passengers



PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

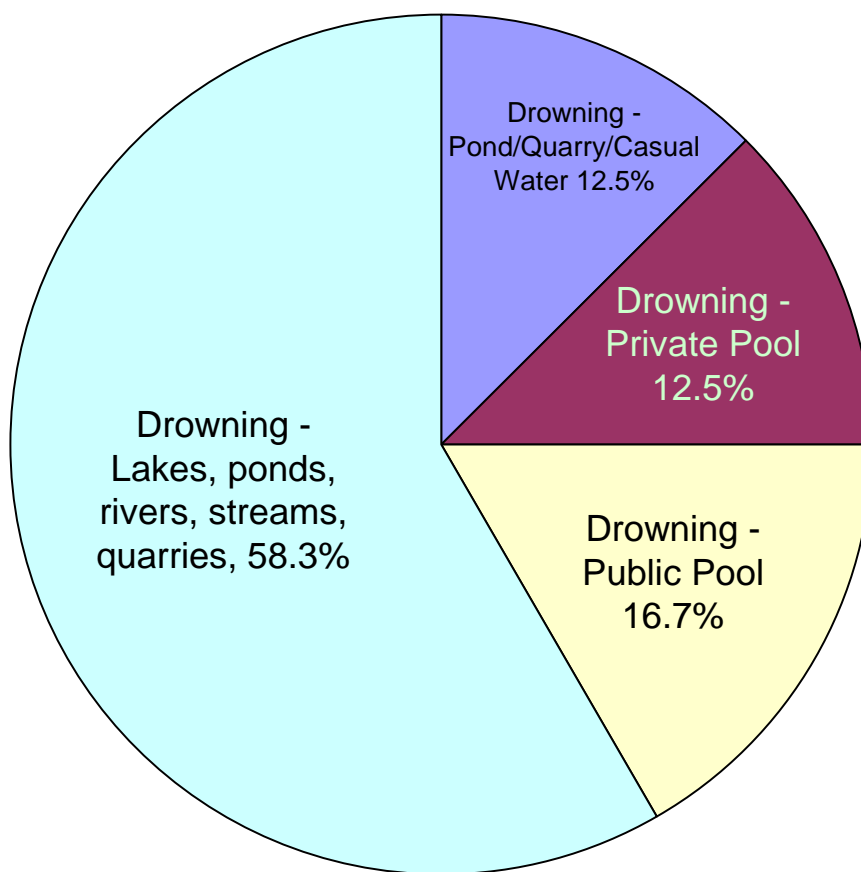


Figure 5. Drowning deaths of children 5-10 years old by death factor.

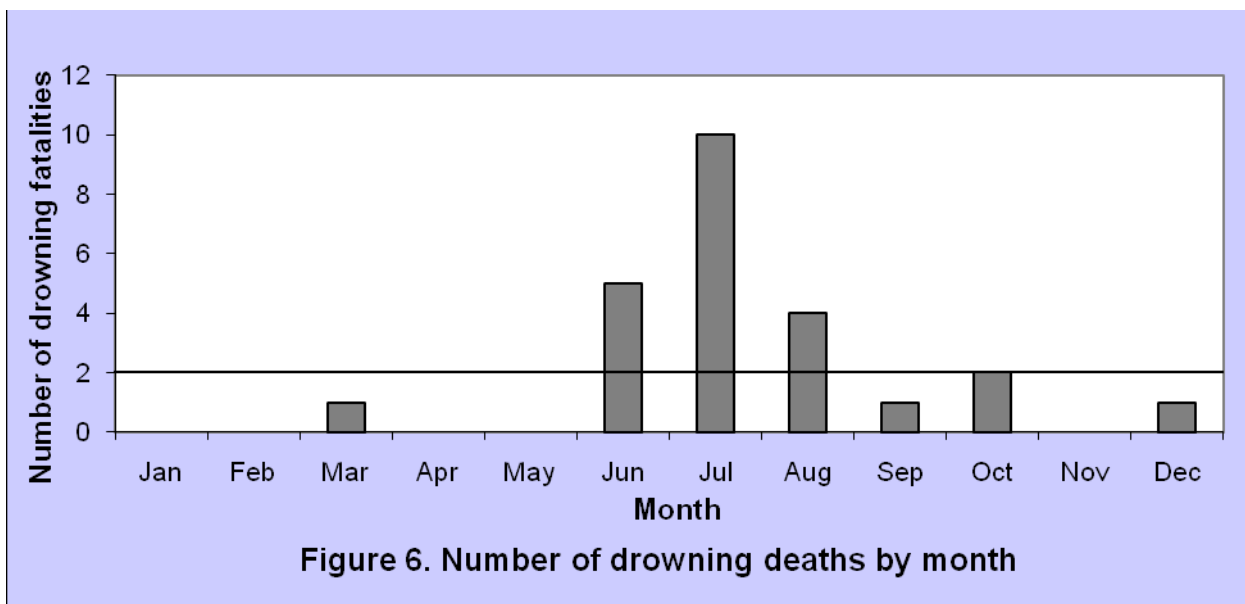


Figure 6. Number of drowning deaths by month

Conclusion

It is clear that motor vehicle collisions and drowning accidents cause the majority of accidental deaths among children 5 to 10 years of age. Given the larger number of male victims, particularly in drowning-related accidents, it would be warranted to tailor aspects of prevention programs towards boys and their caretakers. Not at the expense of, but rather in combination with other aspects of prevention programs aimed at all children.

Hazardous winter weather conditions contributed to more than one third of all the motor vehicle collision-related deaths. Consequently, recording the presence or absence of snow tires on the vehicle(s) involved in accidents in dangerous winter weather would be beneficial in analysing motor vehicle collisions in future. While only 4.5% (n=4) of the deaths in this study involved ATVs, they are noteworthy due to the current lack of legislation regarding their use. There is currently no minimum driver age for ATVs in Ontario except on public property (age 12) and helmets are not mandatory on the vehicle owner's property (4). Based on the findings of this study, it is clear that allowing a child to drive an ATV when they are unable to escape compression from an overturned vehicle can prove fatal.

All of the fatal drowning accidents which occurred in public or private pools did not have lifejacket involvements listed in their Coroner's reports or OCCO case files. This underlines the fact that lifejackets are still considered largely for use in outdoor and/or natural bodies of water. As a result, their presence or absence is seldom mentioned in files and reports on drowning cases. It should be the swimming ability of the child, not where they swim, which dictates their use of a personal flotation device. It is important that the use of lifejackets and personal flotation devices is promoted to children and parents and that complete records are kept regarding their use or misuse in fatal drowning accidents. More than half the drowning deaths involved supervision issues. It is recommended that preventative programs continue to stress the importance and definition of active supervision to parents and caretakers.

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PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010**Accidental Death Case Examples****ATV Case Example**

A 9 year-old boy died after an all-terrain vehicle accident. The cause of death was determined to be asphyxia from airway obstruction. The child had flipped the vehicle onto himself and was unable to get out from underneath it. The trail the boy was travelling was covered with ice and the throttle casing was loose which could have caused the vehicle to accelerate if the throttle was rotated upwards.

Drowning Case Example

A 6 year-old boy was found floating face down in a public pool. Lifeguards were present at the time, but another child was in distress and being helped when this boy was noticed in the water. This child was known to use a personal flotation device when taking swimming lessons elsewhere.

MVC Case Example

A 7 year-old girl was killed in a motor vehicle collision when the driver of the vehicle she was riding in did not stop at a stop sign and struck another vehicle. The child was wearing a seatbelt and seated in the backseat at the time of the collision, but was not using a car or booster seat.

Paediatric Death Review Committee and the Ontario Children's Aid Societies

In Ontario, child welfare services are provided by 53 Children's Aid Societies (CAS's), 6 of which are designated Aboriginal agencies. Each CAS is an independent, non-government agency governed by a board of directors and funded by the Ministry of Children and Youth Services. In 2006, the Office of the Chief Coroner and the Ministry of Children and Youth Services entered into a Joint Directive and Memorandum of Understanding which directs and guides Children's Aid Societies regarding the process of reporting and reviewing all child deaths where the family has had involvement within the previous 12 months (see pages 6-7 for further discussion of these steps).

BACKGROUND: HISTORY OF CHILD DEATH REVIEWS

Child fatality review teams were first established during the late 1970's in the United States, as a result of concern on the part of parents and professionals over the increasing number of children who were dying from apparently preventable abuse, neglect or injury. The first multidisciplinary child death review team was established in California in 1978. Since then, child death review teams have been formed in all 50 states, in most Canadian provinces and in several other countries around the world.

The first child death review teams in Canada were created in the 1990's. Ontario was one of, if not the first, province to have a paediatric death review committee. The basic objective of child death review teams is to review child fatalities in order to identify trends and risk factors to prevent similar deaths in the future. Recommendations are aimed at improvements and enhancements to service, practice and policies, which may improve the outcome for children at risk.

In the early 1990's Ontario's Office of the Chief Coroner (OCC) implemented the PDRC to review complex medical deaths of children in order to assist investigating coroners in completing child death investigations. In the mid-nineties, the OCC and the Ontario Association of Children's Aid Societies, with support from the children's ministry, undertook a study of the deaths of children receiving child welfare services, in part, due to increasing concern about a number of tragic and high-profile paediatric deaths in families who had involvement with child welfare agencies. This study, known as the Child Mortality Task Force, reviewed 100 child deaths in the 2-year period between January 1994 and December 1995. The outcome of the study, and resulting report, coincided with a series of inquests into the deaths of children who had been involved with Children's Aid Societies.

While these inquiries had a large impact on child welfare reform in the province of Ontario in the late 1990's, they also led to an expanded mandate for the Paediatric Death Review Committee. In 1997, the PDRC began reviewing all cases of children who died while receiving child welfare services, or who had done so within the previous 12 months. The committee membership expanded to include child welfare experts, police and crown attorneys in the review of these deaths.

In 1999 a joint directive was developed between the Office of the Chief Coroner and the provincial children's ministry (Ministry of Community and Social Services and more recently, the Ministry of Children and Youth Services) to guide the process of child death reviews; this directive was revised in March 2006.

Working in collaboration for the past four years under a Memorandum of Understanding, the PDRC, with funding support from the Child Welfare Secretariat (CWS) of the Ministry of Children and Youth Services (MCYS), has assumed the lead in the implementation of the Joint Directive. The tracking and analysis of the relevant data, themes, trends and recommendations is expected to be centralized, streamlined and disseminated in an annual report. This is the fourth annual report arising out of this collaboration.

The MCYS, with assistance from its regional offices and the Client Services Branch (formerly the Quality Assurance and Accountability Branch) has responsibility for a public report card regarding the recommendations made by the PDRC in the child deaths reviewed. This response is meant to provide an update on the implementation of recommendations made to Children's Aid Societies and the MCYS during the reporting year (responses are provided on pages 79-80 in this report).

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

2009 DEATHS OCCURRING AND REPORTED BY A CHILDREN'S AID SOCIETY

TOTAL	EXECUTIVE REVIEW ONLY 2009	PENDING DU5C 2010/2011	INTERNAL & PDRC REVIEW 2010/2011
120	74	10	36

*Note: these categories are explained below in more detail

As per the Joint Directive for the reporting and reviewing of all child deaths known to a Children's Aid Society within 12 months of the death, **120** child deaths were reported to the PDRC in 2009. In each case the CAS that provided service to the family submitted a serious occurrence report and within 14 days of the death submitted a Child Fatality Case Summary Report to the PDRC. The Executive Committee of the PDRC screens these reports and, within 7 days, a decision is made whether the CAS will be required to complete an Internal Review for the purposes of a future PDRC review. The decision to request an Internal Review is based on the criteria set out in the Joint Directive (see page 66).

The Executive Committee of the PDRC reviewed all **120** deaths and requested Society Internal Reviews be submitted in **36** of them. A decision on **10** other cases is pending the anticipated review by the Deaths Under 5 Committee where cause and manner of death will be determined. It was determined that **74** of the **120** cases would not necessitate further review given the nature of the child's death and/or the Society's involvement. The majority of these cases were medically fragile infants or children who died as a result of natural causes, most of whom were in hospital born prematurely or with complex medical and/or genetic conditions.

Most deaths are not reviewed in the year of death due to these timelines, the volume of cases, and the length of time required to complete a coroner's investigation, including various tests and reports. Additionally, cases before the criminal courts are generally not reviewed until any outstanding charges are resolved.

*Explanations:

EXECUTIVE REVIEW ONLY: Are cases which, when reviewed by the Executive Committee of the PDRC (Chair and Coordinators), it is determined that no further review by the CAS or PDRC is required, as the death could not reasonably have been prevented or predicted by a CAS or medical intervention. For example, cases where the child's family had no CAS involvement until shortly before the death, or the child was known to CAS, but the death was natural and not unexpected, or the child died as the result of an incident unrelated to the family's involvement with CAS (i.e. child died in a car accident and the case was open to assist the parents in managing the behaviour of a different child).

PENDING DU5C: On occasion, the decision to request an Internal Child Death Review is postponed pending the results of the coroner's investigation and/or review by the Deaths Under 5 Committee.

INTERNAL & PDRC REVIEW: If the PDRC requests an Internal Child Death Review, agencies are given 90 days in which to submit their report, and the PDRC has up to 12 months to review the case and issue a report that may contain further recommendations. Expectations for such reviews are explained on pages 65-67 in this report.

CAS STATUS OF CHILDREN WHO DIED IN 2009			
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		In CAS Care	In Home Service
Total	120	19	101
%	100%	16%	84%

19 (16%) of the 120 reported child deaths in 2009 were in the care of a CAS; eight of those were crown wards. Additionally, two youths were living on Extended Care and Maintenance (ECM).

101 (84%) of the deaths involved children living with families who had received CAS services in the previous 12 months.

43 (36%) of the 120 deaths of children were considered to be medically fragile, meaning their deaths were not sudden or unexpected; this included 12 of the 19 children in care.

In its Child Welfare Report, 2009-10, the Ontario Association of Children's Aid Societies reports the following:

- Ontario CASs provided substitute care to more than **27,000** children in 2008-09
- There were **17,876 children in care** of a CAS on March 31, 2009
- **9,200** of those children and youth in care are **permanent wards**
- **Over 28% of the 2,112 Aboriginal children** in care of four of six designated agencies are in customary care arrangements
- Ontario has the second lowest rate of children in care in Canada at 6.4 per 1,000
- The most common reasons children and youth are admitted to care are:
 - **neglect**
 - **emotional harm**
 - **physical harm**
 - **sexual harm**
 - **domestic violence**
 - **problematic behaviour of the child**
- Children in care account for approximately 1 in 10 cases serviced by a CAS
- In 90% of families receiving services from a CAS, children remain at home

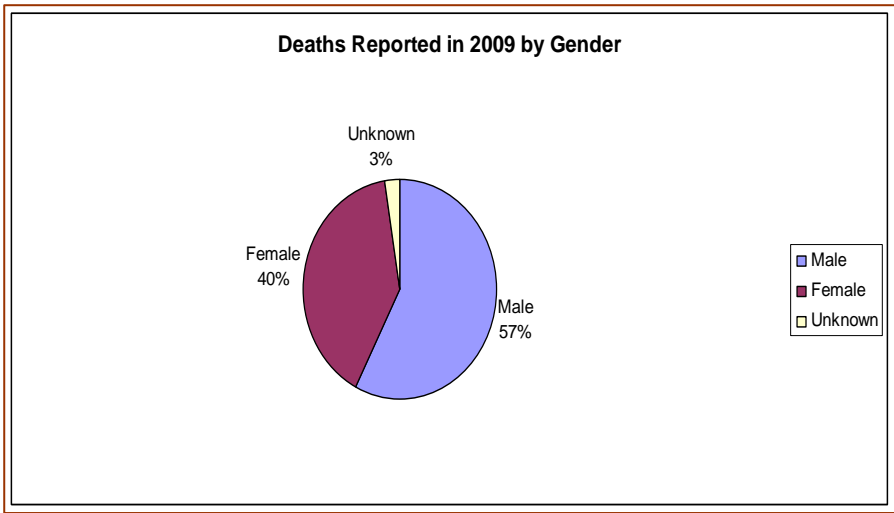
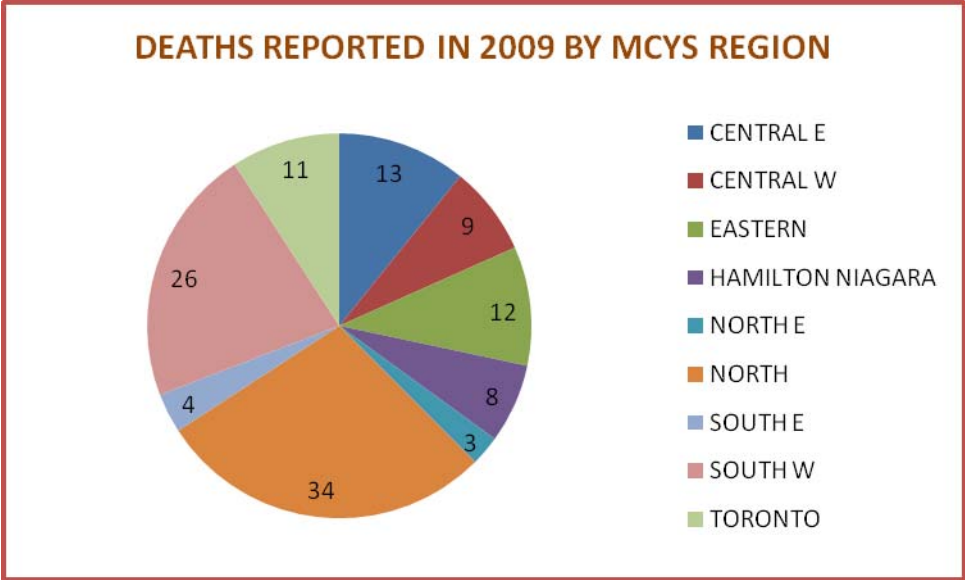
PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Glossary of Terms (adapted from Child and Family Statistical Report www.hrsdc.gc.ca)

Child:	A person under 18 years of age. <i>The Child and Family Services Act</i> stipulates that protection services are to be provided to a child under the age of 16. Care and maintenance may be extended for Crown wards to age 21.
Children in Care:	Children in need of protection under the <i>Child and Family Services Act</i> and in care under the following legal statuses: Temporary Care Agreement, Society Wardship Order (temporary ward), Crown Wardship Order (permanent ward), Extended Care and Maintenance, Temporary Order for Care and Custody, Parental Consent to Adopt.
Temporary Care Agreement:	The temporary transfer of custody of a child to a Children's Aid Society, for a maximum period of six months. The agreement may be extended for an additional six months.
Parental Consent to Adopt:	Allows the parents to voluntarily relinquish an infant to a CAS for adoption purposes.
Supervision Order:	A child remains in his community (in own home or other arrangements) under the supervision of a CAS. The order may last from three to twelve months. Indefinite extensions are allowed. The child is not considered to be in care.
Society Wardship Order:	Places a child in the care and custody of a CAS for up to 12 months. The parent gives up guardianship of the child for the duration of the order.
Crown Wardship Order:	Permanently transfers the care, custody and control of a child to a CAS.
Temporary Order for Care and Custody:	Court ruling concerning a child's care and custody during court adjournments.
Extended Care and Maintenance:	Care and maintenance services for former wards may be extended to age 21.
Customary Care:	The care and supervision of an Indian or native child by a person who is not the child's parent, according to the custom of the child's band or native community. R.S.O. 1990, c. C.11, s. 208, Child and Family Services Act, Part X.

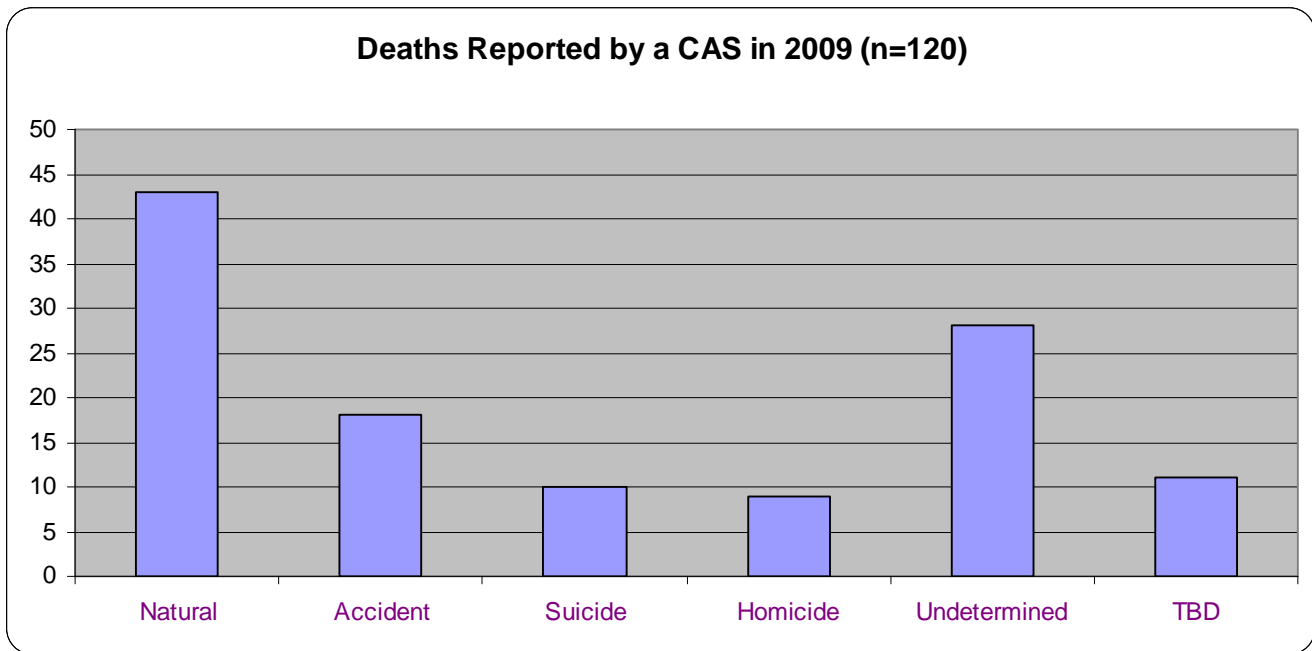
Deaths Occurring and Reported by a CAS in 2009

Deaths occurred across Ontario. The Ministry of Children and Youth Services (MCYS) is divided into 9 regional areas that oversee 53 Children’s Aid Societies. This is a breakdown, by MCYS regions, of the 120 deaths reported to the PDRC by a CAS:



Of the deaths reported by a CAS in 2009, 48 (40%) of the decedents were female; 69 (57%) were male. 3% are unidentified remains whose age and gender are unknown at this time, due to decomposition.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010



This chart shows the number of deaths reported by a CAS during 2009, by Manner of Death. A total of 120 deaths were reported in 2009; three were missed reports from previous years, therefore the number of deaths occurring in 2009 was 117. 11 deaths are awaiting classification of cause and manner of death.

Natural:	43
Accident:	18
Suicide:	10
Homicide:	9
Undetermined:	28
To be determined:	11

Deaths of Children in 2009 vs. Deaths Reviewed in 2009

It is important to distinguish between the deaths reported in a given year and the deaths reviewed in that year. Pages 53-57 of this report provide some preliminary data on the deaths reported to the PDRC by a Children's Aid Society during 2009, many of which are still under investigation by the Coroner's Office.

The Committee reviews deaths once all investigations and legal processes have been completed which may take well over a year; a fuller analysis is presented on cases reviewed beginning on page 58.

PDRC REVIEW OF CASES WITH CHILDREN'S AID SOCIETY INVOLVEMENT

While the PDRC does not assign blame, it does review cases from a view toward prevention. One of the roles of the PDRC is to make recommendations to avoid future deaths in similar circumstances. For example, these questions are considered: Could this child's death have been prevented? Could similar child deaths in the future be prevented? If so, how? Given the circumstances of the 2009 case reviews, future deaths might be avoided by the provision of:

- **Safer sleep environments**
- **More vigilant supervision of young children around water, bathtubs, and fire starting materials**
- **Enhanced information sharing amongst service providers**
- **Community and government collaboration on responding to adolescent mental health issues**

All child deaths are tragic and are usually the result of various factors. Occasionally, the actions or inactions by those in a care-giving role (parents and/or systems) have a part in the circumstances leading up to a fatality. The PDRC reviews these circumstances and makes recommendations for consideration by the health and child welfare systems and others with a goal to reduce the number of child fatalities.

Recognizing the Committee has the benefit of hindsight (which includes access to information that may not have been available prior to the death) in conducting its assessment of agency practices, it is helpful to bear in mind the following questions posed by Dr. Peter Markesteyn (from the Turner Review and Investigation, Newfoundland, September 2006):

- **What did they know at the time of the events?**
- **What could they have known, but did not when those events occurred?**
- **Based on what they then knew or could have known, were their decisions appropriate?**

The Committee acknowledges the difficult work of Children's Aid Societies in protecting children from harm.

The number of child deaths during this time frame clearly represents a very small percentage of the volume of children and families involved in the child welfare system. It must always be remembered that families obtaining service from a Children's Aid Society may suffer from a variety of social ills such as addiction, poverty, unemployment, social isolation, substance abuse and mental illness.

These children are "high risk" and CAS's must mitigate their responsibilities to protect a child under the Child and Family Services Act with the desire and rights of a family to raise a child, even when the child-rearing situation is less than optimal. Clearly, this is a very difficult task. The recognition of these challenges is not intended to minimize or rationalize the death of any child; we are all genuinely and seriously concerned whenever a child dies.

There are occasions during retrospective reviews, where concerns are identified with the decision making, management of cases or the provision of health and/or child protection services to families and children.

At times, children's deaths are found to be preventable, meaning avoidable in the future. It is particularly concerning when a child dies and contributing factors may include the service they have or have not received by a child protection agency.

One case is highlighted here where the Committee believed that different decisions might have resulted in different outcomes for a child. The involved agency completed an internal child death review and recognized that changes in service, policy and training were warranted. More intrusive action by a Society is called for in certain circumstances; the child in the following case may have benefitted from such intervention.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

PDR REVIEW OF CASES WITH CAS INVOLVEMENT - Case Summary

This 6 week-old infant was born six (6) weeks premature; the pregnancy was complicated by the mother's lack of prenatal care and the use of Oxycontin, an addiction that she reported gaining control of when she learned of her pregnancy. At that time, she commenced Methadone treatment, taking 40-milligram daily.

The mother maintained that she successfully managed her addiction with the sole exception of two days before her baby's death, when she snorted powdered Oxycontin.

Throughout the evening of his death and into the next morning, the infant was reported as being irritable. The mother lay on the couch with her son and fed him; her partner returned home in the late evening and found her asleep on the couch. When the mother awoke a few minutes later, she immediately noted that her infant was unresponsive. The family dialled 911 and upon ambulance arrival, the infant's vital signs were absent and death was pronounced.

The coroner's information indicated that the family home was described as reasonably clean with no evidence of drug or alcohol use. The toxicology report on the infant was also negative for drugs, alcohol or poison.

Cause of Death: No definitive anatomic or toxicologic cause of death: Sudden Unexpected Death in Infancy (SUDI) in the presence of bed sharing in an unsafe sleeping environment (couch).

Manner of Death: Undetermined

PDR Analysis of Society Actions and Decisions:

- Over a period of eight (8) years, twenty (20) child protection complaints were documented resulting in at least seventeen (17) separate investigations. The mother's first four children were in the care of a Children's Aid Society or family members.
- The mother was described as experiencing lifelong mental health issues and long standing drug and alcohol abuse with substance use occurring throughout a number of her pregnancies.
- It is unclear why the Society supported her as a caregiver to her fifth child when she had proven incapable of parenting her first four (4) children.
- Submitted CAS documentation strongly suggested that medical personnel limited the type and amount of information they shared with child protection authorities citing legislative limitations under the *Personal Health Information Protection Act* and the *Personal Information Protection and Electronic Documents Act*.
- **Information sharing** between the involved Methadone Clinic and Children's Aid Society was problematic even with the provision of signed consent forms being provided to the clinic.
- At the initial stage of the death investigation, **police did not contact CAS** and when contacted by the Society, they advised the agency that there was no role for CAS as the death was accidental, despite another young child in the family.
- There is an absence of reference to the completion of **collateral checks** by the CAS with involved community service providers throughout the multiple file activations.
- There are at least four (4) separate references made within the submitted documentation that the mother was **cautioned about unsafe sleeping arrangements** for her infant.

PDRC Recommendations:

- 1. The Society should provide a written update to the Paediatric Death Review Committee on the status of their recommendations and those from this report.**
- 2. The Society should review its practice on maintaining collateral contacts and where necessary, effect changes to support the importance of regular contact with other service providers.**

Submitted documentation did not reference any community collateral contacts to inform service delivery across multiple file activations.

- 3. The Society should dialogue with the local Methadone Clinic(s) specific to the authorized sharing of personal information and of the Duty to Report provisions of the *Child and Family Services Act*.**

Submitted documentation indicated that information sharing between the CAS and the Methadone Clinic(s) has been extremely problematic.

- 4. The Society should consider unsafe sleeping arrangements as grounds for ongoing protection service.**

There were at least four (4) documented occurrences where the mother utilized unsafe sleeping arrangements for her infants. Cautions were delivered at least twice however, no follow up occurred in order to ensure that she discontinued her practice. This child died in an unsafe sleeping environment.

- 5. The Society should review, with the local police service, its protocol for the investigation of child deaths.**

The police did not initially advise the Society of the death of this child and did not appear to understand the need to report the death given the presence of another a child in the family.

- 6. The Society should ensure that comprehensive assessments of risk occur on all file activations.**

Submitted documentation revealed an absence of consideration of historic child protection concerns and at-risk behaviours in assessments of risk associated with each file activation.

Themes

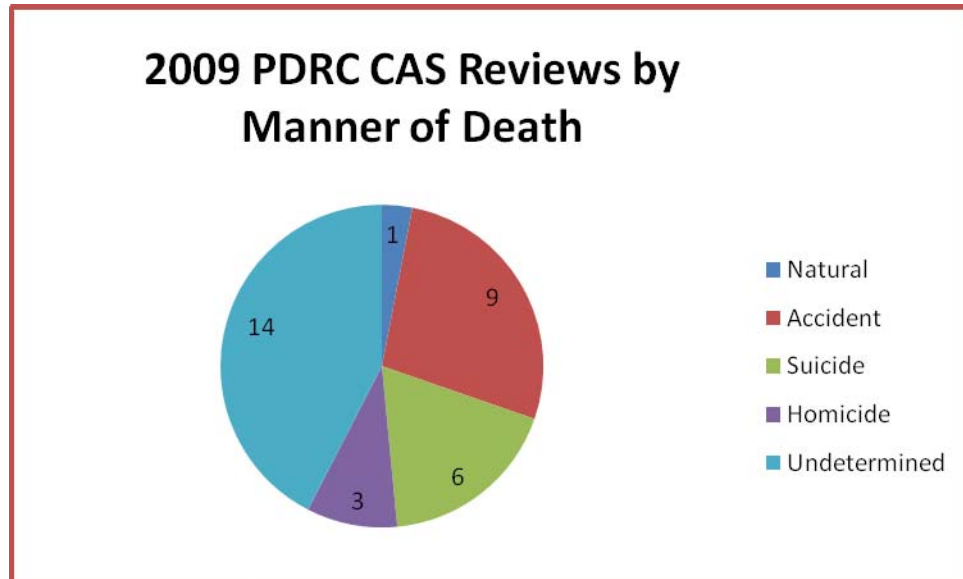
Issues with:

- Information sharing,
- Duty to report interpretations,
- Protocols for death investigations,
- Unsafe sleeping,
- Comprehensive risk assessment (including collateral record checks and incorporation of historical file information).

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

2009 PDRC REVIEWS OF CASES WITH CHILDREN'S AID SOCIETY INVOLVEMENT BY MANNER OF DEATH

33 children's deaths with CAS involvement were reviewed by the PDRC during 2009. This chart depicts the manner of death for these 33 children. The vast majority of deaths were classified as undetermined (14). 12 of the deaths involved unsafe sleeping arrangements (7 with bed sharing).



The following sections contain data from 2009 PDRC reviews and real case examples which illustrate three of the most common of the five classifications of manner of death. As in all case examples in this report, identifying details have been altered to protect the privacy of the children and others.

Death by what means: **NATURAL**

Some children are so medically fragile that their deaths are expected and occur under medical care. Due to the nature of a child's illness and/or death, which are often predictable and not directly preventable by a CAS or medical intervention, few of these deaths receive full reviews by the PDRC, which include a complete report with recommendations.

There are, however, some natural deaths of children known to a CAS that are reviewed by the PDRC.

On occasion, there are concerns raised about the child's care prior to death and the PDRC will review both the CAS and medical care provided to the child. In 2009, we reviewed 1 death from natural causes.

Death by what means: **HOMICIDE**

3 children's deaths reviewed in 2009 were the result of homicide, meaning the action of one person against another leading to death. One youth was shot by police; one child was killed by a youth who resided with him; two related caregivers were responsible for the death of one child; in the latter two cases, the perpetrators were criminally charged and convicted.

Death by what means: ACCIDENT

9 of the 33 cases reviewed by the PDRC in 2009 were classified as “Accident”, meaning as a result of an incident that happened without foresight or expectation. Most “accidental” deaths are preventable. Adequate supervision of young children and increased awareness through education can help reduce or eliminate the majority of these deaths in the future. A further 12 deaths classified as accident were reviewed by the Executive of the PDRC in 2009.

The accidental deaths reviewed this year by the Committee were caused by:

- Drowning (5) *
- Fire (2)
- Asphyxia in a bed sharing situation (1)
- Fall from height (1)

***3 of the 5 drowning deaths were of children left unattended in a bathtub; their ages were 7 months, 9 months and 11 months.**

The U.S. Consumer Product Safety Commission offers the following tips for caregivers:

Home Drowning Prevention Tips:

- ✓ Young children can drown in even small amounts of water. Never leave young children alone near any water.
- ✓ Always keep a baby within arm's reach in a bathtub. Never leave to answer the phone, answer the door, get a towel or for any other reason. If you must leave, take the baby with you. More children drown in bathtubs than in any other product in the home.
- ✓ Don't leave a baby or toddler in a bathtub under the care of another young child.
- ✓ A baby bath seat is not a substitute for supervision. A bath seat is a bathing aid, not a safety device. Babies can slip or climb out of bath seats and drown.
- ✓ Keep toilet lids down to prevent access to water. Consider using toilet clips to stop young children from opening the lids.
- ✓ Consider keeping children out of bathrooms by using bathroom door latches that are out of reach of young children.
- ✓ Never leave a bucket containing even a small amount of liquid unattended. After using a bucket, always empty and store it where young children cannot reach it. Buckets left outside can collect rainwater and are a hazard. Toddlers can fall headfirst into 4- and 5-gallon buckets and drown.
- ✓ To prevent children from gaining access to spas or hot tubs when not in use, always secure safety covers and barriers. Non-rigid covers (such as solar covers) can appear to be in place even after children slip underneath them into the water.
- ✓ Learn CPR (cardiopulmonary resuscitation). It can be a lifesaver when seconds count.

A caregiver left 2 small children under 3 years of age together in the bathtub while she went to retrieve diapers and pyjamas. She estimated the time to be seconds or minutes. When she returned to the bathroom, she found the youngest child face down in the tub; he could not be revived.

“We often think that injury events are random "accidents.” However, most injuries to children are predictable, understandable and therefore preventable”.

(The National Center for Child Death Review - Michigan)

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Death by what means: **SUICIDE**

A classification of suicide means the death is a result of an intentional act by a person knowing the probable consequence of what he or she is about to do – that is the commission of an act that results in his or her own death.

The suicide deaths of 6 youths between the ages of 15 and 17 were reviewed in 2009 by the PDRC. While the PDRC remains concerned about the number of suicide deaths in First Nations youth in northern Ontario, these six young people lived in various jurisdictions in the province. In four of these young people the deaths were classified as:

- Cause of Death: Hanging
- Manner of Death: Suicide

A 15 year-old youth was found vital signs absent by his father in his basement bedroom of the family home after a brief argument with his girlfriend on the telephone. Despite resuscitation attempts, he died after arriving at hospital. A suicide note was later found beside his computer.

Of the six youth whose suicide deaths were reviewed this year, 3 were male and 3 were female. The average age was 15.5 years; four of the decedents had known problems with substance abuse and all six had mental health issues that had required treatment. At least 3 had made previous suicidal gestures.

Canadian statistics:

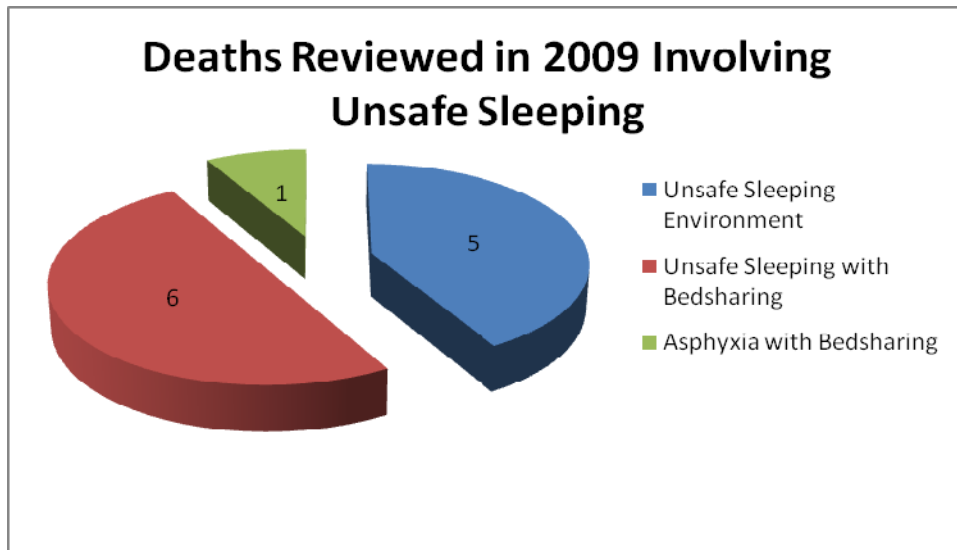
In Canada, suicide accounts for 24% of all deaths among 15-24 year olds and 16% among 16-44 year olds. Suicide is the second leading cause of death for Canadians between the ages of 10 and 24. Seventy-three percent of hospital admissions for attempted suicide are for people between the ages of 15 and 44. (Canadian Psychiatric Association, 2002, Mental Illness Awareness Week fact sheet).

Death by what means: UNDETERMINED

When a full investigation, including autopsy, does not produce evidence for, or result in, a specific finding regarding the manner of death, the death is classified as undetermined. Many of the sudden, unexpected deaths of infants (SUDI), where no anatomic or toxicologic cause of death is found, are classified this way.

In 2009, 14/33 (42%) of deaths reviewed by the PDRC were classified as undetermined. 11 of these 14 deaths involved infants less than 12 months of age who died in unsafe sleeping environments. One accidental positional asphyxia death and 6 of the 11 unsafe sleeping related deaths also involved bed sharing with one or more adults.

Note: in 2 of these cases reviewed, the infant had been left unchecked for over 13 hours.

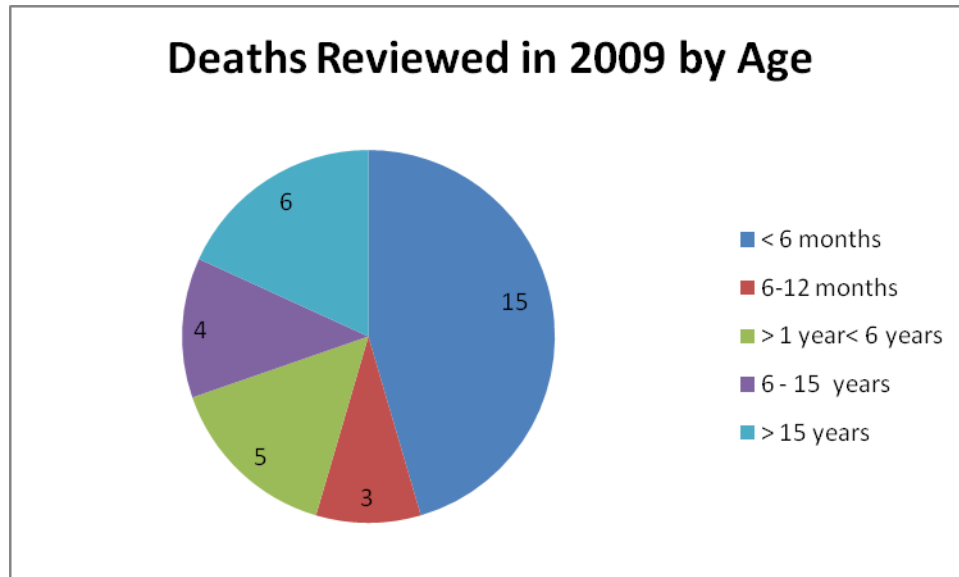


Case Examples:

- 3 month-old baby died sleeping face down on the mother's stomach on a couch.
- 2 month-old baby died sleeping beside his mother and father in an adult bed.
- 7 month-old baby died while sleeping with her mother and two siblings on an adult mattress.
- 6 week-old baby died while sleeping on his back on an adult mattress with both parents.
- 5 month-old infant died while sleeping between his parents on an adult mattress on the floor.
- 2 month-old infant was wrapped in a comforter, placed on his stomach on the couch and was found unresponsive by his mother in the morning.
- 3 month-old infant was put to sleep on a living room chair with cushions and was found deceased the next morning.
- 3 month-old female was placed face down in her crib with several blankets to sleep; she was found in the morning with the blankets wrapped around her neck.
- 3 month-old was found deceased after being placed face down on his stomach with several blankets in the crib; there was evidence of pet hair, smoking and alcohol use in the home.
- 3 month-old was placed on her side in a cradle covered with a quilt; evidence of pet hair and excrement was found at scene.
- 6 week-old male was found deceased next to his mother on a couch who fell asleep feeding him.
- 1 month-old infant was found unresponsive beneath her mother in an adult bed.

2009 PDRC Reviews of Cases with Children's Aid Involvement

Of the 33 deaths reviewed by the PDRC this year, 12 of the children were female and 21 were male. The age of the children ranged from 6 days to 17 years. The majority (70%) of deaths involved children 5 years of age and under (n = 23) and 18 of those 23 children were under 1 year of age (55% of the overall total). 4 children were between 6 and 15 years old and the remaining 6 children were over 15 years (45%). 99% of the children reviewed were either under one or over 15, a consistent trend in Ontario paediatric death reviews.



Cases were reviewed from deaths occurring in the following years:

2009 – 2 cases
 2008 – 13 cases
 2007 – 14 cases
 2006 – 2 cases
 2005 – 1 case
 2002 – 1 case

CAS Involvement (n = 33):

- 17 cases were open to a CAS at the time of the death
- Types of protection files: 2 Intake; 15 Ongoing Services
- 16 cases had been closed within the 12 months preceding the death
- 4 of the 33 children were in the care of a CAS – 2 were Crown Wards
- 29 children were in the care of their families

Internal Child Death Reviews by Children’s Aid Societies

Child Death Reviews in Ontario

(Adapted from Internal Child Death Review Guidelines for Children’s Aid Societies, January 2006, Ontario Association of Children’s Aid Societies and the Child Death Review Task Force)

Multi-disciplinary child death reviews have been upheld by numerous jurisdictions in both Canada and the United States as the most advantageous form of child death review. There is significant agreement among jurisdictions on the core disciplines expected to be represented on a review team. These include representatives from the Coroner’s Office, law enforcement, prosecutorial agencies, child protection services, and public and mental health agencies. In Ontario, the Paediatric Death Review Committee (PDRC) serves the purpose of an external, multidisciplinary review mechanism for child deaths.

Child death reviews must be completed by Children’s Aid Societies and by the Office of the Chief Coroner of Ontario under the joint direction of the Ministry of Children and Youth Services (formerly the Ministry of Community and Social Services) and the Ministry of Community Safety and Correctional Services, whenever:

- 1) the death of a child occurs;
- 2) that child is the recipient of current or recent service from a CAS; and
- 3) when the death is a result of abuse or neglect or occurs under questionable circumstances.

Reviews are intended to explore the circumstances relating to the child’s death, in

order to ascertain what might be changed systemically or in professional practice to reduce the risk of another similar child death in the future and to strengthen practice in general.

Society Internal Child Death Reviews

An internal child death review is conducted by the involved Children’s Aid Society in order to investigate thoroughly the death and the context within which the death occurred. The review seeks a contextual understanding of the details of intervention, decision-making and potential oversight which may have contributed to the death of a child and makes recommendations for the improvement of internal or external systems and structures to reduce the risk of future deaths of children served by the Society. The internal child death review seeks to understand the circumstances relating to the child’s death and to convey this understanding to the relevant staff, managers and collaterals in a manner that provides clarification, support and the capacity to continue to provide services.

An internal review of a child death is undertaken by the agency for the purposes of learning. Internal reviews, when shared among Societies, have the potential to promote an enhanced quality of practice within the broad field of child welfare. One of the goals of the Annual Report of the PDRC is to share the lessons learned by individual case reviews (both PDRC and Society) with other agencies across the province in order to improve the quality of child protection services provincially.

The PDRC, upon reviewing the CAS Child Fatality Case Summary Report and the Coroner’s Investigation Statement, considers the following criteria (not an exhaustive list) when requesting a Children’s Aid Society to conduct and forward an internal review to the PDRC:

CAS involved within 12 months
Sudden, unexpected deaths, including most accidents, suicides, homicides and undetermined
Some natural deaths (i.e. SIDS)
Potentially preventable with intervention possible
CAS file open for related reasons

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Analysis of Society Internal Child Death Reviews 2009

In order to evaluate the usefulness of the review process and the thoroughness of the Society Internal Child Death Reviews submitted by Children's Aid Societies, in 2009, members of the PDRC were asked to complete an analysis form (results attached on form template) on each Society Internal Child Death Review they reviewed. 30 Society Internal Reviews were analyzed in 2009; 22 were in compliance with the expectations.

The purpose of completing Society Internal Child Death Reviews, as per the Joint Directive and Guidelines, is to review and analyze the service agency's:

- Compliance with standards
- Adherence to internal policy/practice
- Decision-making

Internal reviews are meant to include:

- Source materials: i.e. file review/interviews/policies
- Thorough summary of the CAS history and relevant events
- Circumstances of the death
- Expert External Reviewer on team – (see below)
- Findings
- Recommendations to prevent future deaths (flowing from the evidence of the case)
- Plan to implement recommendations
- Lessons Learned – identifying strengths and weaknesses in practice, policy, systems, decision-making, case management, supervision, organizational structure etc. with a goal to prevent future deaths without blaming individuals

In choosing an External Reviewer, Societies should:

- Avoid a reviewer with real or perceived conflict of interest
- Avoid a reviewer with real or perceived imbalance of authority, control, power
- Avoid a reviewer with previous carriage or supervision of the case
- Ensure the reviewer has a broad knowledge of child welfare from front line, management and systemic perspectives
- Ensure the reviewer has knowledge of child fatality investigations/reviews
- Ensure the reviewer is objective and able to conduct critical analysis and make meaningful and independent recommendations
- Ensure the reviewer has good interview and written communication skills

Analysis Form for Society Internal Reviews

Did the review include the following?

Analysis of:	Yes	No	Comments
Compliance with standards	25	5	Most internal reviews commented on whether services were in compliance with provincial standards.
Adherence to internal policy/practice	27	3	Most reviews discussed compliance with internal agency policies and practices.
Decision-making	27	3	All but 3 reviews commented on the decision making process in file management.
File review	29	1	Only one internal review was unclear as to how much of the file was reviewed.
Interviews	28	2	Most internal reviews included interviews with agency staff and management.
Thorough summary of CAS history and relevant events	28	2	All but one review provided a thorough summary of CAS history and events.
External Reviewer	29	1	All but two reviews utilized an external reviewer either as a consultant or as a review panel member.
Findings	29	1	The vast majority of internal reviews included a critical analysis which led to relevant findings and conclusions.
Recommendations to enhance or improve practice or policy	28	2	Almost all of the reviews offered recommendations derived from the facts and analysis of the case.
Did the PDRC make further findings/recommendations?	29	1	PDRC had additional findings in all cases, and made recommendations in all but one case.
Did this Internal Review provide sufficient information to complete a PDRC review and report?	28	2	In 2 cases, the PDRC had to request more information or more analysis in order to complete its review.
Other Comments			a) The vast majority of the internal reviews met all expectations of the Joint Directive and the information was sufficient for the PDRC to complete its reviews. b) Several agencies submitted updates or responses to the PDRC upon receipt of the report and recommendations.

Initiatives by Agencies in Response to Internal and PDRC Death Reviews

Many Children's Aid Societies have developed and implemented new initiatives in the spirit of enhancing practice, policy and service to families. Below are a few examples of some that were brought to the attention of the PDRC in 2009:

- Hamilton CAS has developed a safe sleep policy and brochure for distribution to parents.
- Niagara FACS has developed an infant safe sleep policy.
- Kawartha Haliburton CAS organized a one-day training for its staff on a **Community Response to Fire Safety** involving the local fire department, Office of the Fire Marshal and the Office of the Chief Coroner.

Two exciting projects dealing with child death reporting and review which are underway in Sudbury and the Southwest Region are presented, with permission, below:

Sudbury CAS

(provided by Jennifer Wilson)

During the past two years the Children's Aid Society of the Districts of Sudbury and Manitoulin has experienced an increase in the number of child deaths reported, culminating in an increase in Internal Child Death reviews. 77% of the child deaths reported to the Society over the past four years were children in receipt of services at the time of their death, or had received services within the 12 months period prior to death.

At any given time, child welfare agencies work with less than 1% of the population. The children who receive services are typically amongst the most vulnerable children in the community. As such, the Society has accepted that child welfare practitioners are at greater risk of working with children who, for a number of varying reasons, do not survive this vulnerability.

In keeping with evidence informed practices, the Society has developed a process for debriefing child deaths, approaching death reviews as an evidence-informed practice opportunity, and ensuring that all service staff are provided information to enhance clinical understanding and integrate the lessons learned from each review.

Internal systems, supported by the revisions of internal policies and procedures for triaging all findings and recommendations from death reviews, have been developed to enhance critical thinking and mitigate defensive positioning with respect to the death review process.

All recommendations are presented by the Director of Services to the full management team, and disseminated by the supervisory clinical groups and service managers for recommended policy and practice enhancements, as well as determining training and professional development priorities for service staff.

Community processes must parallel enhancements to internal systems. All children who have died and whose deaths have been reported to the Society, interfaced with one or more systems beyond the child welfare system.

As such, the Society has:

- Enhanced the local police protocol for child death investigations to reflect the recommended steps by the Office of the Chief Coroner of Ontario.
- The Society, in partnership with the local office of the Ministry of Children and Youth Services provided a community presentation and engaged dialogue regarding recent outcomes and recommendations from local Internal Death Review Reports to 30 children's services providers. This half day presentation enhanced communication and better understanding for community service partners about the policy directive regarding child death reporting, and a review of the complexities and vulnerabilities of the children who receive services from child welfare practitioners.
- Further, the Society now expects that all internal child death reviews include interviews with all service providers who interfaced with the family at the time of the child's death. This approach only serves to enhance everyone's understanding of the intersection of various service systems and how the coordination of services may ameliorate or increase vulnerabilities for children.

South West Zone

(provided by Larry Marshall and Phyllis Lovell)

The Southwest Directors of Service (DOS) have maintained a tradition of utilizing the expertise of zone child protection staff to assist with Death Reviews for a number of years. In recognition of the benefit of this practice, a working group was struck to explore a more formal approach to Death Review work. The initiative was part of the DOS work plan and proceeded with the endorsement of the Zone Directors.

The working group brought senior staff from the region together to consider:

- The demands of the both death investigation and death review work
- Staff support and communication issues
- Training needs of staff involved in both investigation and review work
- Liaison initiatives with the Coroner's office in the Southwest Region and the Child Welfare Specialist with the Provincial Coroner's office.

The working group has drafted the **Southwest Regional Practice Guidelines** to assist Southwest Zone Children's Aid Societies to consider the demands of death investigation and death review work. The recommendations reflect best practice considerations. Each death of a child is unique and each investigation and review must reflect the circumstances and considerations that apply to the death. The suggestions in the guide are not intended to be prescriptive and each member agency will continue to devise a response to a death that is exclusive and distinct.

Child Welfare Agencies in the Southwest Region receive recommendations with respect to child deaths from the Provincial Paediatric Death Review Committee. Some of these recommendations focus on new thinking about child care practices such as the issue of bed sharing and safe infant sleep practices. Some recommendations are about the provision of care to high needs children and youth in the care of child welfare agencies. For example, several recommendations about suicide risk have been focused on youth in care. These recommendations have relevance to all of the child welfare agencies in the region and there is an opportunity to extend our "lessons learned" approach beyond our individual child welfare organizations to our entire region.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

In the spirit of shared learning, the working group is recommending that a roll up of recommendations be coordinated by the Directors of Service and shared in the region on an annual basis. Only recommendations that are relevant to the field would be shared and only with the consent of the individual child welfare agency.

The guide provides an overview of child death review models for agencies to consider, including the benefits and drawbacks of each model.

The working group has developed a standardized reporting and review template, recommendations for annual training, and support for staff after a child dies.

The guide supports multi-disciplinary coordination and collaboration during death investigations and reviews including the Coroner's Office, police, neighbouring agencies and others.

The PDRC appreciates the good work arising from its recommendations and training and encourages other agencies to forward any revised or new policies, protocols and initiatives. Sharing this information with others in the province directly or through this annual report is beneficial for the field.

OFFICE of THE CHIEF CORONER TRAINING for CHILDREN'S AID SOCIETIES

A TEAM APPROACH TO FORENSIC PAEDIATRIC DEATH INVESTIGATIONS

The Office of the Chief Coroner has developed and delivered this training to assist Children's Aid Societies in working collaboratively with police and coroners when a child dies in its jurisdiction. Generally by invitation, the training is offered by a team of 3 trainers, including a Regional Supervising Coroner, Child Welfare Specialist and an experienced homicide detective, in a one-day session. Occasionally, if the PDRC identifies a need, it will recommend that an agency extend the invitation in order to enhance its ability to conduct parallel or joint death investigations.

Hundreds of CAS workers and managers, and some police officers and lawyers, have participated in this training and evaluations have been favourable. An outline of the training and a list of agencies who have hosted the training are provided below.

Objective: to provide child protection workers (and police/coroners potentially) with information and practical application of an interdisciplinary model for use in forensic paediatric death investigations in Ontario.

Topic Outline:

1. Forensic Investigations – Role of Coroner, CAS Investigators, Police
2. The Context of Child Death Investigations and Review in Ontario
3. Forensic Investigations and Interviewing – principles, tips
4. Case Scenarios and sample death scenes – small groups

Key points:

- Importance and rationale of team approach (roles and responsibilities)
- Sharing of information - CAS/Police protocols
- Forensic vs. clinical interviewing and approaches
- Trends in infant deaths
- SIDS vs. SUDI
- Lessons learned from child death investigations, reviews, and inquests

Recipients of training in 2008-2009:

- Hamilton, Niagara, Brant, Haldimand-Norfolk, Halton (offered twice per year)
- Southwest Region CAS's – @ London
- Kingston & Frontenac
- Brockville
- Toronto (4 agencies)
- York
- Durham
- Tikinagan
- Timmins
- Sudbury
- Algoma
- Thunder Bay & Dilico
- Anishinaabe Abinoojii Family Services, Kenor

Themes Identified in 2009 PDRC Reviews of CAS Cases

One of the objectives of the PDRC review process is to track themes that continue to emerge over time. In reviewing the 33 deaths with CAS involvement this year, the following patterns were noted to repeat themselves in the delivery of child protection services:

- Infants and adolescents account for the majority of deaths reviewed by PDRC.
- Unsafe sleeping, accidents and suicide are the most common types of deaths reviewed.
- Several cases demonstrate chronic problems over long periods of time where service plan goals are repeated and little change is demonstrated by the caregiver(s).
- Patterns of neglect are evident; intervention is incident based and fails to consider the entire family history.
- Information sharing within agencies, amongst agencies and with other service providers is lacking.
- Transfers between agencies and within departments produce gaps in service and information sharing.
- Record checks are not always completed on everyone involved with the child.
- Interventions are directed toward mothers; assessment and expectations of fathers are missing.
- Some files close prematurely, particularly when families are difficult to locate or engage.
- Issues facing families such as domestic violence, substance abuse and mental health concerns are prevalent in the cases reviewed.
- The majority of cases reviewed by the PDRC showed evidence of chronic neglect, partly related to poverty, but also to parenting capacity problems.
- The challenges faced by many of the children whose deaths were reviewed frequently include possible fetal alcohol syndrome, physical and emotional abuse and neglect, learning and cognitive limitations, inadequate supervision and exposure to domestic violence.
- Finding a balance between providing support to parents who face barriers in their role as caregivers, while also protecting the safety of, and reducing risk to, vulnerable children is difficult.
- Information sharing between police and Children's Aid Societies during child death investigations remains problematic in many areas of the province.
- Workers should receive additional training and support in motivating and empowering hard-to-engage people to participate in services; often repeated attempts are made to work voluntarily with families who might require a more intrusive approach.

The next several pages provide examples of findings and recommendations from the reviews of the 33 deaths in 2009. Agencies that complete Internal Child Death Reviews often arrive at findings and recommendations for improving internal practice and policy; the PDRC acknowledges these recommendations and may add its own. Please note that, while the following examples may promote best practices, they are made on individual cases and are not meant to imply any responsibility for a death.

**Enhancing Child Welfare Practice through Lessons Learned from
Child Death Reviews
Recommendations to CAS - Themes**

Unsafe Sleeping Environments:

Recommendation:	Rationale:
The Society should develop a comprehensive safe sleeping package.	This infant died in an unsafe sleeping environment; it would be best practice for workers to discuss and repeat information on safe sleeping and provide written information.
The Society should ensure that sleeping arrangements and home conditions for all young children are reviewed during each investigation.	Pictures taken at the time of the death illustrated how cluttered and disorganized the home was which raises questions of neglectful parenting. Although there were cribs and appropriate beds in the home they were filled with toys, clothes and other items and could not have been used during this time for sleeping.
The Society should consider what additional training may be helpful to staff as it relates to young high risk vulnerable children.	Focus on comprehensive assessments on parents and children which include safe sleeping arrangements as well as the impact that smoking has on child rearing should be part of all staff training. The Society may want to consider the High Risk Infant training provided by the Ontario Association of Children's Aid Societies as mandatory for staff working with infants.
The Society should educate its staff, agency licensed and contracted caregivers, and clients on the inherent dangers associated with bed sharing.	There is no evidence to indicate that the mother's decision to sleep with all of her children on two mattresses on the floor was ever discussed with her by visiting protection or support service staff, both of whom were aware of the family's sleeping arrangement.

Adolescent Suicide:

Recommendation:	Rationale:
The Society should explore the viability of Secure Treatment Orders on behalf of youth who have a psychiatric diagnosis coupled with behaviour which places themselves or others at risk of harm.	While a host of treatment options were utilized to attempt to meet the needs of this very disturbed youth, there was no evidence in the Society's submitted documentation that Secure Treatment as both a placement and treatment option was considered.
The Society should examine supervision practices to ensure that there is always the expectation to examine patterns of current and historical information as part of investigations.	Several openings showed a pattern of neglect and parental inaccessibility. A lack of follow-through was always either "explained away" by the parents or not viewed as relevant or important by investigating workers. Both children talked of wanting to kill themselves at different times and very little discussion or action seemed to have been taken. In particular, the children were not apprehended under the Mental Health Act and brought to the attention of health care providers for emergency assessment with respect to suicidality.
The Society should include suicide prevention training as part of its on-going training plan.	High risk adolescents would benefit from workers having a strong knowledge base and skill set to work with youth

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

	who present with suicidal ideation. The Society staff needs to understand that a quick and strong response is required to statements made by vulnerable youth who express "I want to kill myself".
It is recommended that the recommendations about joint training and developing relationships between children's mental health services and child welfare be given priority and supported by using this case for study.	The observations and input from the external reviewers as well as the PDRC highlight that child protection intervention alone was not enough to support this youth and his family without joint case planning and support from all who knew him including the school and medical personnel.

Comprehensive Assessment (including File History, Collateral and Record Checks):

Recommendation:	Rationale:
The Society should respond to any future referrals about this family using the framework of past history and repeated themes related to risk, for example: parent conflict, unsafe conditions etc.	Both PDRC and Internal Reviews identified ongoing issues that relate to potential risk for the children. Although the death was classified as an accident, it was preventable and forms part of the history for the family that should be included in future assessments should the family come to the attention of a child welfare agency.
The Society should ensure a standard practice of securing the child protection records of their clients, as applicable, which are held by other child welfare authorities.	Submitted documentation referenced existing child protection files on the family from another Society, however provision of the records had not been sought.
Results of assessments, clinical interventions and other collateral information should be reviewed in supervision as it may help to inform the overall assessment and plan for the family.	It is not clear whether external assessments were reviewed in supervision. Information from assessments and collateral information is critical in order to conduct a comprehensive assessment.
The agency should review this particular case with respect to the safety and well-being of the surviving sibling and take the necessary steps to assist with the provision of stable, nurturing care. This may require the completion of a parenting assessment and a substance abuse assessment for both parents.	This review raises concerns regarding the capacity of these parents to provide safe, nurturing care for <i>any</i> child. In particular, the ongoing care of the sibling is of concern to the PDRC.

Information Sharing:

Recommendation:	Rationale:
The Society should explore the viability of enhancing the joint protocol with the local police service.	Society documentation indicates that there was little opportunity for the agency to gather a full understanding of the evidence which the police obtained during their investigation. The Society's exclusion from the criminal investigation had a significant impact on its service planning with the family.
The Society should review with its workers and supervisors the need for a thorough review of the case history when a case is transferred to a new worker and supervisor.	The worker and supervisor may not have been fully aware of all of the concerns and file information and therefore, did not consider it in service planning.

<p>The Society should consider case conferencing as a preferred practice model involving law enforcement and associated medical personnel including the investigating coroner, the Regional Supervising Coroner and/or the Office of the Chief Coroner in all suspicious child deaths.</p>	<p>There was no evidence in submitted reports that conferencing involving key investigative personnel such as child welfare, law enforcement and the involved coroner(s) occurred. A team approach model for the investigation of child deaths is recommended.</p>
<p>The Society should review its practices and procedures as they relate to working with other service providers.</p>	<p>The Internal Report acknowledges that collaboration with other service providers was a weakness and recommended creating a case conference forum. Obtaining continuous external service provider input should be part of ongoing assessments and interventions.</p>

File Closing:

Recommendation:	Rationale:
<p>Where there have been longstanding concerns about parents' follow-through with needed services for their child, the Society should confirm that services are in place prior to closing the file.</p>	<p>This file closed numerous times with the expectation that the mother would consistently follow through with services for the child, which did not occur. This likely contributed to his behaviour becoming increasingly more troublesome.</p>
<p>The Society should continue to provide service to a family where there is an impending birth and there have been chronic longstanding protection concerns with a family. At minimum the file should remain open until there can be an assessment of the capacity of the caregiver to parent a new baby.</p>	<p>The file closed two months before the mother gave birth to this infant and no assessment was done on her preparedness for another baby including reviewing the sleeping arrangements. This child died in an unsafe sleeping, bed sharing situation.</p>
<p>The Society should review/audit, through its Quality Assurance Program, this case and others that are not opened for investigation.</p>	<p>The PDRC is concerned about the number of referrals not investigated on this file. This case presents as a pattern of neglect with missed opportunities for intervention from the Society.</p>
<p>The Society should reconsider practices in terms of the length of time a case remains open when there is a new parent with an infant, especially when there are no other services in the home.</p>	<p>Based on one visit and the expectation that others would report if they had concerns, it was deemed appropriate to close this case within 30 days. Given the information about the mother's personal issues, counselling and smoking, the file could have been kept open for a longer period for further assessment and for contact with the father. This is underlined by the information that the mother did not want to continue with Healthy Babies, Healthy Children. Further, it was not enough time to assess how she sought help and advice in caring for the baby.</p>

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Difficult to Service Cases:

Recommendation:	Rationale:
The Society should review how it provides service in cases where the parents are not receptive to working with the Society to address the concerns and the child remains at risk. This review should include at what point legal consultation should occur regarding initiating a protection application and a mechanism for reviewing cases that are repeatedly open for the same concerns to ensure that cases are not closed without having the concerns adequately addressed.	There were long-standing concerns regarding the mother's parenting which were never addressed during the ten-year child welfare history with the family.
The Society should consider when to most effectively use a Supervision Order as it relates to parents who do not follow through, are uncooperative and not accessible.	There were many times the parents were: not at home when the worker came for announced visits, did not want to accept services, demonstrated a pattern of non-compliance and neglect over several years.
The Society should consider seeking the Court's direction or utilizing the access to records provision of the <i>Child and Family Service Act</i> (Section 74 (1)) when individuals refuse to sign consents to the release of information and in particular when such obligations are clearly defined in a Court Order.	Accessing the records of involved service providers would have provided the Society with greater insight into the family's functioning and the level of risk to the children. Despite the existence of a Supervision Order, the parents refused to sign consents.
It is recommended that the agency review its approach to working with resistant clients and provide clarification and training to staff where necessary.	The summary of findings in this case touched briefly on the challenges of working with evasive and uncooperative clients. These parents were very difficult to engage and the allegations that they were using and/or selling drugs may have contributed to their evasiveness.

**Enhancing Child Welfare Practice through Lessons Learned from
Child Death Reviews
Recommendations to MCYS - Themes**

**Ministry of Children and Youth Services
Monitoring of PDRC Recommendations**

Following the CASs' receipt of individual PDRC reports, Societies consider the PDRC report, implement the recommendations as appropriate, and incorporate the recommendations addressed to them into their written progress reports submitted to the Ministry Regional Offices. Ministry Regional Offices are responsible for follow-up with individual CAS's on a quarterly basis regarding the actions they have taken to respond to the specific PDRC report recommendations.

The Ministry's Client Services Branch monitors the implementation status of the PDRC recommendations and the actions taken by CAS's to respond to specific recommendations. Responses to the recommendations are prepared and submitted to the Assistant Deputy Minister on a quarterly basis.

PDRC recommendations directed to the Ministry of Children and Youth Services are reviewed and responded to by the program and policy divisions.

PDRC Recommendations to the Ministry of Children and Youth Services in 2009

The Client Services Branch and the Child Welfare Secretariat worked together to provide a response to the recommendations directed to the Ministry of Children and Youth Services during 2009. The most frequently recurring theme in recommendations to the MCYS was regarding information sharing issues; therefore, all 6 recommendations and rationale are listed in the chart below.

Other themes resulting in recommendations to the Ministry were with respect to accidental deaths due to fires and drowning, children's mental health and Aboriginal suicide, and unsafe sleeping environments. The MCYS responses are found on pages 80-81.

INFORMATION SHARING:

#	Recommendation	Rationale
1	The Ministry should deliver on its pledge to fully implement a Single Information System for child welfare.	A provincial child welfare database will enhance the protection of Ontario's children through real time access to child protection records. To be truly effective, Children's Aid Societies must ensure the electronic entry of their historic records into their databases.
2	Fasttrack access should be expanded to allow record checks on alternate caregivers including, but not limited to Kinship Service, Foster and Adoptive including Kinship Care applicants and day care providers.	Due diligence in the screening of alternate caregivers is significantly undermined by the Ministry of Children and Youth Service's prohibition for using Fasttrack as a screening mechanism.
3	Part 8 of the <i>Child and Family Services Act</i> should be proclaimed.	The absence of proclamation of Part 8 of the <i>Child and Family Services Act</i> creates significant ambiguity for the field with respect to the retention of records, confidentiality and information sharing.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

4	<p>The Ministry of Children and Youth Services should take a leadership role in the facilitation and development of the recommended province-wide standards for information sharing between police and Children's Aid Societies in all cases of suspicious child deaths. In the Report on the Inquiry into Paediatric Forensic Pathology in Ontario on 1 October 2008, Commissioner Stephen T. Goudge recommends (#163) that the Province of Ontario with the assistance of the Ontario Association of Children's Aid Societies and others, develop province-wide standards, supplementing those that already exist, on the sharing of information arising out of the investigations of suspicious child deaths by the police and Children's Aid Societies.</p>	<p>Submitted documentation indicated that the sharing of case materials, particularly between the Police Service and the Children's Aid Society following the deaths of children proved problematic on more than one occasion.</p>
5	<p>The Ministry of Children and Youth Services should consider reviewing the policy and practice related to CAS's sharing information on parents involved with child welfare as children.</p>	<p>When an intake worker attempted to receive information about family history after a referral, another CAS explained that consent from the child's mother would be needed for release of the information. This information could have been useful for the assessment and subsequent placement of the children.</p>
6	<p>It is recommended that Ministry of Children and Youth Services and the College of Physicians and Surgeons of Ontario, along with the Ontario Association of Children's Aid Societies, investigate these concerns and provide direction where necessary to ensure that greater collaboration, information sharing and compliance with the reporting requirements of the Child and Family Services Act (CFSA) are ensured.</p>	<p>An internal report outlined what appear to be significant obstacles to achieving service coordination between addiction services and child welfare. There was also the suggestion that professionals are failing to report suspicions that children are in need of protection as required by the CFSA.</p>

Ministry of Children and Youth Services
Responses to Themes in 2010 PDRC Report

Upon review of the cases presented to the Paediatric Death Review Committee and Deaths Under Five Committee, four common themes were highlighted.

1. Accidental Deaths - Fire and Water Safety

Eight of the deaths reviewed by the PDRC in 2009 were determined to be accidental deaths, raising issues of fire and water safety.

MCYS Response:

- The ministry is currently working with OACAS and other stakeholders to develop a strategy to disseminate a resource guide regarding fire safety to all CAS's.
- The ministry funds the OACAS to provide the Education Services curricula which includes a module on Working with Infants at Risk and their Families. The module includes training on the issue of safe bathing practices for infants, and how to educate families on preventing accidental drowning.

2. Information Sharing

A number of the PDRC reports from 2009 included recommendations that the Ministry develop province wide standards, supplementing those that already exist, on the sharing of information arising out of the investigations of suspicious child deaths by the police and Children's Aid Societies.

MCYS Response:

- The ministry is currently working with the Office of the Chief Coroner to develop a strategy to improve information sharing between relevant stakeholders during the investigations of suspicious child deaths.

3. Children's Mental Health Issues/Aboriginal Suicides in the North

A number of the deaths reviewed by the PDRC in 2009 were adolescent suicides, including suicides of Aboriginal youth in the North. This is a consistent theme from 2008 and 2009 reports.

MCYS Response:

- The ministry funds the OACAS to provide the Education Services curricula which includes a course on Working with Adolescents and their Families with a focus on adolescent mental health and suicide.
- The ministry has provided \$300,000 in funding to Nishnawbe Aski Nation's Youth Resiliency Program for youth suicide prevention. The ministry has also committed over \$700,000 in emergency funding for the Nishnawbe Aski Nation to develop and implement a plan to address the root causes of youth suicides in Pikangikum First Nation.
- An additional \$470,800 in one-time funding has been committed for Payukotayno Child and Family Services to provide crisis intervention to James Bay coastal communities facing multiple youth suicides.
- The ministry partnered with the Ontario Federation of Indian Friendship Centres to implement the Akwe:go program for urban Aboriginal children aged 7 – 12 in December 2005. This funding was increased by \$4.04M annually in the March 2008 Budget to \$6.19M, which also included funding to support the establishment of the new Wasa-Nabin Urban Aboriginal Youth Program for urban Aboriginal youth aged 13- 18.
 - The Akwe:go and Wasa-Nabin programs address the mental, physical, and emotional health and wellness of Aboriginal children and youth in a culturally relevant and holistic manner.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

4. Unsafe Sleeping Arrangements

Fourteen of the deaths reviewed by the PDRC in 2009 involved unsafe sleeping arrangements. This is a consistent theme from 2008 and 2009 reports.

MCYS Response:

- The Ontario Safety Assessment in the Ontario Child Protection Tools Manual (2007) requires consideration of a child's sleeping arrangements (Safety Indicator #8, e.g. adult sharing a bed with an infant or an unsafe crib) when protection staff assess the family's physical living conditions.
- The ministry funds the OACAS to provide the Education Services curricula which includes a training module on Working with Infants at Risk and their Families. This module includes training on the dangers of bed sharing and the necessity of appropriate sleeping environments for infants.
 - In 2009 the OACAS completed a review process to gather feedback on the training and how it has changed participants' practice with families and infants. The vast majority of participants indicated their knowledge of high risk infants increased through the training, and that the training will assist them in their work with families. Feedback received from this process, and ongoing course evaluation, will be used to enhance the curriculum.

Enhancing Child Welfare Practice through Lessons Learned from Child Death Reviews Recommendations to OACAS

While the majority of PDRC recommendations are directed toward Children's Aid Societies and the Ministry, occasionally other organizations receive recommendations. The Ontario Association of Children's Aid Societies (OACAS) received and responded to the following recommendations in 2009:

1. Recommendation:

In the Report on the Inquiry into Paediatric Forensic Pathology in Ontario of 1 October 2008, Commissioner Stephen T. Goudge recommends (#163) that the Province on Ontario with the assistance of the Ontario Association of Children's Aid Societies and others, develop province-wide standards, supplementing those that already exist, on the sharing of information arising out of the investigations of suspicious child deaths by the police and Children's Aid Societies.

Rationale:

While there was evidence that the Children's Aid Society and the police collaborated at the outset of the investigation it cannot be determined from submitted documentation whether ongoing dialogue and information exchange was maintained.

OACAS Response:

This recommendation is directed to "the Province of Ontario" and suggests that OACAS and others support the development of practice standards. **OACAS would be pleased to assist, but notes the need to clarify which Ministry would take the leadership role in facilitating the development of such standards.**

Notwithstanding the above comment, Children's Aid Societies have, since 2006, been raising the need for clarity related to the sharing of information between CAS's, Crowns and the police and have stressed the importance of doing this in high risk protection cases – not just in the cases of child deaths. CAS's take the position that there should be immediate and unfettered access to information related to child protection investigations, as was contemplated in the *Child and Family Services Act* (CFSA). This provision was been tempered by an Ontario Court of Appeal decision related to records (Wagg) which resulted in the introduction of a screening mechanism that delays and limits CAS access to records. CAS's have challenged this and have been supported by two decisions (Justice Keast and Justice Pardu) yet the CAS's, the police and the courts are faced with competing principles of access to information and protection of individual privacy. This has further complicated existing information sharing practices and protocols between CAS's, police (local and OPP) and Crowns. OACAS has worked in partnership with the Ministry of the Attorney General and the Ontario Association of Chiefs of Police to draft protocols, but this work is not yet complete.

The issue of sharing of information and protection of privacy was also contemplated in the *Child and Family Services Act* of 1985. As yet, these provisions have not been proclaimed. The 2010 review of the *Child and Family Services Act*, offers the opportunity to do so.

2. Recommendation:

The OACAS training program for high risk infants should be reviewed to ensure that safety issues related to bathtubs are covered.

Rationale:

Based on the number of child protection workers that obtain training through the OACAS training program for high risk infants, there is an opportunity to reinforce bathtub safety and integrate this with the high risk infant training program.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

OACAS Response:

Through the Education Services Program, OACAS currently disseminates information about bathtub safety in the Advanced Practice Course, working with High Risk Infants and their families. This training was recently reviewed and has demonstrated effectiveness in increasing the knowledge of workers (94% of participants indicated they learned more about High Risk Infants (HRI) than they previously knew and 94% of participants indicated that the training will assist them in the performance of their job).

OACAS will enhance this course and the foundation courses by writing a practice note that will be used as a supplementary training tool for participants. The practice note training tool will be disseminated to past participants through email. Other forms of knowledge dissemination to the field about this issue include posting the practice note on the OACAS website, publishing the practice note in the OACAS journal and emailing the note to the agencies and agency training designate.

3. Recommendation:

OACAS/MCYS – consideration be given to developing practice guidelines for the field regarding the timing of case closure where there has been ongoing involvement with a family and a new baby is expected.

Rationale:

In this review, it was identified that the Society was appropriately concerned about the impact of another baby, however believed there were not strong enough issues to keep the case open when the mother wanted it closed.

OACAS Response:

In cases of unborn children, Children's Aid Societies do not have a child protection mandate under the *Child and Family Services Act* until a child is born. Where there is an open case involving living children of the same caregiver, that case may only stay open as long as child protection concerns exist. If child protection concerns no longer exist, Children's Aid Societies do not have the mandate to keep the case open until a pregnant woman gives birth in order to begin a second investigation involving the newborn child.

MCYS sets the provincial Child Protection Standards. OACAS, as a membership organization would be pleased to encourage member CAS's to work with MCYS on revising standards for the purpose of enhancing the protection of children.

Enhancing Child Welfare Practice through Lessons Learned from INQUESTS

Excerpt from:

VERDICT EXPLANATION

By Dr. J. Edwards

Name of the Deceased: M. R.
Dates of Inquest: February 1st – March 2nd, 2010
Location of Inquest: Quality Inn, 327 Ontario Street
 St. Catharines, Ontario

I intend to give a brief synopsis of the issues presented at this inquest. I would like to stress that much of this explanation will be my interpretation of both the evidence presented and of the jury's reasoning in making recommendations. The sole purpose of this explanation is to assist the reader in understanding the verdict and recommendations made by the jury. This explanation is not to be considered as actual evidence presented at the inquest, and is in no way intended to replace the jury's verdict.

Note: For the purposes of the PDRC Annual Report, following Recommendation #1, examples of further recommendations falling under identified themes are presented. The jury issued a total of 45 recommendations to various parties and ministries. A full copy of the Verdict Explanation can be obtained from the Office of the Chief Coroner.

Summary of the Circumstances of the Death:

M. R., three years of age, was a ward of the Children's Aid Society of Haldimand & Norfolk and resided in a foster home affiliated with that agency. The day before his death a fourteen year-old ward of Family and Children's Services Niagara (FACS Niagara) was placed into the same residence. The next morning M. R. was found in his bedroom with no vital signs. Resuscitative efforts were unsuccessful and he was pronounced dead in hospital. The fourteen year-old subsequently plead guilty to suffocating him with a pillow, and was convicted as a young offender. The Office of the Chief Coroner decided to call a discretionary inquest into M. R.'s death.

The jury heard twelve days of evidence followed by summations, and then deliberated for five days before returning with its verdict. In total, thirty witnesses testified and seventy-six exhibits were introduced as evidence. There was testimony regarding the short life of M. R., matters relating to the fourteen year-old young offender ("YO") (including the decision to place her into M. R.'s home, stresses on her, and her involvement with FACS Niagara, the District School Board of Niagara, health care providers and the justice system), the events on the day of the death, and the findings on postmortem examination. There was also evidence about the operations of Children's Aid Societies in Ontario (including their information systems, information provided to prospective foster parents, training and support of foster parents, decision-making regarding residential placements, and legislation); practices followed by school boards in the province (including record keeping and educational placements), the effects of intrauterine exposure to alcohol, and issues relating to youth in care.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Verdict of Coroner's Jury:

The jury determined the following:

- | | |
|----------------------------|---------------------------------------------------|
| 1. Name of Deceased: | M. R. |
| 2. Date and Time of Death: | December 15, 2005, 8:42 a.m. |
| 3. Place of Death: | Welland County General Hospital, Welland, Ontario |
| 4. Cause of Death: | Smothering by a pillow |
| 5. By what means: | Homicide |

Recommendation #1:

It is recommended that the Ministry of Children and Youth Services strike a Task Force and/or Implementation Working Group to specifically consider and address the findings and recommendations of the jury in this inquest and, more generally, determine how best to avoid future similar deaths of children in care. The memory of M. R. deserves no less. It is recommended that this Working Group include representatives from key stakeholder groups, which may include: the Ontario Association of Children's Aid Societies; the Chief Coroner's Paediatric Death Review Committee; Family and Children's Services of Niagara; the Children's Aid Society of Haldimand-Norfolk; the organizations that represent children's aid society workers; and the Office of the Provincial Advocate for Children and Youth.

Coroner's Comments: The jury wanted a dedicated group of individuals from relevant agencies to work together to analyze their recommendations and develop strategies to prevent similar deaths in the future whenever possible.

Themes in Jury Recommendations:

INFORMATION SHARING BETWEEN AGENCIES

It is recommended that the Ministry of Children and Youth Services continue, and if feasible, accelerate, the development of a single information system for Child Welfare in the Province of Ontario which shall remain within the care and control of the Province of Ontario. Such a system should, among other features, provide child welfare workers quick access to key and relevant information that would inform critical decision making in the care and placement of children and service to families, and would allow for the timely sharing of information between agencies. This system would also help facilitate, among other things, the current Ministry goals of creation of a single information system, strengthening youth voice, and building resilience. The system should include a capacity to perform keyword searches, be user friendly and contain a cumulative record of behavioral issues and concerns respecting the child.

Coroner's Comments: The jury heard evidence that many of the records for children in care in Ontario are paper files, which may be voluminous and difficult to read, and that it is sometimes difficult for child welfare workers to readily obtain relevant information. In addition, the absence of a standard information system for Children's Aid Societies across the province can impede the timely sharing of information between agencies. This recommendation is intended to promote the capture, preservation, retrieval and sharing of information to provide workers with ready access to the information required to make decisions regarding children in care.

It is recommended that the Ministry of Children and Youth Services and the Ontario Association of Children's Aid Societies conduct a review of policies and procedures to develop standardized forms for commonly used documents. Looking forward to the requirements of a single information system, this would include, but not be limited to, intake forms, plans of care, child profiles, case notes, and placement forms.

Coroner's Comments: There was evidence that the content and layout of documents used by Children's Aid Societies across the province varies from one agency to the next. The jury felt that high quality and consistent documentation would promote effective information sharing between agencies.

It is recommended that all shared resource policy and procedures should be revised such that only planned placements occur when sharing resources with another agency.

Coroner's Comments: There was evidence that the decision to place YO (who was in the care of FACS Niagara) in a Haldimand-Norfolk CAS foster home was urgent because she was in custody at the time. The jury wanted future interagency placements to occur only when they are planned in advance. This would allow time for consultation and information sharing between the two agencies.

INFORMATION WITHIN AGENCIES

It is recommended that in the case of all paper files, (up to, but not limited to, family files, child in care files, adoption files etc.), a summary index page should be created and maintained as documents are added. When a file is closed, a copy should be added to any subsequent continuing client file.

Coroner's Comments: The jury heard evidence that the FACS Niagara record on YO contained many files. This recommendation is intended to create a mechanism for capturing the relevant information in each file and transferring it to subsequent ones.

It is recommended that the CAS should review with its workers and supervisors the need for a thorough review of the case history when a case is transferred to a new worker and/or supervisor.

Coroner's Comments: The jury heard evidence about the transfer of YO's file from her previous case worker to the worker she had at the time of M. R.'s death. This recommendation is intended to ensure that transfers include a comprehensive review of the case.

PLACEMENT-RELATED DECISION-MAKING

It is recommended that the Ministry of Children and Youth Services, in consultation with the child welfare sector, develop and implement a prescribed structured decision making eligibility framework for residential services. This would be used by Children's Aid Societies for the purposes of the identification and assessment of a child's needs for residential service, the level of care required, and the particular resource to be utilized.

Coroner's Comments: There was evidence about the decision to place YO in M. R.'s foster home. The jury wanted a standard process regarding the residential placement of children in care in Ontario to ensure effective and consistent decision making.

It is recommended that sections 110 to 121 of Regulation 70 under the Child and Family Services Act be amended to include a requirement that an assessment of the child's behavior which may present a risk of harm to any person, be conducted prior to the placement of that child in a foster home.

Coroner's Comments: There was no specific assessment of the risk which YO may have posed to M. R. before she was placed in his home. The jury felt that such assessments should be conducted before future residential placements of children in care.

It is recommended that the Ministry of Children and Youth Services as well as the OACAS ensure that Outside Paid Resource (OPR) placements can occur on an emergency basis when necessary.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Coroner's Comments: The jury heard evidence that FACS Niagara needed to find a residential placement for YO quickly because she was being held in custody, and that an OPR placement was not feasible because of the time required to schedule a meeting to approve this option. FACS Niagara has since taken steps to expedite the process for arranging OPR placements. This recommendation is intended to provide the other Children's Aid Societies in Ontario with a similar mechanism for approving OPR placements on an emergency basis when require.

It is recommended that a placement team (appropriate decision maker(s) including case worker, supervisor, resource worker, foster parents, child in care) meeting occurs whenever there is an issue or concern expressed about residential placements.

Coroner's Comments: YO's case worker made the decision to remove her from the foster home in which she had been residing because of concerns that she would run away again. The jury wanted a team, rather than an individual, to make such decisions in the future.

SERVICES FOR YOUTH IN CARE

It is recommended that the Ministry of Child and Youth Services develop a mandatory "Passport" for each child in the care of the Children's Aid Society. This "passport" shall accompany the child on all placements. The "passport" document shall include all information vital to the child's health, history and safety.

Coroner's Comments: The jury heard evidence that M. R.'s foster mother made inquiries about his safety before agreeing to accept YO into her home, and that she was not provided with written material to assist with this decision. The recommended passport would be provided to prospective foster parents across the province and contain information to assist them to make informed decisions in these situations.

It is recommended that the Ministry of Children and Youth Services and the Ontario Association of Children's Aid Societies conduct, in consultation with youth, a review of the policies and procedures of Children's Aid Societies concerning the placement of children into foster homes with a view to the creation of a model or "best practices" document that addresses the relevant factors that are to inform the selection of the most appropriate placement of a child from the available resources.

Coroner's Comments: The jurors wanted to encourage the development and implementation of an optimal process for the placement of children in foster homes across Ontario. They felt that young people should be included in this process in recognition of the importance of providing them with a voice in their own affairs.

It is recommended the Ministry of Children and Youth Services and Children's Aid Societies, in consultation with youth, develop best practice guidelines with regard to transitions from placement to placement respecting the importance of connection and relationship, the needs of the child, and the voice of the child. Guidelines should include that when a child is being placed in a new home, a Children's Service Worker, has made every attempt to involve the child and foster parent in salvaging the current placement and to minimize disruption. Once the move is decided, consideration must be given to the concerns and safety of any child affected by the proposed placement. The child's belongings and other transitional items (to make the child as comfortable as possible) should be assembled. Before leaving a new placement, the care worker should speak to the child alone and create a safety plan should the child experience crisis. The worker should also inspect the child's room for suitability.

Coroner's Comments: There was evidence about the importance to youth of relationships, connection, stability, and having a voice in their affairs. The jury wanted to encourage the maintenance of current placements whenever possible, and the institution of measures to minimize disruption and promote safety whenever this is not feasible.

FOSTER PARENTS

It is recommended that in foster homes caring for young children, the use of an electronic baby monitor in a child's bedroom be considered.

Coroner's Comments: This recommendation is based on evidence that YO entered M. R.'s bedroom and smothered him with a pillow.

It is recommended that the Ministry of Children and Youth Services and the Ontario Association of Children's Aid Societies work collaboratively with the Ontario Foster Parent Association and with Children's Aid Societies, at the appropriate level, to develop and fund outreach initiatives aimed at the recruitment and retention of appropriately qualified foster parents.

Coroner's Comments: The jury heard evidence that foster parents are an important component of the residential placement system for children in care in Ontario. However, for a number of reasons, there is now a shortage of qualified foster parents in parts of the province, including the two Children's Aid Societies involved in this inquest. This recommendation is intended to ensure an adequate number of qualified foster parents.

It is recommended that subsection 61 (7) of the Child and Family Services Act be reviewed, in consultation with the Ontario Association of Children's Aid Societies and other relevant stakeholders, to determine whether the two-year period of continuous residence should be reduced in recognition of the stability and connection experienced by children who have lived within the same home for a period of time sufficient to develop that stability and connection.

Coroner's Comments: Subsection 61 (7) of the Child and Family Services Act provides foster parents with whom a child in care has lived for two years with the right to apply for a review of any proposed removal of the child from their home. While there was evidence that YO had a stable and strong relationship with the foster family with whom she lived before being placed in M. R.'s home, that family was not provided with the opportunity to contest her removal from their home because they had been living together for just under two years. This recommendation was made in recognition of the strong and positive relationship that may exist between children in care and foster parents who have lived together for less than two years.

STAFF

It is recommended that the Ministry of Children and Youth Services, in conjunction with other Ministries, including the Ministry of Health, supports training and addresses issues raised in the context of this inquest. The Ontario Association of Children's Aid Societies, and where applicable, Foster Parent Associations and the unions that represent front-line workers, need to strengthen the current mandatory and supplemental training to ensure they have the necessary skills and knowledge to provide quality care to the children entrusted to them, including but not limited to children that have special needs such as:

1. Running
2. Fetal Alcohol Spectrum Disorders (FASD), Fetal Alcohol Syndrome (FAS)
3. Developmental disabilities and delays
4. Dual Diagnosis children
5. Behaviour Management Strategies
6. Children in crisis and transition
7. Interaction between children and the education system
8. Developing the child's plan of care
9. Developing the child's social history
10. Developing the child's life book

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

Coroner's Comments: The jury wanted to ensure that every person involved in the child welfare sector receives comprehensive training in the above listed subjects explored at this inquest.

It is recommended the Ministry of Children and Youth Services should conduct a comprehensive workload measurement study. The study would assess the impact of current legislative requirements and best practice implementation on workload with a goal of identifying reasonable workload/caseload bench marks to support the delivery of quality service to children and families.

Coroner's Comments: The jury wanted a study to determine whether the workload of workers in the child welfare sector is consistent with the provision of quality services.

In closing, I would like to stress once again that this document was prepared solely for the purpose of assisting interested parties in understanding the jury verdict. It is worth repeating that it is not the verdict. Likewise, many of the comments regarding the evidence are my personal recollection of the same and are not put forth as actual evidence. If any party feels that I made a gross error in my recollection of the evidence, it would be greatly appreciated if it could be brought to my attention so that the error can be corrected.

(Reminder: the Verdict Explanation has been edited for inclusion in the PDRC Annual Report)

James Edwards, M.D.
Presiding Coroner
April, 2010

Current Initiatives and Future Directions

Since the last report of the PDRC in 2009 the following initiatives which were identified for consideration, are underway:

- The Office of the Chief Coroner (OCC) staff continues to liaise with staff at the Ministry of Children and Youth Services and the Child Welfare Secretariat to ensure ongoing support of the Child Death Review Process. This includes continued sharing of information on child deaths and PDRC recommendations throughout the year in real time, as they are produced.
- An analysis of the Joint Directive and Memorandum of Understanding to aid in future planning and direction is in progress.
- The propagation of a “blame free” culture to encourage an environment, which seeks to openly identify and reduce errors and omission. This is a fundamental principle and is the foundation of the manner in which, the OCCO interacts with CAS’s and other collateral service providers to children.
- The enhancement of public and professional awareness of the risks to infants of bed sharing and unsafe sleeping environments continues, including the publication of an article in the OACAS Journal on safe sleep practices.
- Liaising with other provincial and international Child Death Review Committees to share resources and ideas continues.
- Presentations of the findings of the PDRC and DU5C reviews to various conferences and forums including consulting and assisting various CAS’s in the development of best practice guidelines. A Web Cast was organized and presented in collaboration with OACAS; others are planned in the future.
- Collaboration with the Public Health Agency of Canada, Canadian Foundation for the Study of Infant Deaths, Registered Nurses Association of Ontario and others regarding the provision of a consistent message on safe sleeping for infants continued.
- Participation on a forum with the Ontario Fire Marshal’s Office, CAS and the Peterborough Fire Department regarding a Community Response to Fire Safety.
- The continued provision of an expert, objective, unbiased and non-partisan transparent process to review deaths of children in Ontario. The goal is to enhance learning, recommend systemic changes as needed, and to reduce and prevent future child fatalities.
- The analysis of “Lessons Learned” from individual society internal child death reviews and sharing these lessons with the broader child welfare community continues.
- We have identified systemic issues in child safety and care and plan to review them with inquests, where appropriate.
- The PDRC will continue to conduct further research into such areas as: teen suicides in Northwestern Ontario, bed sharing and risks to children, with consideration of publication of our results. The Pikangikum Review is well underway.
- We will continue plans to participate in the implementation of relevant recommendations stemming from the Inquiry into Forensic Pediatric Pathology and the M. R. Inquest.

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

KEY MESSAGES

- Many child deaths are preventable; child death reviews are about understanding and learning from the past to prevent similar events in the future.
- The safest sleeping environment for an infant is on its back in an approved crib with a firm mattress. Prevention initiatives directed at reducing unsafe sleeping are required more than ever.
- Natural and accidental causes are the most common reasons that children die.
- Vigilant supervision of young children could prevent many deaths classified as accident.
- Involvement with a CAS is not a factor in the vast majority of child deaths in Ontario; for those children who died while receiving CAS services, most deaths could not have been foreseen or prevented by a CAS.
- At any given time, child welfare agencies work with less than 1% of the population. The children who receive services are typically amongst the most vulnerable children in the community.
- Information sharing within and between agencies is critical for child safety, case management and investigative purposes.
- As the majority of children die while in the care of their families, prevention strategies and educational messages need to be aimed at the general public and parents, in particular.

Committee Membership

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Phyllis Lovell (Grey CAS)

Jennifer Wilson (CAS Sudbury and Manitoulin)

Death Investigation and Review Initiatives

PAEDIATRIC DEATH REVIEW COMMITTEE ANNUAL REPORT 2010

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www.hc-sc.gc.ca

Michigan Child Death Review Team

www.childdeathreview.org

National Association of Medical Examiners

www.thename.org

National Center for Child Death Review

www.childdeathreview.org

Office of the Chief Coroner

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Oklahoma Child Death Review Board

<http://www.childdeathreview.org/Reports>

Public Health Agency of Canada

www.publichealth.gc.ca/safesleep

Statistics Canada

www.statscan.ca

St. Louis Safe Sleep Task Force

www.stlsafesleepforbabies.com

United Kingdom Department of Health

www.dh.gov.uk/cotdeath/

U.S. Consumer Product Safety Commission

www.cpsc.gov



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