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Office of the Chief Coroner

Paediatric Death Review Committee and Deaths Under Five Committee Report 2016

December 2016

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Message from the Chair

I am very proud of the achievements made this year in advancing child death investigation and review. To me, it is one of the most important and challenging parts of our mandate. The Paediatric Death Review Committee (PDRC) and Deaths Under Five Committee (DU5C) exist to help us learn from child deaths in order to help prevent similar deaths in the future. Each opportunity to learn offers an important opportunity to reduce child mortality - potentially sparing the profound grief families suffer when a young life full of promise is lost prematurely.

Enhancing these opportunities to learn is a priority for the Office of the Chief Coroner (OCC) and for others. Since 2014, we have been working with the Ministry of Children and Youth Services (MCYS) and the Office of the Provincial Advocate for Children and Youth (OPACY) to develop a "best-in-class" model of review that will be data-driven, evidence informed and grounded in collaborative partnerships. This will maximize the potential for affecting public health analysis, policy development, research and prevention strategies in the province of Ontario.

Recognizing that death prevention is a shared responsibility and that children, youth and families are impacted by multiple systems, the new model will incorporate multiple organizations at various levels to thoroughly inform the death investigation and review process at each stage. With broader input and participation, there will be increased opportunity for timely, relevant learning, and more comprehensive

data will be available to inform surveillance and help to identify trends and themes that can point to systemic issues. This is key to determining the right areas for targeting further analysis, prevention strategies and areas where research could be of benefit.

We are in the process of developing a pilot project, and expect to be engaging with our community members on this topic in 2017.

While the new model is under development, the PDRC and DU5 will continue their valuable work. Their thoughtful analysis continues to identify important recommendations that can make a significant contribution to community safety and are instrumental in bringing preventative strategies to the attention of organizations. I am grateful for the hard work of the committee members and their ongoing commitment to child death review. Their work is well documented in this annual report.

I am thankful to Kathy Kerr for once again ensuring the committees run smoothly. I also want to thank Zak Haque, a summer student who returned to the OCC this year to assist with the data collection and analysis in anticipation of this report. I am pleased to report that the Executive Lead, Child Welfare position that Jessica Diamond has been working in is now a permanent position within the OCC. Jessica will continue in this role and will continue to provide her expertise as we develop the new model of child and youth death review.

I look forward to continued work with our partners and stakeholders toward the shared goal of improving the health, safety and well-being of Ontario's children and youth.

Dirk Huyer, MD
Chief Coroner for Ontario
Chair, Paediatric Death Review Committee and Deaths Under Five Committee

The Office of the Chief Coroner and the Context of Paediatric Deaths in Ontario

In Ontario, death investigation services are provided by the Office of the Chief Coroner (OCC) and the Ontario Forensic Pathology Service (OFPS). Together, they form a division within the Ministry of Community Safety and Correctional Services.

The OCC partners with the OFPS to ensure a coordinated and collaborative approach to conduct the highest quality death investigations in the public interest. Other key death investigation partners include police services, the Centre of Forensic Sciences and other investigative agencies including but not limited to Children's Aid Societies, the Ministry of Labour and the Office of the Fire Marshal. Ontario is the largest medico-legal death jurisdiction in North America.

In Ontario, coroners are medical doctors with specialized training in the principles of death investigation. Coroners investigate approximately 15,000 deaths per year in accordance with Section 10 of the *Coroners Act*. They investigate all non-natural deaths such as those involving violence, foul play, suicide, and where accidental injury may be involved. Investigations are completed on natural deaths that are sudden and unexpected as the manner of death is initially unclear. Other natural death investigations may occur depending on the type of death and/or if there are concerns about the care of the deceased prior to death. The Office of the Chief Coroner applies the following definitions when determining the manner of death:

Natural: a death is natural if it is due to a natural disease or complication thereof; or known complication of diagnosis or treatment of the disease.

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

Homicide: a death is classified as homicide if it results from the action of a human being killing another human being.

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 (the consequence would be) his/her own death.

Undetermined: a death is classified as undetermined when a full investigation has shown no evidence for any specific classification or there is equal evidence or a significant contest among two or more manners of death.

The OCC investigates approximately 20% of all deaths that occur within the province each year. In paediatric deaths (i.e. from live birth to the nineteenth birthday), this proportion over the past five years is approximately 35%.

The Paediatric Death Review Committee (PDRC) and the Deaths Under Five Committee (DU5C) are two of the seven expert death review committees that report to the Chief Coroner for Ontario. For administrative purposes, the PDRC is composed of two sections based on the nature and circumstances of the death: PDRC - Child Welfare reviews cases with child welfare (i.e. Children's Aid Society) involvement, and; PDRC - Medical reviews the deaths of children where issues or concerns about the medical diagnosis or provision of care have been identified.

The OCC has death investigation procedures that mandate expert death committee reviews for deaths in certain circumstances. The DU5C reviews all deaths investigated by coroners involving children under the age of five. The PDRC - Child Welfare must review all deaths involving children and youth when the child, the youth or their family was receiving, or had received, the services of a Children's Aid Society (CAS) within 12 months of the death. All other reviews conducted by the PDRC, particularly those with medical implications, are done on a discretionary basis and are referred to the PDRC - Medical by the relevant Regional Supervising Coroner or DU5C.

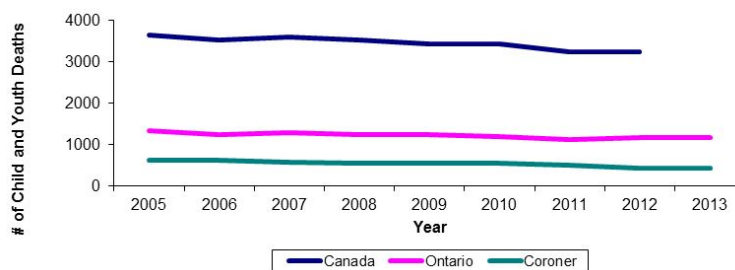
Child and Youth Deaths in Ontario and Canada: Trends Over Time

While deaths of children and youth comprise a small percentage of those investigated by the OCC, each of these deaths is challenging from emotional and investigative perspectives. It is important to consider the findings published in the Annual Report within the broader context of childhood deaths in Canada.

While the OCC defines the paediatric age group from live birth to the nineteenth birthday, adolescent data provided by Statistics Canada also includes the nineteenth year (i.e. up to the twentieth birthday). For the purpose of the comparisons demonstrated in Charts 1 – 4, data from the OCC includes investigations of adolescent deaths up until the twentieth birthday as well. On average, the OCC investigates 63 deaths of individuals in their nineteenth year. For Charts 1 – 4, please note that 2012 is the most recent year for which complete data is available nationally.

Chart 1 illustrates the number of child and youth deaths per year and compares the number of cases investigated by the OCC with the provincial and national numbers. Between 2005 and 2013, the year to year totals have remained fairly consistent.

Chart 1: Comparison of Child and Youth Deaths in Canada and Ontario with Ontario Coroner's Cases 0-19 Years of Age (2005-2013)



*At time of release of this Annual Report, the federal numbers for 2013 had not yet been released.

Chart 2: Paediatric population vs. paediatric deaths in Ontario compared with Canadian totals*

Chart 2 provides the actual numbers of child and youth deaths per year and shows the percentage of paediatric deaths in Ontario as a proportion of the national total. Between 2005 and 2012, the year to year totals have remained fairly consistent.

Chart 2

Year	Paediatric Population – Canada (Total)	Paediatric Population – Ontario (Total)	% of Ontario paediatric population vs. Canada	Paediatric Deaths - Canada (Total)	Paediatric Deaths - Ontario (Total)	% of Ontario paediatric deaths vs. Canada
2005	7,874,686	3,129,130	40%	3640	1335	37%
2006	7,865,435	3,127,664	40%	3513	1249	36%
2007	7,859,930	3,116,390	40%	3591	1297	36%
2008	7,869,257	3,112,369	40%	3517	1237	35%
2009	7,867,349	3,101,042	39%	3423	1247	36%

Year	Paediatric Population – Canada (Total)	Paediatric Population – Ontario (Total)	% of Ontario paediatric population vs. Canada	Paediatric Deaths - Canada (Total)	Paediatric Deaths - Ontario (Total)	% of Ontario paediatric deaths vs. Canada
2010	7,850,628	3,087,884	39%	3424	1201	35%
2011	7,833,278	3,074,838	39%	3245	1122	35%
2012	7,828,135	3,062,498	39%	3247	1166	36%
Average	7,856,087	3,101,477	40%	3450	1232	36%

*At time of release of this Annual Report, the federal numbers for 2013 had not yet been released.

Child and Youth Deaths in Ontario: Distribution Across Age Groups

Chart 3 illustrates the average number of death investigations completed by the OCC compared with the total number of Ontario deaths in 2015, distributed by age group. Proportionately, infants compose the largest subgroup of deaths, followed by adolescents.

Chart 3: Distribution of Paediatric Deaths Across Age Groups (2015)

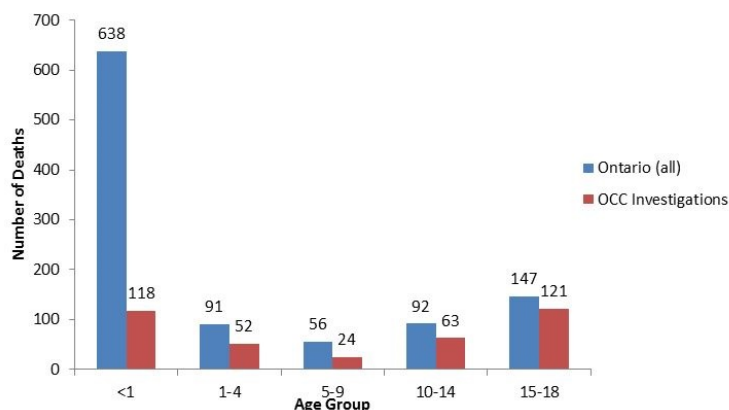


Chart 4 illustrates that in 2015, the OCC investigated approximately 18% of infant deaths (< 1 year), 57% of deaths of 1-4 year olds, 43% of the 5-9 year olds, 68% of 10-14 year olds and 81% of adolescent deaths (15-19 year olds).

Chart 4: Proportion of Ontario Deaths Investigated by the OCC across Age Groups (2015)

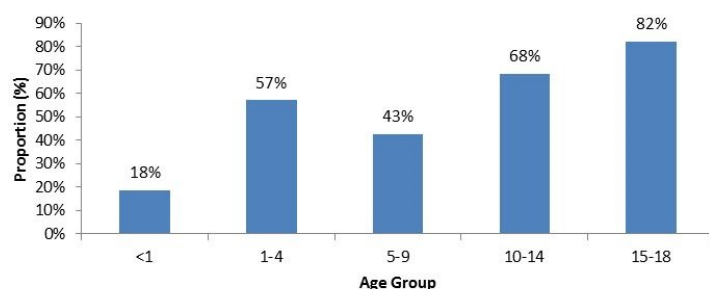
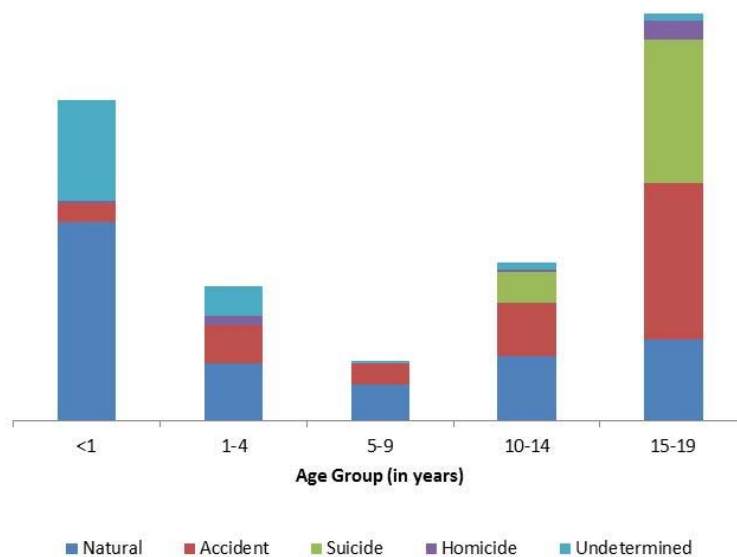


Chart 5 illustrates the manners of death of paediatric deaths investigated by a coroner in 2015. The chart demonstrates that there is a change in the distribution of the manner of death provided by Ontario coroners that follows age progression from infancy to adolescence. Natural and undetermined deaths dominate investigations of children under one, gradually changing to non-natural manners (accident, homicide and suicide) which are more prevalent among adolescents.

Chart 5: Manner of Death in OCC Investigations – Distribution across age groups (2015)



Deaths Under Five Committee

Introduction

The Deaths Under Five Committee (DU5C) of the Office of the Chief Coroner (OCC) meets at least six times per year for the purpose of comprehensively reviewing the deaths of children less than five years of age investigated by coroners in Ontario. It is a multi-disciplinary committee and members include forensic pathologists, coroners, police detectives, child maltreatment and child welfare experts, crown attorneys, a Health Canada product safety specialist and executive staff from the OCC. Attendance for knowledge enhancement is common, including learners from different stages of medical education and detectives from police services that are not active committee members. The membership is balanced to reflect Ontario's geography. It also includes members from several police agencies that provide diversity in terms of geographic area, size of police service and the skill set of the investigators.

Scope and Mandate

The DU5C reviews all cases investigated by a coroner involving the deaths of children under five years of age including, neonatal cases where the death was potentially linked to parental behaviour (e.g. sleep circumstances/unsafe sleep environment, maternal substance use, neglect, domestic violence, etc.) and those in which the Children's Aid Society (CAS) was involved at time of the death. The committee does not review neonatal deaths that occur prior to discharge from hospital where no substantive issues have been identified.

The mandate of the DU5C is to determine the cause and manner of death for all cases meeting the criteria for review. Case-specific recommendations for additional investigation, further laboratory/pathologic testing, evaluative testing of relatives or systemic improvements may arise during the review.

DU5 Review Process

Cases are referred to the DU5C by the relevant Regional Supervising Coroner. Case reviews are not confined to deaths that occurred during the calendar year of the Annual Report. Given the complexities involved in paediatric death investigations, the investigations sometimes take a long time to complete, delaying the DU5C review.

The DU5C review is a two-tiered "triaging" process involving an Executive Team Review and/or Full Committee Review.

Executive Team

The Executive Team reviews cases of deaths under five that are:

- Natural deaths with defined illnesses and no issues (i.e. the deaths are "all natural" and there are no police or child welfare concerns)
- Accidental deaths that are well documented where no issues have been identified (e.g. motor vehicle collision, drowning)

- Homicides or criminally suspicious deaths where the case is still under active police investigation or before the courts.

The cases are received, tracked and triaged by the Executive Team, whose membership includes the DU5C Chair, Executive Lead and other individuals as necessary.

Full Committee

The full DU5C includes the multiple disciplines noted above. The full committee reviews cases of deaths under five including:

- All cases where the cause of death remains undetermined after a complete investigation
- Deaths where the sleep circumstances\unsafe sleep environment may have been a potential contributor
- Potential cases of Sudden Infant Death Syndrome (SIDS)
- Natural deaths with complex medical presentations where potential investigative or pathologic issues that may affect the cause and/or manner of death have been identified
- Accidental deaths involving unusual circumstances
- Deaths resulting from head injuries that are not well documented accidental deaths (i.e. motor vehicle collision)
- Homicides (when the investigation and court process has been completed)

(Most homicides are reviewed by the Executive Team and presented to the committee prior to completion of the court process given the time period until resolution in the criminal justice system)

Cases referred to the DU5C undergo a comprehensive and detailed review of investigative materials including (but not limited to):

- Post Mortem Examination, toxicology results and other investigative findings
- Photographs (of the scene and Post Mortem Examination)
- Coroner's Investigation Statement
- Investigation Questionnaire for Sudden and Unexpected Deaths in Infants
- Police and other investigative reports (e.g. Fire Marshal and CAS reports, etc.)

Chart 6 Illustrates that over the past six years, the full DU5C reviewed between 55 and 108 cases. The manner of death for majority of cases for all five years was "undetermined."

Chart 6: DU5C - Full Committee Reviews Based on Manner of Death 2010-2015

Chart 6

Year	Natural	Accident	Homicide	Undetermined	Total
2010	17	14	4	73	108
2011	3	13	3	79	98
2012	6	2	9	75	92
2013	3	3	0	49	55
2014	7	4	0	53	64
2015	7	3	0	45	55

DU5C cases reviewed in 2015

Summary of Full DU5C Reviews in 2015:

- In 2015, the full DU5C reviewed 55 cases.
- Of the cases reviewed by full DU5C, 60% (33) involved male children and 40% (22) female children.
- Of the cases reviewed by the full DU5C, 87% (48) involved children less than one year old.
- Of the cases reviewed by the full DU5C involving children less than one year, the manner of death was 83% (40) undetermined, 13% (6) natural and 4% (2) accident.
- Of the cases reviewed by the full DU5C, 13% (7) involved children aged one to five years.
- Of the cases reviewed by the full DU5C involving children aged one to five years, the manner of death was 14% (1) natural, 14% (1) accident and 71% (5) undetermined.
- Collectively, for all full DU5C reviews, the manner of death was 82% (45) undetermined, 13% (7) natural and 5% (3) accident.
- Cases reviewed by the Full DU5C involved deaths that occurred in 2010 (1), 2012 (3), 2013 (18), 2014 (29) and 2015 (4).

Summary of Executive Reviews in 2015:

- In 2015, the executive team reviewed 87 cases.
- Of the cases reviewed by the executive team, 48% (42) involved male children and 52% (45) female children.
- Of the cases reviewed by the executive team, 56% (49) involved children less than one year old.
- Of the executive reviews involving children less than one year, the manner of death was 94% (46) natural, 2% (1) homicide, no undetermined and 4% (2) accident.
- Of the cases reviewed by the executive team, 44% (38) involved children aged one to five years.
- Of the executive reviews involving children aged one to five years, the manner of death was 68% (26) natural, 26% (10) accident, no undetermined and 5% (2) homicide.
- Collectively, for all executive team reviews, the manner of death was 83% (72) natural, 14% (12) accident, 3% (3) homicides and no undetermined deaths.
- Cases reviewed by the executive team involved deaths that occurred in 2012 (1), 2013 (16), 2014 (48) and 2015 (22).

Total Cases Reviewed by the DU5C (Executive Team + Full Committee) in 2015:

- In 2015, there were 87 cases reviewed by the executive team and 55 cases reviewed by the full DU5C, for a combined total of 142 cases.
- Of all cases reviewed by the executive team and full DU5C, 53% (75) involved male children and 47% (67) female children.
- Collectively, for all executive team and full DU5C reviews, the manner of death was 56% (79) natural, 11% (15) accident, 2% (3) homicide and 32% (45) undetermined.
- Of the cases reviewed by the executive team and full DU5C, 73% (103) involved deaths that occurred in 2014 and 2015.

Analysis of findings:

Chart 7 demonstrates the difference in findings of manner of death between cases reviewed by the executive and full DU5C reviews in 2015. The majority of executive reviews involved natural deaths. The majority of full DU5C reviews involved deaths where the manner was undetermined.

Chart 7: Manner of Death – Executive vs. Full DU5 Reviews (2015) (n=142)

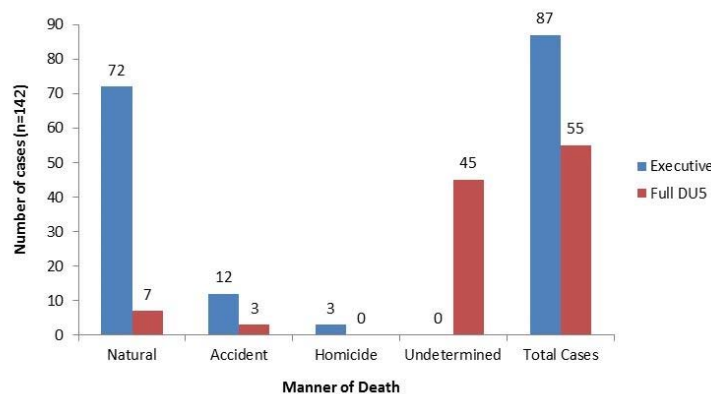


Chart 8 demonstrates the manner of death categorized by age for both the executive and full DU5C in 2015. The majority of executive reviews of natural deaths involved children less than one year old. The majority of full DU5C reviews of undetermined deaths involved children less than one year old.

Chart 8: Manner of Death based on age (<1yr vs. 1-5 yrs) and level of review (Executive vs. Full DU5 Committee) – 2015 (n=142)

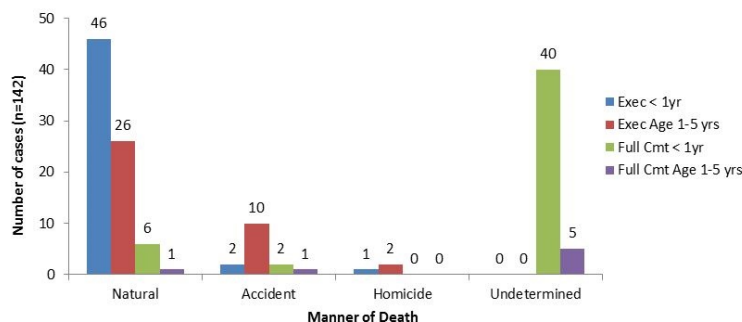
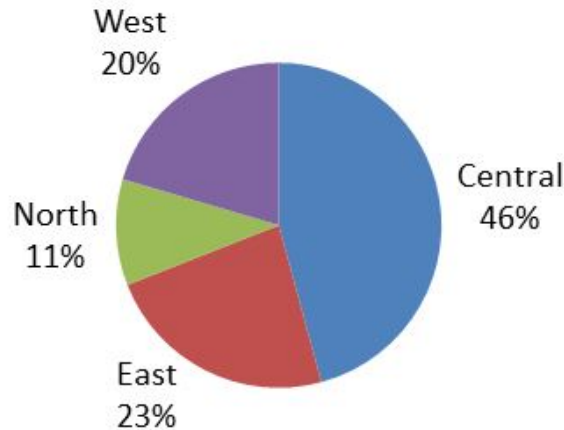


Chart 9 demonstrates that 46% of all DU5C referrals in 2015 came from Central Region, 20% of referrals came from West Region, 23% of referrals came from the East Region and 11% of referrals came from the North Region.[1].

Chart 9: % of Total DU5 Reviews based on Region (2015) (n=142)



Determining the Cause and Manner of Death

One of the greatest challenges the DU5C reviewers face is trying to properly assign manner and cause of death. The most challenging cases are in children less than one year of age, where the autopsy has not clearly demonstrated a cause of death. Even with the most qualified and experienced forensic pathologists performing the autopsy, it is not uncommon for the cause of death to be undetermined.

Learning more about sudden and unexpected infant deaths and advancing our findings continues to be a priority for Ontario's death investigation system with regular discussion about the approach to death investigation, and specifically, post mortem examination at the time of a sudden and unexpected infant death.

The Ontario Forensic Pathology Service (OFPS) adheres to scientifically informed guidelines that forensic pathologists follow when they complete these examinations at regional forensic pathology units. Ancillary testing includes: extensive histology; microbiologic evaluation; toxicologic analysis and detailed metabolic analysis. Additional testing and expert evaluation are completed when required and DNA is routinely isolated and retained.

In recent years molecular testing has not been completed in all cases of sudden and unexpected infant death. While testing was considered in unexpected infant deaths, there was concern that if testing identified abnormalities of unknown significance relating to the death, reporting the abnormality could lead to undue concern for surviving and future family members. It was felt that clinicians were in the best position, based upon their clinical assessment of family members, to determine the most appropriate testing.

There have been significant advances in the area of molecular testing over recent years including in the area of unexpected infant deaths. Ontario's death investigation system has continued to work closely with paediatric cardiologists and geneticists who have expertise in evaluating heritable cardiac abnormalities. Consultation with these experts has informed the development of a protocol for molecular testing in all cases of unexpected infant deaths where the post mortem examination has not identified a cause of death.

The classification of infant deaths continues to be a topic of discussion for the death investigation field. Different death investigations, including Canadian provincial and territorial jurisdictions, use their own approaches in the classification of infant deaths. Consistent use of definitions and terminology is important to ensure clear understanding and effective classification of sudden and unexpected infant deaths.

One of the significant changes reflected in the classification of these deaths (see Chart 10) involves the cause of death being provided as "undetermined" in cases where there is a comprehensive investigation but no conclusive finding. Previously, based upon a 2005 publication of the National Association of

Medical Examiners, many death investigation jurisdictions use the often confusing “Sudden Unexpected/Unexplained Death in Infancy (SUDI)” on the Medical Certificate of Death. This terminology is not used by the DU5C.

Chart 10 identifies the criteria used for classifying infant deaths in Ontario.

Chart 10: Infant Death Classification

Chart 10

	Autopsy Findings	Investigative Findings	Cause of Death on Death Certificate	Manner of Death
1	Autopsy reveals a definitive cause of death (pneumonia, head injury, etc.) that informs a definitive manner of death	Variable/may directly inform cause/manner of death	As per the autopsy/investigative findings	Based on autopsy/circumstances
2*	No anatomic or toxicologic cause of death identified	No findings of concern identified during the complete investigation -child found supine or prone -no evidence of sleep- associated circumstances** -may include exposure to environmental tobacco smoke or in utero tobacco use	Ia- Sudden Infant Death Syndrome (SIDS)	Natural
3A	No anatomic or toxicologic cause of death identified	Presence of sleep associated circumstances ** Presence or absence of social risk factors***	Ia- Undetermined Ib- II-Unsafe Sleep Environment (description in parentheses)	Undetermined
3B	No anatomic or toxicologic cause of death identified	Includes cases that do not meet definition of SIDS No sleep associated circumstances** May be presence of social risk factors ***	Ia- Undetermined Ib- II-	Undetermined
4	No anatomic or toxicologic cause of death identified	Findings in investigation/ autopsy, examples include: - autopsy findings for which the differential diagnosis includes non-accidental injury (eg: healing fracture, bruises, etc.) -death of a previous child in suspicious circumstances -significant toxicologic findings for which there is an inadequate explanation	Ia- Undetermined Ib- II-	Undetermined

** Sleep associated circumstances include:

-Sharing a sleep surface with a person or pet (adult, toddler, child, cat, dog, etc.)

-Sleeping on a surface not intended for infant sleep (adult bed, waterbed, sofa, child carrier, car seat, non-approved playpen or bassinet)

-Sleeping in a cluttered sleep environment (bedding, toys, clutter in the sleep area that represent an asphyxia potential)

*** **Social Risk Factors**, including, but not limited to:

-Previous involvement with child welfare agencies, substantial mental health histories in caregivers, domestic violence in the home, alcohol or substance use in the caregivers, concerning, but non-specific investigative findings (eg: inconsistent accounts of circumstances surrounding the death)

-these risk factors will not be listed on the Medical Certificate of Death.

* **Category Two** represents deaths that meet the definition of Sudden Infant Death Syndrome (SIDS)

As defined: Sudden death of an infant **under 1 year of age** that remains unexplained after a thorough case investigation, which must include:

- A complete autopsy
(including full skeletal survey & toxicology)
- Review of the circumstances of death
- Examination of the death scene
- Police investigation
- Review of the clinical history

A death will not be considered in Category 2 if any of the following is/are present:

SIDS definition is not met

-Presence of sleep associated circumstances (described above):

-Presence of social risk factors (described above)

-Anatomic or toxicologic findings that do not establish a cause of death, but for which the differential diagnosis includes maltreatment, and the caregiver has no explanation for the findings, or the caregiver's explanation for the findings is unwitnessed, or undocumented

A death would be considered as Category 4 if:

-Anatomic or toxicologic findings are present that do not establishing a cause of death, but for which the differential diagnosis includes non-accidental injury, AND the caregiver's explanation of these findings are unwitnessed or undocumented.

Deaths Under Five Committee Classification of Infant Deaths

In 2015, 69% (97 of 142) of the deaths reviewed by the DU5C occurred in infants who were less than one year of age. The categorization of infant deaths reviewed by the DU5C in 2015 is illustrated in Chart 11.

Chart 11 provides the classification of Infant deaths reviewed by the Deaths Under Five Committee in 2015.

Chart 11: Classification of infant deaths (under age 1 year) reviewed by the Deaths Under Five Committee in 2014

Chart 11

	Autopsy findings	Investigative Findings	Environment	# of 20145 DU5 Cases (Executive + Full Cmt) involving infants under age 1 year	% of total DU5C Reviews involving infants under age 1 year

	Autopsy findings	Investigative Findings	Environment	# of 20145 DU5 Cases (Executive + Full Cmt) involving infants under age 1 year	% of total DU5C Reviews involving infants under age 1 year
1	Autopsy reveals a definitive cause of death (e.g. pneumonia, head injury, etc.) that informs a definitive manner of death	Variable/may directly inform cause/manner of death.	Natural Accident (with unsafe sleep environment) Accident Homicide Total	52 1 3 1 57	59%
2	No Anatomic or toxicologic cause of death identified	No findings of concern identified during the complete investigation child found supine or prone no evidence of sleep-associated circumstances may include exposure to environmental tobacco smoke or utero tobacco use	Natural - SIDS	0	0%
3A	No Anatomic or toxicologic cause of death identified	Presence of sleep associated circumstances and/or presence or absence of social risk factors	Undetermined (unsafe sleep circumstances) *Unsafe sleeping environment (other) *Bedsharing	32 (16) (16)	33%
3B	No Anatomic or toxicologic cause of death identified	Include cases that do not meet definition of SIDS. No sleep associated circumstances. May be presence of social risk factors.	Undetermined	6	6%
4	No Anatomic or toxicologic cause of death identified	Findings in investigation/autopsy, examples include: autopsy findings for which the differential diagnosis includes non-accidental injury (e.g. healing fracture, bruises, etc.) death of a previous child in suspicious circumstances significant toxicologic findings for which there is inadequate explanation	Undetermined - no explanation	2	2%
			Total	97	

The Importance of Consistent Definitions

Clear understanding and effective classification of sudden and unexpected infant deaths can be hampered by inconsistent use of definitions and terminology. There is variable use of terminology in scientific and medical literature when discussing unexpected infant deaths. Death investigation organizations frequently have individualized approaches to the classification of these deaths.

To accurately study unexpected infant deaths, data needs to be collected from consistently defined records and reports. Collection of consistently defined data sets across many death investigation systems would enable a true analysis of the key factors contributing to these deaths – if the definitions are not the same, it is difficult to compare. The more data we can gather from these tragic deaths, the better positioned our community safety partners will be to develop strategies to prevent similar deaths.

Sudden Infant Death Syndrome (SIDS)

The Ontario death investigation system continues to use the term Sudden Infant Death Syndrome (SIDS) as a classification of a unique category of natural infant deaths, where in the future, a specific underlying natural cause may be found, e.g. cardiac, neurologic, metabolic. These are cases that would benefit from further research within the scientific community that may find common underlying factors causing these deaths. The value of categorizing deaths as SIDS (i.e. recognizing SIDS as an “entity”) has been clearly demonstrated through focused research projects. The Back to Sleep Program, for example, had significant public health benefit, contributing to a 53% reduction in deaths ([NICHD Back to Sleep Campaign](#)). Research in this area is ongoing by several others.

In Ontario, a death will be attributed to SIDS following a thorough review of all components of the death investigation including: the autopsy; examination of the death scene; review of the clinical history; and a review of the police investigation. The death is then reviewed by the DU5C, who will only attribute the death to SIDS if a consensus decision is reached that the case strictly meets the definition. The DU5C strictly applies the definition of SIDS and excludes cases with even minor deviations. SIDS is only given as a cause of death when all other causes have been ruled out. If the investigation reveals any concerning finding, the cause of death will not be classified as SIDS. It is a finding of exclusion, which is why there were no SIDS cases in 2015.

Understanding the Manner of Death

The following is a discussion about the classification system to ensure those reading this report – families, health care providers, academics, researchers, prevention experts, advocates, media, and others – have insight into Ontario’s approach to help understand the data presented.

In 41% (40 out of 97 – see data in Chart 11 – Sections 3A+3B+4) of infant deaths reviewed in 2015 by DU5C, the manner of death was “undetermined.” Undetermined is one of four potential manners of death that would apply in infancy.

The Office of the Chief Coroner applies the following definitions when determining the manner of death:

Natural: a death is natural if it is due to a natural disease or complication thereof; or known complication of diagnosis or treatment of the disease.

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

Homicide: a death is classified as homicide if it results from the action of a human being killing another human being.

Undetermined: a full investigation has shown no evidence for any specific classification or there is equal evidence or a significant contest among two or more manners of death.

The manner of death is informed by the autopsy and other investigative findings. At times, the external and internal examinations completed at the time of autopsy do not reveal an anatomic cause of death. This is more common for infant deaths than youth or adult cases.

A so-called “negative autopsy” may present in a number of situations including, but not limited to:

- Toxicologic deaths
- Metabolic disorders
- Asphyxial deaths (e.g. airway obstruction)
- Infectious disease
- Cardiac diseases (e.g. conduction disorders)
- Sudden Infant Death Syndrome (SIDS)

To evaluate for these potential causes, ancillary (additional) testing is completed. This includes: histologic review, vitreous biochemistry, toxicologic analysis, metabolic and microbiologic testing for infectious agents. These tests may identify a cause of death from which a specific manner of death can be determined.

It is important to look at how all the information available fits together when investigating death. For example, information about the incident leading to the death can be helpful when considering the autopsy findings in drowning cases. Investigative information may also be of assistance in determining cause and manner of death. For example, a negative autopsy with observed sudden cardiac arrest with accompanying defibrillator data indicating definitive arrhythmia, may allow an opinion of Sudden Cardiac Death with natural manner.

Alternatively, in criminal cases, a police investigation may demonstrate clear evidence of airway obstruction while the post mortem examination did not demonstrate any pathologic findings (with cause of death provided as undetermined) leading to the manner of death being provided as homicide.

The finding of undetermined cause and manner of death is challenging for investigators and family members to receive, given the lack of conclusiveness and/or the fact that other potentials remain. This is especially true within the context of the emotional response that accompanies any death, especially infant deaths. An undetermined finding follows careful consideration of all the evidence, and is a true representation of a thorough investigation. It should not be considered a failure to reach this conclusion. The classification of undetermined allows for future review that may contribute to a better understanding and knowledge about infant deaths.

The undetermined classification is applied when the death investigation system is not able to clearly delineate the cause and manner of death. Therefore, deaths classified as undetermined may include SIDS deaths.

Unsafe Sleep Circumstances - Determining the Role

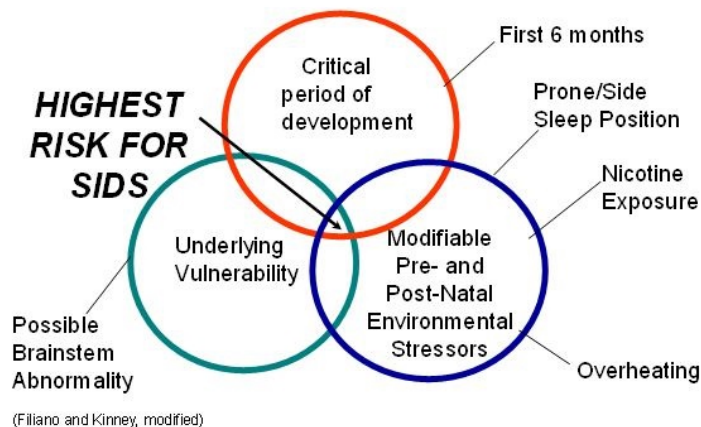
Specific findings during post mortem examinations are typically absent in situations of airway obstruction in infants, whether intentional, accidental (e.g. overlay during bed sharing) or other unsafe sleep circumstances.

Potential unsafe sleep circumstances exist along a continuum, from the defined safe environment (i.e. infant sleeping on their back in an uncluttered crib that conforms to regulation) to situations clearly identified as dangerous and likely a direct contributor to death. The lack of specific pathologic findings of airway obstruction and the potential of other unidentified causes of death have hampered the ability to accurately determine how frequently unsafe sleep circumstances cause infant deaths. These limitations require assigning an undetermined manner of death. However, experience in Ontario, supported by epidemiologic data, is that sleep circumstances may be a contributing factor in many cases.

Capturing Factors Potentially Related to the Death

A risk factor is something associated with ill health, disease and death; it may predispose individuals to develop a particular disease. SIDS has been conceptualized as a "Triple Risk Theory" where a child with (1) an underlying vulnerability (2) at a critical period of development is (3) exposed to an external factor align to lead to the death.[2]

Triple Risk Model to Explain SIDS



In most literature, accepted risk factors associated with SIDS include: prone positioning, cigarette smoking during pregnancy (and in the post-delivery period) and overheating. These external factors have been defined as modifiable risk factors that predispose the infant to be directly affected by an underlying natural abnormality.

It is unclear where on the safe sleep continuum specific external factors identified in individual death investigations move from acting as factors that predispose to a natural death (e.g. SIDS) to those that directly contribute to an accidental death (e.g. airway obstruction during overlay while bed sharing or suffocation on a soft sleep surface). In other words, we don't know the dividing point on the continuum from natural to accidental death.

The DU5C considers the potential contribution of sleep related circumstances within the context of stratification of risk (based upon literature and experience). During case review by the DU5C, unsafe sleep circumstances found at the death scene preclude the death from being classified as SIDS. Any factor identified at the death scene which might interfere with an infant's breathing and/or cause entrapment, overlaying, or suffocation is identified. These include: sharing a sleep surface; unsafe sleep surfaces (not intended for infant sleep) such as adult mattresses, waterbeds, couches, car carriers, car seats; a safe sleep surface which is cluttered with toys, blankets and pillows; or a non-approved bassinet or playpen. This is in contrast to previous literature and the practices of some jurisdictions, where these deaths are classified as SIDS.

The association between unsafe sleep environments and sudden unexpected infant deaths has been recognized by death investigators and researchers for many years. The literature, including a number of recent publications, adds to the growing field of knowledge about infant deaths. Two articles of interest are: Sleep Environment Risks for Younger and Older Infants (Colvin, JD, Collie-Akers V, Schunn C, et al. *Pediatrics* 2014; 134: e406-e412); and **the Registered Nurses' Association of Ontario Working with Families to Promote Safe Sleep for Infants 0-12 months of age**. Most recently the American Academy of Pediatrics released updated recommendations for a safe infant sleep environment : SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment. *Pediatrics*. 2016;138(5):e20162938

Additional research and documentation of sleep environments at the time of death is necessary to help understand the cause and effect and identify potential prevention strategies. When it is believed that the sleep environment **may have** contributed to the death, it is included as a contributing factor on the Medical Certificate of Death. This will be captured as data which can be used to inform the development of public health policies and further research into unsafe sleep environments and the potential role in sudden and unexpected infant death. This is reflected in Category 3A in Charts 10 and 11.

While the DU5C recognizes the convention of not including contributing factors when the cause of death is undetermined, the committee believes that these cases are a special group and deserve a unique approach. The committee maintains that entering potential contributing factors on the Medical Certificate of Death is more inclusive and recognizes the scope of the death investigation. Similar to the identification of SIDS as a special group, this may allow easier identification for further case study, facilitating future research and potentially informing a public safety approach.

Unsafe Sleep Environment – What is the data?

Review of Chart 11 demonstrates that there were 40 infant deaths reviewed by the DU5C in 2015 where the manner was deemed to be undetermined (Categories 3A + 3B +4). There were 32 infant deaths classified as 3A (unsafe sleep circumstances) indicating that sleep circumstances may have been a contributing factor.

Paediatric Death Review Committee – Medical

The Paediatric Death Review Committee (PDRC) – Medical is a multi-disciplinary committee that consists of specialized paediatric practitioners including: paediatric pathology, paediatric critical care, community paediatrics, paediatric emergency medicine, neonatology and cardiology. The membership is balanced to reflect Ontario's geography and includes differing levels of institutions that provide paediatric care and teaching centres, when possible.

Medical reviews analyze and consider the medical issues involved in the time preceding a child's death to gain a better understanding of the circumstances of the death. Case referrals for committee evaluation include medically complex deaths when there are concerns regarding the medical care or if there are questions about the clinical diagnosis, cause and/or manner of death.

Review process

Case assignment occurs by aligning the practice profile and expertise of the committee members with the circumstances of the death. For example, paediatric deaths from a community setting will be reviewed by one of the community paediatricians. Similarly, the death of a neonate will be primarily reviewed by the neonatologist. The review process involves analyzing the existing record of the decedent. The record routinely includes medical records, the Coroner's Investigation Statement, the report of the Post Mortem Examination, toxicology report, police report and other relevant documents.

At the committee meetings, the primary reviewer presents the findings to the members for discussion. This provides an opportunity for discussion about issues that may have been identified through the review. The committee may also develop recommendations based on the findings of the review. The primary reviewer will compose a final report reflecting the committee's consensus opinion. The report, which will include the cause and manner of death and any committee recommendations, is provided to the referring Regional Supervising Coroner. If the recommendations are systemic, the ministry, organization, agency or individuals are notified by the Committee Chair. Organizations are asked to respond back with the status of implementing the recommendation(s) within one year.

Where a case presents a potential or real conflict of interest for a committee member, that member will not participate in the review. Should a case require expertise from another discipline, an external expert will review and attend a PDRC meeting to participate in the discussion and drafting of recommendations.

Limitations

The PDRC is an advisory committee that makes recommendations to the Chief Coroner through the Chair. The PDRC case reports are prepared for the OCC and are governed by the *Coroners Act*, the *Vital Statistics Act*, the *Freedom of Information and Protection of Privacy Act* and the *Personal Health Information and Protection of Privacy Act*.

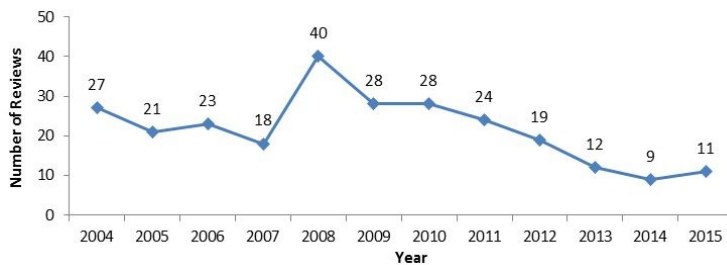
The consensus report of the committee is limited by the data provided. While efforts are made to obtain all relevant data, it is important to acknowledge that these reports are generated from a review of the written records. Sometimes the coroner/Regional Supervising Coroner conducting the investigation may have received additional information not included in the records that may render one or more of the committee's conclusions invalid.

Recommendations are made following a careful review of the circumstances of each death; they are not intended to be policy directives.

Statistical Analysis for Paediatric Death Review Committee – Medical

Chart 12 illustrates the number of PDRC - Medical reviews from 2004 to 2015. In 2015, there were eleven reviews.

Chart 12: PDRC (medical) – Total number of reviews (2004-2015)



Analysis of 2015 Case Reviews PDRC – Medical

In 2015, a total of 11 cases were reviewed by the PDRC – Medical. Of the cases reviewed, four involved children under one year of age, five involved children aged one to four years, one involved a child aged five to nine years and one involved a child between 10 and 18 years. Of the 11 cases reviewed, seven were male and four were female.

Recommendations

One of the important benefits of PDRC – Medical review is informing medical systems through recommendations using a “no blame” approach. The focus is on preventing future deaths via:

- Systemic changes;
- Changes in professional practice; and
- Response to emerging trends.

Given the PDRC – Medical referral criteria, recommendations are commonly directed to health care facilities. The collective expertise of the committee provides comprehensive reports that can be helpful to inform a healthcare organization's Quality of Care Review Process. The findings and recommendations in the reports create an opportunity for the organization to see the potential for improvement in its internal processes or policies to avoid similar outcomes in the future. In 2015, the 11 reviews resulted in 19 recommendations.

Summary of 2015 recommendations made by PDRC – Medical

The 19 recommendations made from the 11 PDRC – Medical reviews focused on the following themes and were addressed to the identified organizations:

Summary of 2015 Recommendations

Organization(s) asked to respond to recommendation	Theme of recommendation (s)	Number of reviews where theme was identified
Health care organizations Treating Health Care Professionals	Quality of Care	11
Health care organizations Treating Health Care Professionals	Differential diagnosis	7
Health care organizations Children's Aid Society Police Service	Communication	6
Health care organizations	Documentation	7
Health care organizations	Transport	3

Themes arising during medical reviews

Themes are often identified in individual case reviews and sometimes patterns may emerge when similar issues are observed in other reviews. Over time, the PDRC – Medical has identified and compiled a number of themes that have been common in child death reviews. The benefit of having a thematic approach is that the recurring themes can become an agent for systemic change. Over the past several years, there have been a number of initiatives stemming from PDRC – Medical recommendations that have enhanced paediatric health care in Ontario.

Themes from 2015 case reviews

The cases reviewed by the PDRC – Medical in 2015 were associated with five key themes. Some cases had more than one theme identified.

While these themes are consistent with past findings, by taking the extra step of evaluating for emerging trends, a refined focus for recommendations is taken with a view of systemic improvement instead of only considering the individual cases. The five consistent themes, and issues associated with each, are:

1. Treatment - Quality of Care

Treatment and/or quality of care were identified as themes in all of the 11 cases reviewed. Issues included:

- Vital signs not obtained/recorded;
- Abnormal vital signs not appreciated;
- Incorrect diagnosis and subsequent intervention;
- Lack of adherence to established protocols; and
- Need for involvement of advanced paediatric expertise.

2. Differential Diagnosis

Differential diagnosis was identified as a theme in seven of the cases reviewed. Issues included:

- Alternative diagnoses not considered;
- Potential confirmation bias limited consideration beyond the admitting diagnosis;
- Non-recognition or lack of appreciation of:
 - Symptoms
 - Laboratory tests
 - Diagnostic imaging
 - Patient response to treatment

3. Documentation

Documentation was identified as a theme in seven of the cases reviewed. Issues included:

- Qualitative and quantitative limitations;
- Poor or illegible hand writing; and
- Thought process/rationale for clinical approach not provided.

4.Communication

Communication was identified as a theme in six of the cases reviewed. Issues included:

- lack of discussion of vital patient information between physicians at the time of transfer of care
- lack of attention/acknowledgement of expressed patient/parent concerns;
- ineffective transfer of discharge advice/instruction; and
- Limited parental appreciation of clinical information due to ineffective understanding or ineffective information provision.

5.Transport/Transfer

Transport/transfer issues were identified in three of the cases. Issues included:

- Transport and transfer protocols and procedures.

PDRC – Medical: Case Example

This case was reviewed by the PDRC – Medical and illustrates the difficulties and challenges that can arise for health care practitioners when caring for paediatric patients.

File: 2014-12803 (PDRC 2015-07)

Date of Death: November 24, 2014

Age: 3 days

Past medical history

The decedent was a three-day-old child who was delivered vaginally by a 24-year-old mother following her third pregnancy. The two previous pregnancies resulted in term infants. The first pregnancy was complicated by pre-eclampsia. The mother's health problems included asthma (medicated with Ventolin), benign intracranial hypertension (followed by a neurologist), morbid obesity and potentially polycystic ovarian syndrome.

Antenatal care was provided by her family physician with visits at 14, 19 and 22 weeks. The mother was rubella immune and tested negative for HIV, hepatitis and sexually transmitted infections. No date of last menstrual period was recorded. Some of the antenatal record entries were not legible. Laboratory investigations included a random blood sugar of 4.8 (normal), normal Alfa-fetoprotein (AFP) screening and negative Group B streptococcus screen. Antenatal ultrasounds were completed at a local facility on April 2 (five week size gestational sac present), April 12 (normal pregnancy at 6 5/7 weeks) and June 4 (normal pregnancy at 14 4/7 weeks). Two additional ultrasounds were performed at Hospital A on May 23 (normal pregnancy at 12 5/7days) and on July 17 for an anatomical assessment. The July 17 ultrasound report indicated that there were no abnormal findings present, with notation that the examination was "limited because of maternal body habitus and the 4-chamber heart and outflow tracts were not well assessed." Recommendation for follow up was not provided.

At 22 weeks gestation (August 1), the family physician referred the mother for ongoing care to an obstetrician. The July 17 antenatal ultrasound results were not incorporated into the referral letter although the report was present in the obstetrician's chart. Unsuccessful attempts had been made to move the first appointment to an earlier date because of concerning symptoms. During the first visit on September 14 (at 29 weeks gestation), the major concerns were rapid weight gain and nausea raising the potential of pre-eclampsia. However, examination noted that the blood pressure was normal and the urine was free of protein. Concerns of pre-eclampsia persisted because of complaints of headache and "starry eyes," however her blood pressure remained normal without proteinuria during antenatal visits at 31, 33, 36, 37 and 38 weeks. Uterine growth plotted at the 60th percentile at 29 weeks crossing both 75th and 90th percentiles in the last 10 weeks of pregnancy. Mother presented in active labour to Hospital B at 38 weeks gestation. Shortly after arrival, at 03:00 on Friday November 21, the child was delivered by a registered nurse prior to arrival of the obstetrician. The birth weight was 3.085 kg with normal cord blood gases. Apgar scores were 8 at one minute and 9 at five minutes. The initial physical examination of the baby was performed by a family physician with the only abnormality documented to be a "loud -more than usual" systolic murmur. The physician requested a paediatric consultation. The family physician ordered an echocardiogram and provided chart and order entries that the baby could be discharged if the echocardiogram was normal.

A fourth year paediatric resident assessed the child later on the day of birth. The consultation report documented the child to be feeding well with the mother reporting the child as sleepy. The heart rate was 150 with respiratory rate 50 without any cyanosis. A Grade 2 systolic murmur was present with radiation to the axilla but not the back. The child did not demonstrate any respiratory distress or increased work of breathing. The liver and spleen were not palpable. The femoral pulses could be felt. There were no blood pressure recordings or documentation about completion of a four-limb blood pressure noted in the chart. Oxygen saturation measurements were not present. Completion of an electrocardiogram was not documented. The resident provided notation that, if the echocardiogram ordered by the family physician could not be performed over the weekend (November 22-23) and the child was free of diaphoresis, cyanosis or increased work of breathing, then he could be discharged home with echocardiogram to be performed on November 24. The original discharge order, written by the family physician, was not modified.

Nursing records relating to the period of time between 05:00 on November 21 to 07:45 on November 22 documented the heart rate as 143-156 with respiratory rate 48-50. The nursing notes indicated that a discharge examination was performed by a physician. The date and time of this examination were not recorded in the chart by the physician or nursing staff. Specific nursing comments relating to the potential concerning findings indicated by the paediatric resident, i.e. cyanosis, diaphoresis or respiratory distress, were not present. The mother and child were discharged at 11:25 on November 22. Documentation indicating that an out-patient echocardiogram appointment was provided, was not observed. Discussion about concerning cardio-respiratory symptoms and instructions for parental response were not found.

Terminal Events

The mother attended with the child at the Hospital C, on November 23 at 14:40 requesting to see a lactation consultant. It was reported that the child had minimal food intake since his discharge 26 hours earlier. He had reportedly not passed urine. He appeared dusky and had poor muscular tone.

He was immediately recognized as extremely sick with need for transfer for higher level paediatric care following stabilization of his condition. Oxygen was immediately provided. The emergency physician contacted Hospital B in attempt to obtain information about the birth and neonatal period, but was unable to speak to a physician who had seen the baby. The paediatrician-on-call was reportedly not able to be of assistance as he had not seen the child.

The Hospital A on-call paediatrician was contacted and provided medical management advice. The Children's Hospital transport team became involved. The child's blood sugar was 1.3. Five boluses of D10W intravenous fluid were given. After considerable difficulty, blood was drawn at 15:10 and a venous gas was completed at 15:36. Initial gases were pH <6.8, pCO₂ 28, PO₂ (on oxygen) 108. Normal Saline boluses were given in response to unrecordable blood pressures and the baby was started on continuous positive airway pressure (CPAP) ventilation with some improvement, followed by intubation at 16:57. Dopamine was provided to support the baby's blood pressure. Advice was provided to give Prostaglandin. The hospital did not stock this medication; following request, the medication arrived at 20:00 from Hospital A.

At 17:55, the child had an episode of severe bradycardia which required five minutes of external cardiac massage and two doses of epinephrine. A chest X-ray showed a low lying endotracheal tube which was therefore pulled back. By 18:30, his clinical condition was slightly improved, with a heart rate of 120-130, palpable femoral pulses and spontaneous breathing on CPAP. He had episodic bradycardia with a severe episode occurring concurrent with arrival of the Children's Hospital transport team. This responded to a short period of external cardiac massage. After 20:00, he received Prostin 1.8, epinephrine 0.9, and two boluses of sodium bicarbonate. By 20:41, he had a measurable blood pressure (37/21). Oxygen saturations were 96 preductal and 80 postductal. He showed evidence of disseminated intravascular coagulation and was given fresh frozen plasma and vitamin K. He was considered sufficiently stable for transport by 22:55. At this point, he had reactive and equal pupils, did not respond to sternal rub and had blood pressure of 70/25 arrival at the Children's Hospital, his blood pressure was no longer recordable. The baby was clearly in shock, with multi-organ failure, complete anuria and minimal spontaneous movement. He was cyanosed, with episodic ventricular tachycardia, likely secondary to hyperkalemia. Echocardiogram confirmed the clinical diagnosis of hypoplastic left heart syndrome (HLHS), with severe aortic hypoplasia, mitral stenosis and aortic valve atresia. Electroencephalogram (EEG) showed absent cortical activity and a CAT scan of the head showed severe hypoxic brain injury. In the light of the profound hypoxic injury following discussion with the parents, life support was withdrawn at 22:40 and death occurred at 23:15 on November 24, 2014.

Post Mortem Examination Findings

The post mortem examination confirmed the diagnosis of Hypoplastic Left Heart Syndrome. The left atrium, left ventricle and aorta were small with left outflow tract atresia and a stenotic mitral valve. Widespread hypoxic ischemic cerebral damage, involving cortical hemispheres, basal ganglia and cerebellum was present. The degree of gliosis suggested that the hypoxic damage was, at least in part, present at the time of birth. Hepatic steatosis of uncertain etiology was reported.

Cause of Death: Hypoplastic Left Heart Syndrome

Manner of death: Natural

Comments and Issues Raised

Three issues were identified during this review, each having several contributory features.

1. Antenatal detection of Hypoplastic Left Heart Syndrome (HLHS)

- The cardiac outflow tracts and four chambers of the heart were poorly visualized on fetal ultrasound (July 17)
 - This was attributed to maternal bodily habitus
 - Recommendation was not provided in the report for further examination
- There was a change in the health caregiver (family physician to obstetrician) soon after the July 17 ultrasound was completed
 - The poor cardiac visualization was not mentioned in the referral letter
 - A copy of the ultrasound report was present in the obstetrician's chart
 - There was an approximate six week interval between referral to the obstetrician and attendance for the first appointment.
- Mother had a significant medical issue (benign intracranial hypertension)
 - This likely resulted in some difficulty in differentiating the presence of headaches from this cause and pre-eclampsia
 - This may have diverted attention from the fetal issue.

HLHS is a relatively rare condition; the incidence is reported as between 0.016 and 0.036%. Assuming a value of 0.025%, a hospital seeing 2500 pregnant patients annually can expect to see one case every four years. There were no factors that increased the risk (prior family history or the presence of other anomalies), which decreased the likelihood of detection. Reported antenatal detection rates for HLHS vary, from 60 - 80%.^[3] However, many of these studies used inception cohorts from surgical centres or children's hospitals which typically overestimate detection rates. One study found that of patients not detected in utero, 25% presented in the period after discharge following delivery.

There is controversy about whether antenatal diagnosis improves outcomes (see Feinstein et al -Hypoplastic left heart syndrome -current considerations and expectations J. Amer. Coll. Cardiology 2012 59 S1-S42). The general conclusion is that it does not necessarily improve outcomes; however it increases the likelihood of being delivered close to a surgical centre, which does improve outcomes. In this case, the delivery occurred relatively precipitously, reducing the chance of effective transfer to a location near a paediatric surgical centre. Antenatal diagnosis is beneficial in preparing parents and in optimizing transfer even if not delivered in a perinatal centre.

2. Post-natal diagnosis

- Delivery occurred on Friday with discharge occurring on Saturday
- The echocardiogram ordered by the family physician was not completed, likely related to weekend timing and availability during weekday work hours
- Oxygen saturation measurements were not documented
- Electrocardiograms (ECG) were apparently not completed
- Single or 4-limb blood-pressure readings were not documented
- A chest X-ray was not completed
- Involvement of supervising paediatrician, either directly or by phone, was not documented prior to discharge
- There was no documentation of nursing assessment of clinical criteria provided by resident to ensure discharge was suitable
 - Nursing notes are restricted to completion of a template with minimal textual enhancement
- Documentation about the indications for return for medical assessment was not observed
- Discharge physical examination on the day of discharge was not easily identified
 - The note is undated
- The original discharge order remained unaltered despite alternative plan documented by the resident
- The home was a considerable distance from a health care centre

By the time that the child presented to Hospital C emergency department, he was in serious clinical condition with shock and severe acidosis with multi-system organ failure and cerebral hypoxic-ischemic damage. It is unlikely that alternative management approaches at this stage would have changed the outcome.

Survival with HLHS has improved significantly over the past decade with survival rates as high as 90% after first stage palliative or hybrid surgery. However in the presence of aortic atresia and mitral stenosis, reported survival is closer to 70%^[4]. Three year survival rates in the Single Ventricle Reconstruction Trial were 61% and 67% in the two arms of the trial. There is growing recognition of significant cognitive impairment in survivors, some of which appears to originate at the time of prenatal events, and therefore not amenable to change by post-natal surgery.

3. Medical Care Fragmentation

A final contributing factor to the outcome may have been the fragmentation of medical care, much of it inevitable and unavoidable. Three different hospitals, two office practices and an office ultrasound practice were involved, not including the Children's Hospital and the transport team and ambulance. This supports the recognized benefit of a common and universally accessible electronic health record. In addition this limits the ability to undertake inclusive quality of care reviews.

Recommendations:

1. Hospital A should undertake a lessons learned review of the approach to antenatal anatomic assessment ultrasounds. This review should include:
 - a. Key staff from the departments of Diagnostic Imaging and Obstetrics
 - b. The approach to reporting incomplete examinations of fetal anatomy
 - c. Consideration of developing, if not present, guidelines regarding recommendation for repeat examination
 - d. Review and revision of current methods for reporting the need for repeat examination
2. Hospital B should conduct a lesson learned case review of the care and management of this child during the neonatal period. This review should include:
 - a. Physicians and nursing staff from the Department of Paediatrics, Department of Obstetrics and Newborn Nurseries
 - b. Suggested areas for focus are:
 - i. Approach to assessment of a cardiac murmur including:
 1. Clinical testing/monitoring
 - a. Blood Pressure
 - b. Oxygen saturation
 2. Completion of ancillary testing
 - a. ECG
 - b. Chest x-ray
 - c. Timing of echocardiogram
 - ii. Nursing documentation
 - a. Potential limitations of template reporting
 - b. Inclusion of discharge instructions
 - iii. Approach to discharge of a potentially vulnerable newborn to a residence a considerable distance from a health care facility
3. The Provincial Council for Maternal and Child Health should review the feasibility of prostaglandin availability in all Ontario Hospital providing obstetrical care.
4. The Northern Ontario School of Medicine (NOSM) department of post graduate medical education should review the approach to care and management of this child during the neonatal period to evaluate the effectiveness of the paediatric residency education guidelines with specific focus upon:
 - a. the standards for resident/attending physician practice in the newborn nursery, particularly with respect to patient discharge

Paediatric Death Review Committee – Child Welfare

Child welfare services in Ontario are provided by 47 Children's Aid Societies (CAS), nine of which are designated Indigenous child well-being organizations. Each CAS is an independent, not-for-profit agency governed by a board of directors^[5]. CASs receive provincial funding from the Ministry of Children and Youth Services (MCYS).

By policy, coroners in Ontario investigate all paediatric deaths where a CAS has been involved with the child, youth or family within 12 months of the death. In 2006, the OCC and the MCYS implemented a Joint Directive on Child Death Reporting and Review. The Directive outlines the process CASs must follow when reporting and reviewing child deaths when they have been involved with the child, youth or family within 12 months of the death (see Appendix A for more information).

Stemming from the process outlined in the Directive, there are three distinct information sets that are relevant to CASs, the government and the public, resulting from:

1. The death investigation by the coroner;
2. CAS reporting related to these deaths; and
3. PDRC - Child Welfare reviews completed in certain circumstances.

This annual report presents an analysis of this information, to support data driven public safety, by:

- Comparing paediatric deaths with CAS involvement to paediatric deaths without CAS involvement;
- Conducting an analysis of data about paediatric deaths where there has been CAS involvement; and
- Providing recommendations in an effort to prevent future deaths in similar circumstances.

Prior to 2014, the PDRC – Child Welfare’s annual report focused on an analysis of PDRC case reviews. More can be learned from considering all paediatric deaths with CAS involvement, using the information provided by CASs in relation to those deaths. For this reason, this year’s annual report follows the same approach as the 2014 and 2015 reports.

The PDRC – Child Welfare and the OCC believe that this data is valuable to provide a better understanding of paediatric deaths with CAS involvement in Ontario. The OCC continues to receive feedback from many parties about the value of the approach and the utility of the information. It is hoped that by continuing to provide the additional analysis this will assist CASs, policy makers, researchers and the public to identify relevant areas to develop strategies and policies to help prevent future deaths in similar circumstances.

Use of data by the PDRC – Child Welfare

There are a number of challenges with the data available for analysis that merit consideration when reading this report, including:

- The data is primarily collected by coroners from across the province. Limits in standardization and non-confirmation of data accuracy may affect the analysis. The OCC is developing a new data capture computer system that is expected to significantly improve the quality and completeness of the OCC’s data.
- In 2015, there continued to be variable presentation of data provided by CASs to the PDRC. A standardized, pdf fillable Child Fatality Case Summary Report has been implemented since the 2015 data was collected that will support consistent data collection moving forward.
- The lack of comparator data from other sources. Data from different sources is collected with varying sets of parameters, depending on the needs of the organization. Some of the data required for effective comparison is unavailable. Other data sets are incomplete, or measured in ways that do not align with the data that the OCC and the PDRC collect. The OCC is engaging with multiple stakeholders inside and outside of the Government of Ontario, to explore opportunities for data sharing, and a data integration pilot project is expected to be undertaken in 2017.
- There are varying interpretations of the Joint Directive on Child Death Reporting and Review. We are not proceeding with clarification of the Joint Directive at this time, pending the development of a new model of child death review, to avoid potential duplication of efforts.

Where an analysis of the three available years of data, 2013 – 2015, was feasible, the results have been included in the report. The data analyzed to-date suggests that there is sufficient variability within the data year-over-year to merit the ongoing examination of the data prior to drawing any conclusions. As time passes and larger data sets are developed the ability to identify trends or draw conclusions from the data will improve. At this time, the significance of available data is unknown.

PDRC – Child Welfare’s Approach to Statistical Analysis

As in previous years, statistical analysis was completed to determine how “close” observed rates of paediatric deaths are to that expected in the context of one of two standard populations – paediatric coroner’s investigations, or child deaths in Ontario.

In some cases, no statistical analysis could be completed because of limitations arising from the nature of the data, the size of the populations, or challenges with data as discussed above.

In this section of the annual report, basic statistical analyses have been utilized to support the presentation of available data.

Looking forward: Data-Driven Death Review

Since 2014, the OCC has been working with the Ministry of Children and Youth Services (MCYS) and the Office of the Provincial Advocate for Children and Youth (OPACY) to develop a “best-in-class” model of child and youth death review that will be data-driven, evidence informed and grounded in collaborative partnerships. This will maximize the potential for affecting public health analysis, policy development, research and prevention strategies in the province of Ontario.

To achieve this vision, the new model intends to leverage data (existing and/or new) to undertake surveillance and identify verified trends and themes that may point to broader systemic issues – and therefore, target the “right” areas for further analysis to promote and advance death prevention.

Ultimately, the objective of a new model is to improve the health, safety and well-being of Ontario’s children and youth and reduce the child mortality rate in Ontario. We recognize that the factors that influence the circumstances of a person’s death are not isolated to the immediate time surrounding their death; they have intersected with various systems throughout the course of their life, and those systems may have influenced the circumstances of their death. Consequently, to be maximally effective, a new model of child and youth death review and analysis requires integrated data regarding the circumstances

of a person's death *and* their intersections with systems over their life course. This is key to determining the right areas for targeting further analysis, prevention strategies and areas where research could be of benefit.

The Government of Ontario is in the early stages of exploring opportunities to integrate data. The Office of the Chief Coroner is actively working with a number of key governmental partners to move forward on a data integration pilot project that will inform next steps for Ontario's model of child and youth death review.

2015 Paediatric Deaths with CAS Involvement Compared to Other Paediatric Deaths in Ontario

In 2015, there were 1,024 paediatric deaths in Ontario (aged 0 – 18 inclusive). Of these, 40% (406) met the criteria for coroners' investigation. Of the 406 coroners' investigations, 89 had involvement the CAS within 12 months of the death and were reported by a CAS to the PDRC – Child Welfare, accounting for 22% of all paediatric coroners' investigations. This is consistent with data from previous years.

In addition to these 406 deaths, CASs also reported the deaths of five youth outside of the paediatric group, aged 18 – 21, that were receiving Continued Care and Support for Youth supports.

One CAS reported the death of a youth that occurred in another country. This death has not been included in the analysis as it did not meet the criteria for a coroner's investigation in Ontario and as such was beyond the OCC's jurisdiction.

MCYS does not collect data on the number of children and youth that receive services from CASs in the community. Instead, the number of families served by CASs is reported, so it is not possible to determine whether the rate of paediatric deaths in Ontario is the same as, or different from, the rate of paediatric deaths in the population of children and youth served by CASs.

PDRC – Child Welfare Analysis: Understanding the role of Natural Deaths with Child Welfare Involvement and Deaths Still Under Investigation

By policy, coroners in Ontario investigate all paediatric deaths that occur where CAS has been involved with the child, youth or family within 12 months of the death. Consequently, some paediatric deaths that would not ordinarily meet the criteria for a coroner's investigation are investigated solely because of the involvement of CAS. These deaths include natural deaths occurring in hospital that under normal circumstances would not likely be investigated by a coroner. In 2015, 28 coroner's investigations fell into this category. To ensure consistency between comparator groups these 28 deaths have been excluded from some of the analysis undertaken in this report, i.e. to allow for comparison of deaths with CAS involvement against the broader population of paediatric coroner investigations (which does not include natural hospital deaths free of other concerns).

In addition, the death investigation in four cases was not complete at the time of analysis and therefore these were excluded from analysis. One of the four cases had child welfare involvement within 12 months of the death. Therefore, in some analyses, the total number of coroner investigations of paediatric deaths aged 0 - 18 is reflected as $374 (406 - 28(\text{natural}) - 4 (\text{under investigation}) = 374)$, with the total number of paediatric deaths with CAS involvement reflected as $60 (89 - 28 - 1(\text{under investigation}) = 60)$. This is consistent with the approach taken in previous years.

Coroner's Cases with CAS Involvement Compared with Coroner's Cases without CAS Involvement – Gender and Age

In 2015, a binomial test indicated that the proportion of female decedents of 41% ($n=170$) was lower than the expected 50%, $p<0.001$. This is consistent with previous years. A binomial test indicated that the proportion of female paediatric decedents investigated by a coroner with CAS involvement of 52% ($n=49$) was consistent with the expected value of 50%, $p=0.379$ (1-sided).

Chart 13 demonstrates the proportion of paediatric deaths across age groups in Ontario overall, and the proportion of coroner investigations with and without CAS involvement.

The number of deaths with CAS involvement was compared to the number of coroner investigations without such, across age groups. Year over year, the number of CAS involved deaths across age groups differed from what would be expected if the CAS involved population was the same as population of paediatric deaths that are the subject of a coroner investigation without CAS involvement.

The 2015 data, within the context of limitations noted earlier, demonstrated that 15-18 year old decedents were less likely to have CAS involvement prior to their death. There was no significant difference in other age groups.

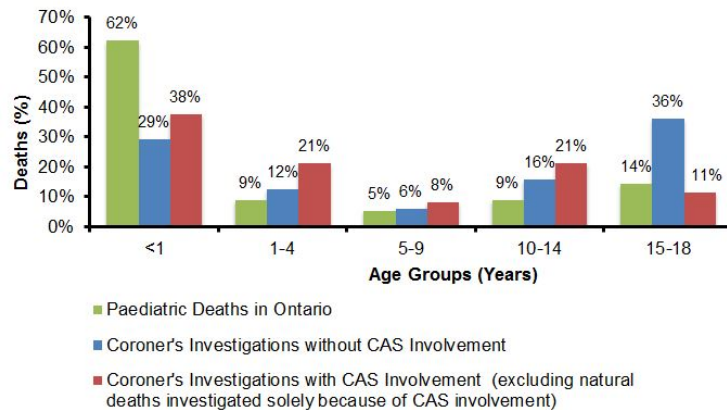
When reviewed as a three-year cohort of data, those under age one and aged 10 – 14 were

were more likely to have CAS involvement prior to their death and 15-18 year old decedents were less likely to have CAS involvement prior to their death.

The proportion of deaths across age groups was similar from each year, from 2013-2015.

Chart 13 demonstrates the proportion of paediatric deaths across age groups in Ontario overall, compared to coroner investigations with and without CAS involvement. The data demonstrates that 15-18 year old decedents were less likely to have CAS involvement prior to their death. There was no significant difference in other age groups.

Chart 13: Proportion of Deaths across Age Groups in 2015



The regional distribution of Ontario's paediatric population and paediatric deaths match (see Chart 14). However, analysis of the available data shows that there is a significant difference across the four regions of Ontario, between the proportion of paediatric deaths in Ontario and the proportion of Coroner's investigations in Ontario with CAS Involvement

(6).

As in previous years, fewer deaths with CAS involvement appear to occur in the Central region when compared to the overall number of child deaths in Ontario and the data continue to suggest that more deaths with CAS involvement occur in the North when compared to the overall number of child deaths in Ontario. Five per cent of paediatric deaths in Ontario occurred in the North, while 13% of all Ontario paediatric deaths with CAS involvement occurred in that region.

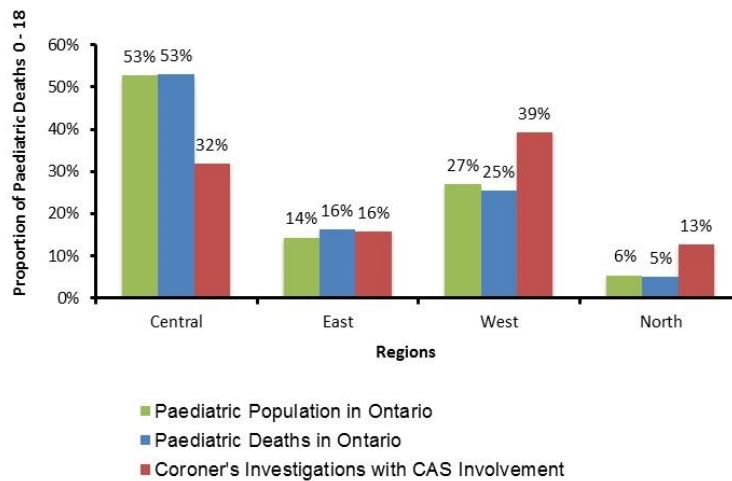
As we noted in previous annual reports, there are a number of potential reasons that may be associated with the apparent overrepresentation of child and youth deaths with CAS involvement in the North, including but not limited to: lower health status, challenges to accessing healthcare services and higher mortality rates that increase with remote place of residence⁷¹.

In 2015, available data indicated that 58% of the deaths with CAS involvement that occurred in the North region were Indigenous children and youth. This is lower (approximately 15% lower) than in 2014. In the absence of comparator data on the number of individual children and youth served by CAS and designated indigenous child well-being organizations across the various regions, it is not possible to determine whether this information may reflect higher rates of child welfare service delivery in the North, or a combination of other variables.

Notably, 9% of all paediatric coroner investigations took place in the North – greater than the percentage of paediatric deaths in that region (5%), and less than the percentage of paediatric deaths with CAS involvement in that region (13%). This may suggest that the higher percentage of paediatric deaths with CAS involvement in the North relative to other regions may arise from a combination of several factors.

Chart 14 illustrates that the percentage of paediatric deaths occurring in each region of the province is almost the same as the percentage of children and youth across Ontario, by region. More deaths with CAS involvement appear to occur in the North (13%), when compared to the number of paediatric deaths that occurred in that region as a proportion of total paediatric deaths in Ontario (5%).

Chart 14: Proportions of Paediatric Population in Ontario, Paediatric Deaths in Ontario, and Coroner's Investigations in Ontario with CAS Involvement, 2015, by Region



* The Ministry of Community Safety and Correctional Services Central Region includes Toronto.

Manner of Death – Coroner's Cases with CAS Involvement Compared with Coroner's Cases without CAS Involvement

The manner of death indicates how children and youth in Ontario die. If the well-being, living environments and circumstances of children and youth across Ontario, aged 0 - 18, with or without CAS involvement, were equal, it would be expected that the number of paediatric deaths occurring from a given manner of death would be the same in each category.

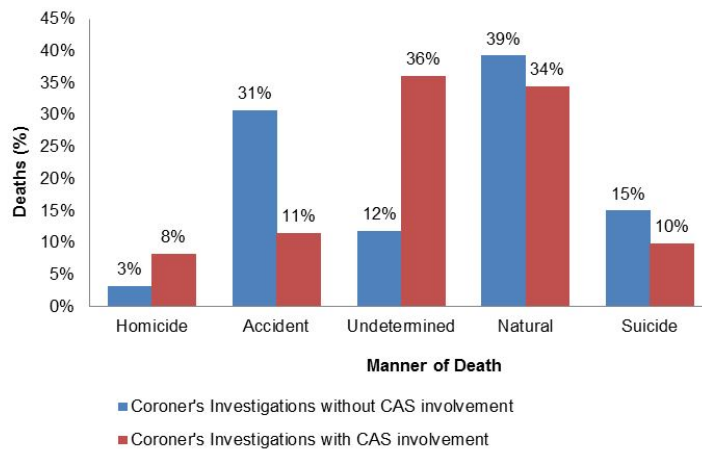
It is recognized that vulnerable children and youth have a greater likelihood of receiving services from CASs. The manner of death may provide valuable insight into the impact of services provided, but should not be used as an indicator of the effectiveness of service in isolation of many other indicators because CASs provide services in the broader context of a number of variables, and are generally not the only service providers engaged with this population of children and youth.

A significant difference was noted between the number of deaths with CAS involvement compared to the number of deaths investigated by a coroner without CAS involvement, by manner of death⁽⁹⁾. Chart 15 illustrates that in 2015, homicides and undetermined deaths appear to be more prevalent where a CAS was involved with the child, youth or their family prior to the death, while accidents appear to be less prevalent. Natural deaths and deaths occurring as a result of suicide or homicide were neither more nor less likely to occur with CAS involvement. This varies to some extent from findings in previous years.

Interestingly, when viewed as a three year cohort of data, significant differences are present for all manners of death with the exception of suicides. Put another way, a greater proportion of children and youth with CAS involvement appear to die as a result of homicide or of undetermined manner, while fewer children and youth with CAS involvement appear to die as a result of accidents or of natural causes. Caution should be exercised when interpreting these results, however, as the data set remains quite small (n=1093 coroner investigations).

Chart 15 illustrates the manners of death for paediatric coroners investigations that occurred, with and without CAS involvement, in 2015. It demonstrates that **homicides and undetermined deaths appear to be more prevalent where a CAS was involved with the child, youth or their family prior to the death, while accidents appear to be less prevalent. Natural deaths and deaths occurring as a result of suicide were neither more nor less likely to occur with CAS involvement.**

Chart 15: Manner of Death of Coroners Investigations with or without CAS Involvement in 2015 (n=374)

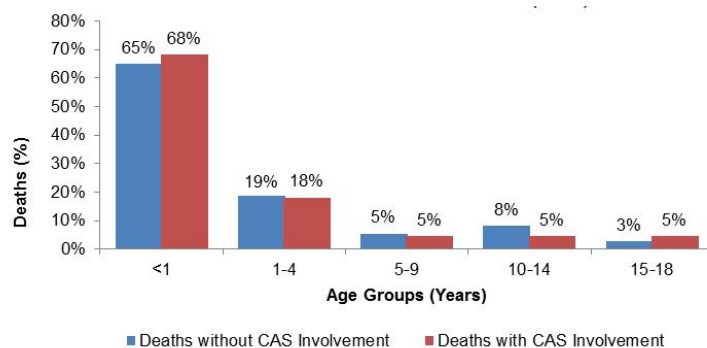


What do we know about deaths where the manner of death is undetermined?

When a complete investigation, including an autopsy, review of the clinical history and evaluation of the scene, does not allow for identification of a specific manner of death, or there are competing manners of death, the death will be classified as undetermined. Most paediatric deaths that are classified as undetermined occur in children under one year of age, with a smaller proportion occurring in children aged one to five and even fewer in the older age groups.

Chart 16 illustrates the number of undetermined deaths by age group, with and without CAS involvement prior to the death. Most paediatric deaths that are classified as undetermined occur in children under one year of age, with a smaller proportion occurring in children under five and even fewer in older age groups.

Chart 16: Paediatric Deaths Classified as Undetermined – with or without CAS Involvement in 2015



Presence of Sleep Associated Circumstance as a Potential Contributing Factor in Undetermined Deaths

In 2015, sleep circumstances were identified in 42% (25) of the 59 paediatric deaths where the manner of death was classified as undetermined. 40% (10) of these children or their families received services from a CAS within 12 months of their death, and 60% (15) did not.

While the data demonstrates a statistically significant difference in the number of deaths of children with and without CAS involvement where the manner was undetermined, when considering only those cases where sleep circumstances were identified as potential contributing factors to the death there was no significant difference between CAS involved and non-CAS involved populations⁹⁹. This is consistent with the findings of previous years. Analysis of a three year cohort does not identify a statistically significant difference^[10]. Furthermore, the number of deaths of children with CAS involvement where sleep circumstances were identified as a potential contributing factor has been decreasing year-over-year since this type of data analysis began in 2014.

As noted in previous annual reports, many variables require consideration when interpreting this finding. First and foremost, the small sample size must be considered. In addition, CASs are not the only organizations promoting safe sleep environments in communities. The independent impact of CAS practice on the number of paediatric deaths occurring in unsafe sleep environments is unknown;

however, the continued absence of a significant difference between CAS involved deaths and those without CAS involvement may suggest that the practices of CASs have potentially contributed to the overall prevention of paediatric deaths where sleep environment may be factor.

2015 Deaths with CAS Involvement – Status of Children and Youth

89% (79/89) of the children and youth (0-18 years inclusive) that died in 2015 where a CAS was involved with the child, youth or family within 12 months of the death were not in the care of a CAS at the time of their death. This is consistent with findings in previous years.

Ten children or youth were in the care of a CAS – eight were Crown wards, one was a Society ward, and one was a subject of temporary care agreements.

Five youth between the age 18 and 21 years old were receiving Continued Care and Support for Youth (CCSY) (formerly Extended Care and Maintenance) support.

What does the available data tell us?

Information provided by the CASs through Child Fatality Case Summary Reports supports a greater understanding of the circumstances surrounding the deaths of children and youth. In particular, the information helps to illuminate particular risks and vulnerabilities.

- In 2015, 72% of cases where a child or youth that had been receiving services from a CAS were open files at the time of death (see Chart 17). This is consistent with previous years.
- Almost 36% of the cases were rated as high risk at the time of death (see Chart 18). The Ontario Child Protection Standards released in February 2007 require that “Cases with a high or very high risk rating, or where a safety plan is being managed and the child continues to reside in the home, should receive more intensive service (frequency of visits)” (Standard 10, p. 71). Requirements of the Standards would suggest that in these cases, the CAS would have been engaging with the family with some frequency prior to the death.
- A history of verified abuse and neglect of the decedent child or youth and/or the sibling(s) of the deceased continued to be the most commonly reported vulnerability factor (see Chart 19). 24% of CAS reports regarding the deaths of children and youth in 2015 indicated that the child or youth had been the subject of verified abuse or neglect, and 43% indicated that a sibling of the child or youth had been the subject of verified abuse or neglect. In 21% of cases, both of these vulnerability factors were present.
- Disabilities are the second most commonly reported vulnerability factor (see Chart 19). 34% of the children and youth that died had physical disabilities, and 21% had mental or emotional disabilities. In 13% of cases, both of these vulnerability factors were present. Chart 19 provides a comparison of 2014 and 2015 data on vulnerability factors reported by CASs.
- Suicide provided as the manner of death for 6 youth receiving services from a CAS and two youth that were in receipt of CCSY. Of these, three were Indigenous children and youth. There are three known or suspected vulnerability factors related to suicide reported on the Child Fatality Case Summary Report by CASs – child/youth has previously attempted suicide, recently experienced the suicide of a friend or relative, and/or had spoken to someone about suicidal thoughts. For two of the 8 youth, there was more than one of these vulnerability factors present. Three of the youth had previously attempted suicide and four had previously spoken to someone about suicidal thoughts.

Chart 17 identifies the case status for CAS involved cases in 2014. 73% of cases were open at the time of the death, and 27% of cases were closed at the time of the death but had been open in the 12 months preceding the death.

Chart 17: Case Status at the Time of Death – CAS Involved Cases in 2015 (n=89)

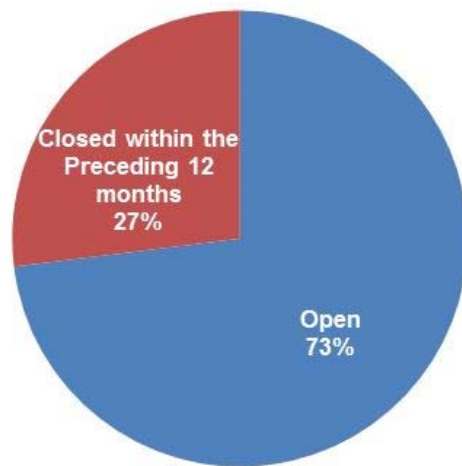


Chart 18 illustrates the risk rating reported by the CAS at the time of death or case closure for CAS involved cases in 2015. 36% of cases were rated as high risk, 4% intermediate, 24% moderate, 6% moderately low, 17% low/no risk and 13% were categorized by the reporting CAS as "not applicable".

Chart 18: Overall Risk Rating at Time of Death/Case Closure – CAS Involved Cases in 2015 (n=90)

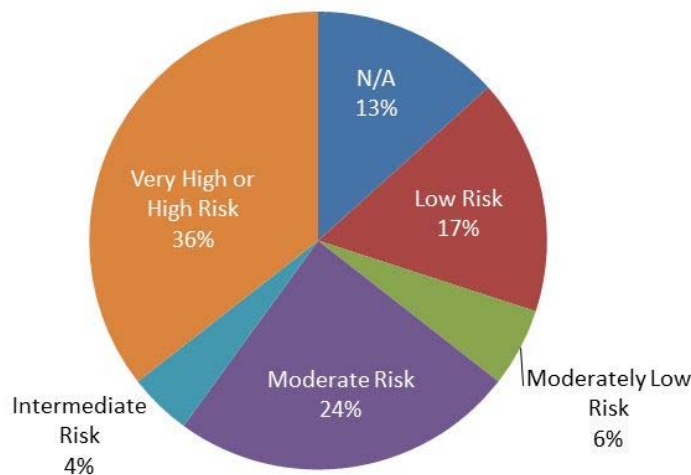
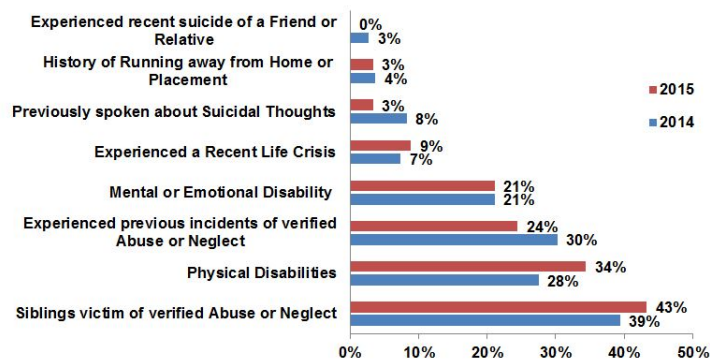


Chart 19 illustrates the proportion of 2015 cases with CAS involvement where the CAS reported known vulnerability factors. Verified abuse and neglect of the child or youth that died and/or their sibling was the most commonly reported vulnerability factor. Disabilities are the second most commonly reported vulnerability factor.

Chart 19: Known Vulnerability Factors – CAS Involved Cases 2014-2015



While the information that the CAS provides when a child or youth dies is valuable in identifying particular vulnerability factors, there may be other risk factors for children and youth that are not reported through the Joint Directive reporting process. This is because all potential risk factors for children and youth in Ontario are not collected in a standardized way. Furthermore, the factors collected should not be construed as unique to children and youth that have died, or to children and youth that were receiving the services of a CAS. It is not known whether the prevalence of identified factors is different in the population of children and youth that have died as compared to the living population of children and youth in Ontario, or receiving services from a CAS.

Deaths of Indigenous Children and Youth with Children's Aid Society Involvement Investigated by the Office of the Chief Coroner in 2015

The ability to undertake meaningful analysis of the deaths of Indigenous children and youth served by CASs is affected by limited data available to the OCC. The coroner may not identify children and youth as Indigenous as they rely on the information available in the course of their investigation (information sources include but are not limited to family members, community service providers, the police). This affects the determination of the true number of Indigenous children and youth deaths that were investigated by the OCC in 2015. In addition, the number of deaths of Indigenous children and youth where a CAS has been involved is small, preventing meaningful statistical analysis. Furthermore, the data available from other sources has limitations (for example, CASs do not report ethnicity).

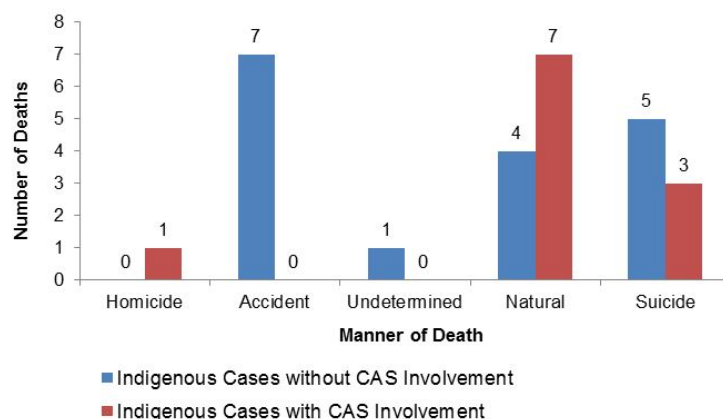
The available data has been provided; however, given the noted limitations, meaningful inferences cannot be made. The OCC and PDRC – Child Welfare anticipate that the quality and availability of data relating to Indigenous children and youth will be enhanced to support analyses that may inform prevention strategies targeted to Indigenous children and youth.

What does the available data tell us?

- Provincially of the 28 coroner investigations into deaths of Indigenous children and youth, 11 (39%) received the services of a CAS within the 12 months prior to their death.
- Of the 11 Indigenous children and youth that had received the services of a CAS within the 12 months prior to their death, 7 were involved with designated Indigenous child well-being organizations. The other four were involved with non-designated CASs. Children and youth are served by designated Indigenous child well-being organization when they reside in an area of Ontario in which a designated organization has jurisdiction.
- In the North Region, six (60%) of the 10 deaths where the CAS had been involved with the child, youth or their family within 12 months of the death were identified as Indigenous children and youth.
- Of the 15 coroner investigations into the deaths of children and youth in the care of a CAS or youth in receipt of Continued Care and Support for Youth (formerly Extended Care and Maintenance) two were Indigenous children and youth. Both of these youth were Crown wards. The number of deaths of Indigenous children and youth that had involvement of a CAS is too small to allow analysis of the manner death. Chart 20 provides available information on the manner of death of these 28 children and youth. The distribution of the manner of death of Indigenous children and youth varies year-over-year and no consistent pattern has been identified.

Chart 20 provides available information on the manner of death of the 28 Indigenous children and youth that died in 2015, and compares cases with CAS involvement to cases without CAS involvement. The manners of death were: 1 homicide, 7 accidents, 1 undetermined, 11 natural and 8 suicides.

Chart 20: Manner of Death among Indigenous Children and Youth in 2015, by CAS Involvement (n=28)



Children and Youth in the Care of a CAS or Receiving CCSY at the Time of Death

Chart 21 illustrates that 10 children and youth in the care of a CAS at the time of their death, along with five youth receiving CCSY, ranged in age from 3 months of age to 21 years.

Chart 21: Age Breakdown of Children and Youth in care of CAS or receiving CCSY at the time of death in 2015

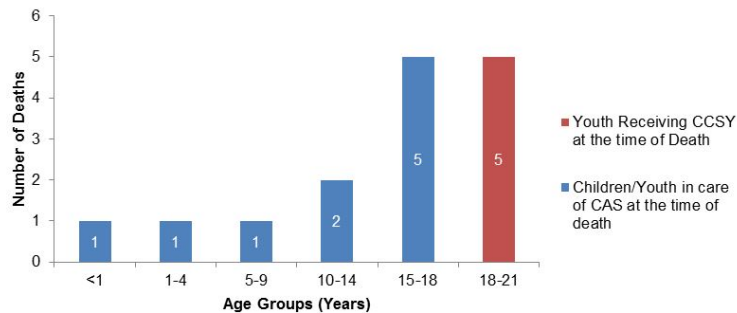
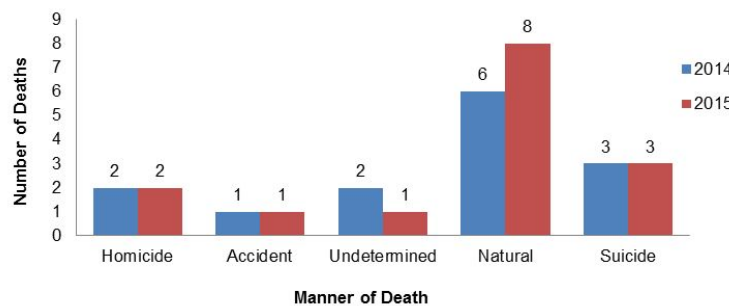


Chart 22 shows the manners of death of children and youth in care or that were in receipt of CCSY in 2014 and 2015. **Each year, between 40% and 60% of the deaths of children and youth in care were classified as natural deaths.**

Chart 22: Manner of Death of Children and Youth in care of CAS or receiving CCSY at the time of death in 2014 and 2015



PDRC – Child Welfare Reviews of Cases with Children’s Aid Involvement in 2015

All child deaths are tragic and typically have a number of contributing factors. Occasionally, the actions or inactions by those in a caregiving role (e.g. family members or the child welfare system) may have played a part in the circumstances of the death. The PDRC – Child Welfare reviews the circumstances of the death and may make recommendations to the health care sector, child welfare systems and others with a goal to reduce the number of child deaths and/or to improve the services and care provided to children, youth and families. It is anticipated that by examining these cases with a non-blaming approach, we can learn from individual deaths to improve the lives of other children in the future.

Reports Received by the PDRC – Child Welfare in 2015

PDRC – Child Welfare cases reported to the Committee are usually not reviewed within the same calendar year as the year in which death occurs. Committee reviews in any given year will include review of deaths occurring in different years (see Chart 24). This results from a number of factors, including: complexity of the investigation, time allotment for completion of other reviews (for example, DU5C), case volume, and other parallel investigations or proceedings, including involvement of the criminal justice system.

In 2015, as required by the Joint Directive, CASs reported the deaths of 95 children and youth – 90 children and youth aged 0-18 years and 5 deaths of youth aged 18-21 years, where the child and/or family had CAS involvement within 12 months of the death, were reported by a CAS to the PDRC. These cases are at various stages of the PDRC review process. One of these cases was not investigated by a coroner or reviewed by the PDRC, as it occurred outside of Ontario therefore all CAS related analyses are based upon the Ontario total of 94.

Chart 23: PDRC Status of 2015 Deaths with CAS Involvement

Chart 23 illustrates the status of review for the 109 cases reported to the PDRC – Child Welfare in 2014. 74% of cases do not require a full PDRC review.

Chart 23

Status	Number of Cases
Closed A PDRC Executive Review has taken place, and no full PDRC review is planned. This occurs when the circumstances surrounding the child's death do not relate in any way to the reasons for services and/or the CAS involvement.	70 (74%)[11]
Pending Decision Cases may be pending a decision regarding PDRC review because additional information is required or because there are other pending investigations or criminal justice system involvement	8 (8%)
Full PDRC Review to be Undertaken An internal child death review has been requested from the CAS, and the PDRC will undertake a full review of the case.	15 (7%)
Full PDRC Review Completed An internal child death review was requested from the CAS, and the PDRC has undertaken a full review of the case.	2(2%)

Reports Reviewed by the PDRC – Child Welfare in 2015

In 2015, following the process outlined in Chart in Appendix A, the PDRC - Child Welfare reviewed the deaths of 33 children and youth who had involvement with CAS within the 12 month period leading up to their deaths.

Chart 24 illustrates the year of death for those cases reviewed by the PDRC – Child Welfare in 2015. The majority (14) of the 33 cases reviewed in 2015 were of deaths that occurred in 2014. The year of death for those cases reviewed in 2015 ranged from 2010 – 2015.

Chart 24: Year of death of 2015 PDRC Case Reviews

Chart 24

Year of Death	PDRC Cases Reviewed
2010	3
2011	2
2012	3
2013	9
2014	14
2015	2
TOTAL	33

Of the 33 cases reviewed by the PDRC, 17 were females (52%) and 16 were males (48%).

The age of the children and youth at the time of their death ranged from 1-hour to 18 years. Historically, a greater proportion of reviews completed by the PDRC – Child Welfare involve children under one and adolescents. Chart 25 demonstrates the age categories for the cases reviewed. This information illustrates that in 2015, almost 2/3 of the PDRC – Child Welfare's reviews focused upon deaths of children under the age of five.

Chart 25 demonstrates the age categories for the cases reviewed. This information illustrates that in 2015, two thirds of the PDRC – Child Welfare focused upon deaths of children under the age of five.

Chart 25: PDRC – Child Welfare Reviews across Age Groups 2015 (n=33)

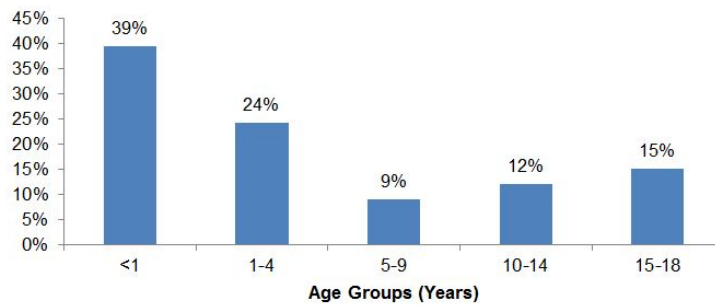
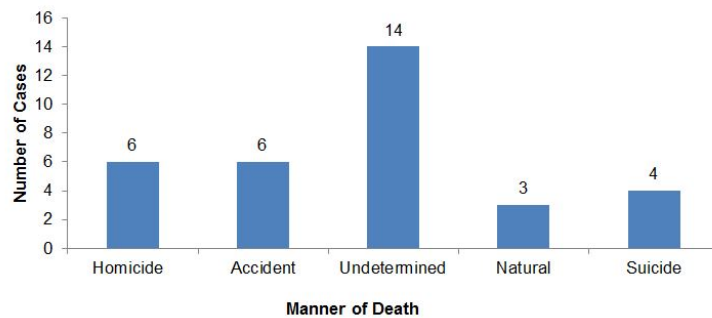


Chart 26 illustrates the manner of death of children and youth whose cases were reviewed by the PDRC – Child Welfare in 2015. In the majority of cases (14/33), the manner of death was undetermined.

Chart 26: PDRC – Child Welfare Reviews across Manner of Death in 2015 (n=33)



Of the 14 deaths reviewed by the PDRC – Child Welfare in 2015 where the manner of death was undetermined, sleep circumstances were identified as a potential contributing factor in 12 cases (86%).

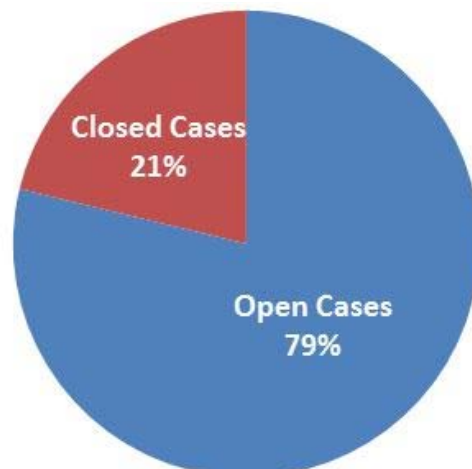
Of the 33 cases reviewed by the PDRC – Child Welfare in 2015, 79% (26) were open to the CAS at the time of death (see Chart 27).

Of the 26 cases open to the CAS, two cases were open at intake and two were the subject of a supervision order. Eleven children and youth were in the care of the CAS at the time of their death – four were in the temporary care of the CAS, two were the subject of customary care agreements, four were Crown wards and one was the subject of a formal customary care agreement.

The manners of death for the eleven children and youth in care were undetermined (three), homicide (two), suicide (three), natural (two), and accident (one).

Chart 27 illustrates that of the 28 cases reviewed by the PDRC – Child Welfare in 2015, the majority (79%) were open to the CAS at the time of death, while 21% of cases were closed to the CAS at the time of death.

Chart 27: PDRC – Child Welfare Reviewed Cases in 2015 Open vs. Closed (n=33)



PDRC – Child Welfare Case Reviews in 2015 – Analysis of Factors Identified through Case Reviews

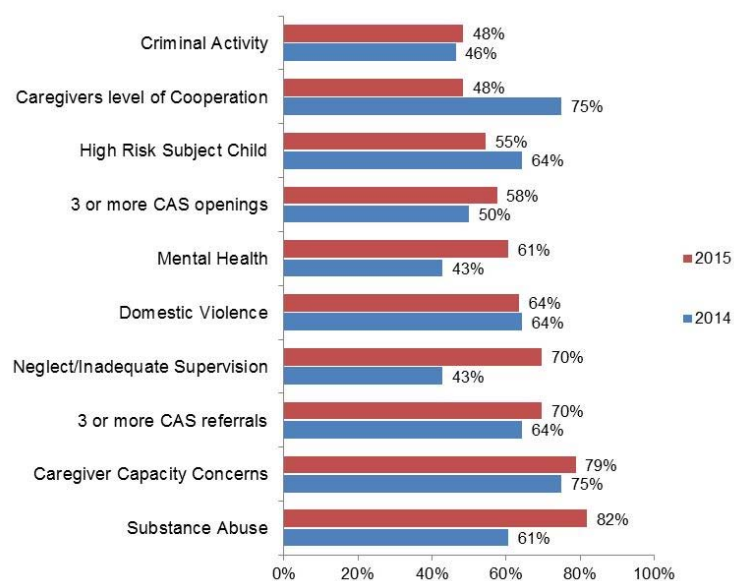
Through case reviews, the PDRC – Child Welfare collects information that, when tracked over time, may identify emerging trends. This knowledge can help contribute to understanding how services may be enhanced to better ensure the safety of children who come into contact with the child welfare system. Definitions which describe the criteria for these factors can be found in Appendix B.

In addition to the factors identified by the PDRC – Child Welfare as part of the case review process, CASs report on vulnerability factors associated with the child, youth or their family as part of their submission of the Child Fatality Case Summary Report. These vulnerability factors have similarities to the factors tracked by the PDRC – Child Welfare. Neither the vulnerability factors nor the factors that are tracked through PDRC case review are necessarily predictive of death, however; both sets of data are collected and help evaluate trends over time.

In the future, the OCC hopes to align the approach to tracking both sets of information.

Chart 28 illustrates the top ten factors that were most frequently identified in the PDRC – Child Welfare case reviews conducted in 2014 and 2015. The top five factors identified in cases reviewed by the PDRC – Child Welfare changed somewhat from 2014.

Chart 28: Top Ten Factors Identified in PDRC – Child Welfare Case Reviews (2014 and 2015)



As in previous years, the findings highlight the prevalence of multiple factors in cases reviewed by the PDRC:

- 88% (29) of the cases reviewed by the PDRC – Child Welfare in 2015 had five or more of the ten most frequently identified factors present.
- In 27% (9) of cases, all of the five most frequently identified factors were present (i.e. substance abuse, caregiver capacity concerns, three or more CAS referrals, neglect/inadequate supervision and mental health).
- In 21% (7) of cases, nine of the most frequently identified factors were present.
- An additional 9% (3) cases had eight of the most frequently identified factors present.
- In 15% (5) cases, seven of the most frequently identified factors were present.

The prevalence of these factors in cases reviewed by the PDRC – Child Welfare may warrant additional investigation to determine whether or not these factors speak to an increased risk of death.

PDRC – Child Welfare Recommendations

The PDRC – Child Welfare offers recommendations to CASs arising from review of the case materials. The recommendations are aimed at the prevention of future deaths in similar circumstances including suggestions for enhancement or change in practice and/or procedures that may inform improvement in service delivery and potentially impact child and youth safety.

In 2015, the PDRC – Child Welfare reviewed 33 cases and issued a total of 29 recommendations. The recommendations provided by the PDRC were in addition to recommended changes identified by the involved CASs during the internal review process.

Recipients of recommendations were: 12 individual CASs, the Ministry of Children and Youth Services, and one Regional Supervising Coroner in the Office of the Chief Coroner.

A number of similar recommendations were made in more than one case. Of 33 cases, 17 reviews provided no recommendations.

Categories of Recommendations to CASs in 2015 & MCYS Response

The section below outlines the categories of recommendations most frequently made to the CASs by the PDRC – Child Welfare in 2015. Responses from the Ministry of Children and Youth Services (MCYS), which has responsibility for oversight of CASs, have been provided for each recommendation grouping.

1.Consider opportunities to improve assessment and intervention skills to support service delivery to families.

Almost 20% of the recommendations made by the PDRC in 2015 related to supporting the capacity of CASs to effectively assess risk to families across a number of variables. Multiple reviews also identified opportunities to improve service delivery to families, particularly with respect to families in receipt of prenatal care and families involved with the CAS as a result of substance use or neglect.

The PDRC also made a recommendation that a CAS explore opportunities to support broad ranging health related education to child welfare staff as well as more detailed and specific analysis of real or potential medical challenges experienced by children or youth in receipt of services.

MCYS Response

The Ministry of Children and Youth Services funds the Ontario Association of Children's Aid Societies (OACAS) to provide the Education Services curriculum to child welfare professionals about child safety and to improve outcomes for children and families. The *Foundations of Child Welfare Practice* (CWP) curriculum includes a course on Protecting Children and Strengthening Families, Part 2. The learning objectives of this course include:

- To broaden a participant's skill in assessing for the presence of indicators of maltreatment in family dynamics, parental/caregiver behaviors and the behaviors of children;
- To enhance a participant's skill in identifying and assessing the factors that place children at risk of future harm, and skill in differentiating future risk from imminent threats to safety; and
- To reinforce a participant's understanding of child-focused, family-centred, strengths perspective at all stages of the case management process.

The *Advanced Children Welfare Practice* curriculum includes a course on Supporting Families affected by Substance Misuse. The course provides an overview of the effects of substance misuse on children and families, and provides information on approaches to engage caregivers.

The Ministry is also funding the OACAS to develop a new CWP curriculum which includes training on conducting risk assessments, establishing therapeutic relationships and crisis intervention, and developing service plans to improve outcomes for children and youth in care. The curriculum also includes training on working with families who experience mental illness, substance use disorders or developmental delay. It is anticipated that the new CWP curriculum will be released in early 2017.

In providing child protection services, child welfare professionals are guided by the *Child and Family Services Act* (CFSA), the Ontario Child Protection Standards (CPS 2016) and the Ontario Child Welfare Eligibility Spectrum (Spectrum 2016). Societies are responsible for meeting the needs of children and youth receiving services, including responding to their medical needs. In accordance with s. 15(3)(c) of the CFSA, one function of a society is to provide guidance, counselling and other services, to families for protecting children or for prevention of circumstances requiring the protection of children. Societies may work with community healthcare professionals so that children and youth in their care receive medical services they need. Under the CFSA, children and youth in the care of a society are to receive medical care at regular intervals and whenever required, in a community setting whenever possible. On December 8, 2016, the government introduced a Bill entitled *Supporting Children, Youth and Family Services Act, 2016*, intended to modernize and strengthen Ontario's child welfare system and child and youth services. If passed it will replace the CFSA with the *Child, Youth and Family Services Act, 2016* (CYFA). The bill, if passed, would place children at the centre of decision-making, and support more accountable, responsive and accessible child and youth services. In addition to the CYFA, child welfare professionals will continue to be guided by the Ontario Child Protection Standards and the Ontario Child Welfare Eligibility Spectrum in providing child protection services.

The CPS 2016 provides the required framework within which child protection services are provided and the Spectrum 2016 is an assessment tool to determine eligibility of a family for service from a society. In accordance with Ontario Regulation 206/00: Procedures, Practices & Standards of Service for Child Protection Cases, societies must comply with the Child Protection Standards. The CPS 2016 includes a standard for conducting a risk assessment.

Standard #4 – Conducting a risk assessment in the CPS 2016 outlines expectations for societies in conducting risk assessments. Further direction on the application of the risk assessment tool is also included in the revised Ontario Child Protection Tools Manual (Tools Manual 2016).

The Child Protection Standards and Tools, and the CWP curriculum provide child welfare professional with the knowledge, skills and tools to help them develop relationships with families and determine the appropriate interventions and supports that are required for the protection and well-being of the child.

2.Consider the development of practice guidelines and/or training for frontline staff regarding working with hard-to-serve or resistant families or individuals.

More than 50% of the cases reviewed by the PDRC in 2015 had a history of challenges with the caregiver(s)' level of cooperation with the CAS, and consistent with previous years, a number of the PDRC's recommendations were focused on the work of children's aid societies with "hard-to-serve" or "resistant" families.

Recommendations made by the PDRC included the importance of developing guidelines and providing training for staff on working with hard-to-serve or resistant individuals and/or families. In particular, the PDRC made a recommendation that CASs consider the development of policies/procedures that define the process that should be followed when a family in receipt of child protection services cannot be located.

MCYS Response

The mandated practice approach for delivering child protection services in Ontario, as outlined in the Ontario Child Protection Standards (CPS 2016), is based on a Differential Response Model (the DR Model) which is used in combination with the Ontario Safety Assessment in the Ontario Child Protection Tools Manual (2016) (Tools Manual 2016) and the Ontario Child Welfare Eligibility Spectrum (Spectrum 2016). The DR Model offers differential approaches to service delivery, including when working with hard to serve or resistant individuals and families, which are based on the type and severity of child maltreatment, and are customized to provide what each child and family requires. The DR model promotes a strength-based approach to service delivery and encourages engagement of the child, family and support system in decision-making and service planning. The DR model supports two approaches:

- The 'traditional' approach for cases where a criminal assault is alleged against a child and/or for extremely severe cases; and
- The 'customized' and more collaborative approach for lower risk cases.

The customized approach provides child protection workers with a more flexible range of options that will more accurately meet the unique needs of children and their families, and promote the safety of the child.

The 'traditional' approach may be used when attempts to intervene via the 'customized' approach have proven unsuccessful and the worker is unable to engage the family in a level of cooperation that would allow the worker to determine what if any protection concerns exist. The 'traditional' approach is more structured and generally determined by protocols (e.g. between societies and their local police departments) whereas the 'customized' approach emphasizes a more flexible and individualized approach.

The CPS 2016 includes a standard for case closure including for when a family cannot be located.

Standard #8 – Closing a Case, outlines expectations for societies in closing a case when the family cannot be located which include the child protection worker having attempted and exhausted all options reasonably available to locate the family (e.g. records checks, provincial database and issuing a child protection alert when a person or family cannot be located or there is knowledge that a person or family has moved to another Province or Territory and a child or youth is or may be in need of protection.

The ministry funds the Ontario Association of Children's Aid Societies (OACAS) to provide the Education Services curricula which includes a child welfare professional training series that includes a course on engaging families. The learning objectives of this course include:

- To enhance a participant's skill in engaging parents as collaborators in identifying goals and finding solutions;

- To understand the decision-making junctures throughout the case work process, the potential for dispute at each juncture and the ways in which a prescribed Alternative Dispute Resolution process may be successful in resolving the dispute; and
- To enhance a participant's understanding of the Child Protection Standards that guide case planning.

The OACAS has also developed a practice note to support child welfare practitioners in obtaining all information required when determining the immediate or future risk to a child. The practice note provides information on the use of clinical engagement skills to families to help understand the reason for a client's resistance and to gain their co-operation.

3. Consider the use of case conferencing to enhance information sharing, case planning and collaboration internally and between service providers.

Case conferences and well defined policies and procedures can facilitate early intervention, and assist societies and involved service providers with information sharing, integration of service planning for children, youth and their families and clarity of roles and responsibilities.

More specifically, the PDRC recommended the use of case conferencing to inform service planning for children and youth that may be at risk for emotional or behavioral challenges. Consideration should be given to undertaking case conferencing early in a CASs involvement with a family where the potential for emotional or behavioral development is considered to be at risk, to facilitate early intervention when possible.

MCYS Response

The mandated practice approach to delivering child protection services in Ontario, as outlined in the Ontario Child Protection Standards (CPS 2016), is based on a Differential Response Model (DR Model). The DR Model encourages engagement of the child, family and their support system in decision making and case planning. The child-focused and family-centred approach to service delivery supports active and meaningful participation of families and their support system in case planning, which includes the use of case conferencing that enables the extended family, community and professionals to discuss concerns and identify strengths and seek resolutions. The CPS 2016 also emphasizes the role of societies in facilitating communication amongst service providers.

Standard #2 – Planning and Conducting a Child Protection Investigation in the CPS 2016 outlines that one of the investigative steps during a family-based child protection investigation is to gather evidence from other professionals involved with the child/and or family.

In addition, Standard #7 – Ongoing Service Case Management, outlines requirements to include collateral service providers in the development of the service plan and throughout the case management process whenever possible.

The CPS 2016 also include practice notes which focus on how the standards will be achieved by explaining in more detail the activities and/or concepts required by the standards including what to consider in obtaining and gathering information from other professionals involved with the child and/or family in establishing the credibility of the referral and that a child may be in need of protection. Reference is also made to the use of family-centred case conferencing as a means of further promoting child safety that supports active and meaningful participation of families and their support system in case planning and when service decisions are being made.

The ministry also requires societies to use the Ontario Child Welfare Eligibility Spectrum (Spectrum 2016) in making decisions about service eligibility. The Spectrum is a tool designed to assist society staff in making consistent and accurate decisions about service eligibility and level of intervention. The Spectrum contains criteria for intervention when there is risk that a child is likely to be emotionally harmed resulting from a caregiver's actions or inactions and/or inadequate response.

Implementation Status of 2014 PDRC – Child Welfare Recommendations to CASs

MCYS monitors the implementation status of the PDRC – Child Welfare recommendations and the actions taken by CASs to respond to specific recommendations. MCYS reports that CASs have implemented or were in the process of implementing 96% of the PDRC – Child Welfare's recommendations directed to them in 2014. The remaining 4% were reported to be under consideration.

Recommendations to MCYS in 2015 & MCYS Response

1. **The Ministry of Children and Youth Services should consider requiring all children's aid societies to conduct an investigation when a child or youth dies suddenly and unexpectedly while in the care of a children's aid society.**

Children's aid societies have a heightened responsibility to actively respond to and investigate the sudden and unexpected deaths of children in their care, for the purposes of establishing the circumstances of their death and assessing any potential implications for the care of future children placed with substitute caregivers.

MCYS Response

The *Joint Directive on Child Death Reporting and Review* (the Joint Directive), dated March 31, 2006, sets out requirements and procedures that apply when a child dies who was receiving services from a Children's Aid Society (society) at the time of death or in the 12 months preceding their death.

In accordance with the Joint Directive, societies must:

- Immediately report the child death to the local coroner and the ministry regional office; and
- Within 14 days of learning that a child has died, send a Child Fatality Case Summary Report (CFCSR) to the Chair of the Paediatric Death Review Committee and the ministry regional office.

The society may decide to complete an internal case review (i.e. investigate) on a case-by-case basis depending on the circumstances of the case and also taking into consideration any direction provided by the Chair of the PDRC after reviewing the CFCSR. If the Chair of the PDRC determines that an Internal Death Review is required, the society will conduct a full review of the case. The findings, lessons learned and any recommendations arising from the society's case review could be used to inform and shape future society policies and practices.

The ministry will continue to comply with the requirement of the Joint Directive.

The ministry also requires societies to use the *Ontario Child Welfare Eligibility Spectrum* (the Spectrum) in making decisions about service eligibility. The Spectrum is a tool designed to assist society staff in making consistent and accurate decisions about service eligibility and level of intervention. The Spectrum was recently revised and contains new criteria for intervention when a child fatality has occurred and identifies circumstances (e.g. harm by omission due to an unsafe living environment) where societies would be required to conduct an investigation to assess the implications for the care of any other or future children.

PDRC – Child Welfare Recommendations to Other Organizations in 2015

The PDRC – Child Welfare did not make any recommendations to any other organizations. The committee did identify an opportunity for the Regional Supervising Coroner to work with an investigating police service to use a case as a reflective learning opportunity with the police service to facilitate discussion about the approach to the investigation of a sudden and unexpected infant death in that community. In the case reviewed, the incident scene was not secured and the death was not reported to the CAS. It is recommended these issues be the focus of dialogue including a review of the April 2013 *Addendum: Children's Aid Society and Police Protocols – Investigations of Suspicious Child Deaths*, jointly released by the Ministry of Children and Youth Services and Office of the Chief Coroner in response to a recommendation provided in the 2008 Report of the Goudge Inquiry.

Committee Membership

Paediatric Death Review Committee (PDRC)

Dr. Dirk Huyer – Chair

Chief Coroner for Ontario

Ms. Kathy Kerr

Coordinator (Medical)
Executive Lead, Committee Management
Office of the Chief Coroner

Ms. Jessica Diamond

Coordinator (CAS)
Executive Lead, Child Welfare
Office of the Chief Coroner

Dr. Desmond Bohn

Provincial Medical Director-CritiCall Ontario

Mr. Brad Bain
Ms. Zel Fellegi
Ms. Donna Zan

Ms. Corrie Tuyl
 Child Welfare Consultants

Dr. Alan Hudak
 Paediatrician, Orillia

Ms. Mary Ballantyne
 Chief Executive Officer
 Ontario Association of Children's Aid Societies

Ms. Theresa Stevens
 Executive Director, Anishinaabe Abinoojii Family Services
 Association of Native Child and Family Service Agencies of Ontario

Dr. Ram Singh
 Director, Paediatric Critical Care Unit
 Children's Hospital
 London Health Sciences Centre

Det. Avi Fagu
Det. Jakub Ostaszewski
 Coroners Police Investigators

Dr. David Chiasson
 Pathologist, Hospital for Sick Children, Toronto

Det. Sgt. Jim Kilby
 York Regional Police

Dr. John Watts
 Professor Emeritus, Department of Paediatrics
 McMaster University Medical Centre, Hamilton

Det. Susan Gomes
 Homicide Squad, Toronto Police Service

Dr. Ian Wilson
 Paediatrician, Kitchener

Dr. Burke Baird
 Paediatrician, McMaster University Medical Centre

Det. Sgt. Larry Wilson
 Homicide Bureau, York Regional Police

Dr. Alejandro Floh
 Critical Care, Hospital for Sick Children, Toronto

Det. Sgt. Lynne Buehler
 Investigative Services
 Peterborough Lakefield Police

Ms. Yasmin Nowsherwanji
 Administrative Coordinator,
 Office of the Chief Coroner

DeaDeaths Under Five Committee (DU5C)

Dr. Dirk Huyer – Chair

Chief Coroner for Ontario

Ms. Kathy Kerr

Executive Lead, Committee Management
Office of the Chief Coroner

Ms. Jessica Diamond

Executive Lead, Child Welfare
Office of the Chief Coroner

Det. Susan Gomes

Homicide Squad, Toronto Police Service

Dr. David Chiasson

Forensic Pathologist
Hospital for Sick Children, Toronto

Dr. Charis Kepron

Forensic Pathologist
Eastern Ontario Regional Forensic Pathology Unit, Ottawa

Det. Avi Fagu

Det. Mike McKenzie

Office of the Chief Coroners Investigators

Dr. Chitra Rao

Regional Forensic Pathology Unit
Hamilton, Ontario

Det. Sgt. J. J. Allan

Homicide Unit, Durham Regional Police

Det. Sgt Mitch Martin

Homicide Unit, Durham Regional Police

Dr. Mike Shkrum

Head, Regional Forensic Pathology Unit, Southwestern Ontario
London, Ontario

Dr. Michelle Shouldice

Paediatrician
Suspected Child Abuse & Neglect Program
Hospital for Sick Children, Toronto

Det. Insp. Paul McCrickard

Ontario Provincial Police
Criminal Investigations Bureau

Dr. Jayantha Herath

Forensic Pathologist
Provincial Forensic Pathology Unit, Toronto

Det. Marc-Andre Guy

Ottawa Police Service

Ms. Yasmin Nowsherwanji

Administrative Coordinator
Office of the Chief Coroner

Staff Sgt. Todd LaMarre

Windsor Police Service

Det. Cst. Brian Welsh

Guelph Police Services

Det. Peter Thom

Hamilton Police Service

Staff Sgt. Vicki MacDonald

Waterloo Police Service

Det. Sgt. Peter Trimble

Toronto Police Service – Homicide

Det. Sgt. John Braybrook

York Regional Police

Staff Sgt. Rhonda Corsi

York Regional Police

Ms. Brenda Marsillo

Product Safety Officer

Consumer Product Safety, Health Canada

Ms. Mary Ellen Hurman

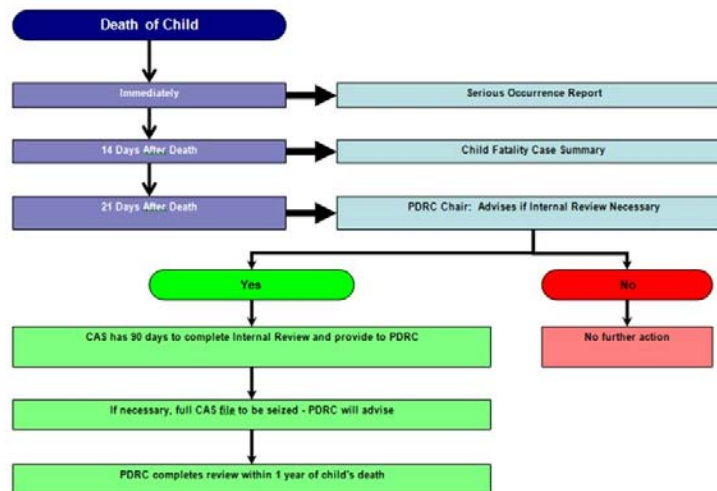
Crown Attorney

Ministry of the Attorney General, Toronto

Appendix A – Joint Directive on Child Death Reporting and Review

Chart 29 shows the process and timelines arising from the 2006 Joint Directive between the OCC and MCYS for Child Death Reporting and Review.

Chart 29: Joint Directive Flow Chart – Office of the Chief Coroner and Ontario Children’s Aid Societies



CAS Internal Child Death Reviews

When is an internal child death review requested?

The Chair of the PDRC reviews the CAS Child Fatality Case Summary Report and the Coroner’s Investigation Statement (CIS) and considers the following criteria when deciding if a CAS will be requested to conduct and forward an Internal Review to the PDRC:

- Meets the criteria of the 2006 Joint Directive (CAS involvement within 12 months of the death)
- When a child dies as a result of questionable circumstances; and
- Where the circumstances surrounding the child’s death may relate in any way to the reasons for service and/or CAS involvement.

Why is an internal child death review requested?

An internal child death review is requested by the Chair of the PDRC for the purposes of conducting an analysis of the context within which the death occurred. Internal child death reviews provide an opportunity for individual CASs, and the child welfare sector as a whole, to learn from child deaths with a view to identifying areas of potential improvements to CAS policies, practices and procedures.

Who completes the CAS internal child death review?

When the Chair of the PDRC requests that a CAS undertake an internal child death review, the CAS is required to establish a review team which must include an independent external reviewer with appropriate clinical expertise to participate in the review.

Levels of PDRC – Child Welfare Reviews

There are three levels of PDRC – Child Welfare review:

Executive Review: These cases which upon review by the Executive Committee of the PDRC, it is determined that no further review by the CAS or PDRC – Child Welfare is required, as the circumstances surrounding the child's death do not relate to the reasons for services and/or CAS involvement. For example, cases where the child's family had no CAS involvement until the injury leading to 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 reasons for the family's involvement with CAS.

Pending DU5C/further investigation: On occasion, the decision to request an internal child death review from a CAS is postponed pending the completion of the Coroner's investigation and/or review by the DU5C, to await additional information and context regarding the child's death.

Internal and PDRC Review: If the PDRC – Child Welfare requests an internal child death review, CASs are requested to submit their report within 90 days, and the PDRC – Child Welfare has up to 12 months to review the case and issue a report that may contain further recommendations. All cases in which an internal child death review has been completed are reviewed by at least two members of the PDRC – Child Welfare – one police representative and one child welfare representative – review the following case material for each death with CAS involvement: the Serious Occurrence Report, Child Fatality Case Summary Report, the Internal Child Death Review, police report, Coroner's Investigation Statement, Report of Post Mortem Examination, toxicology reports (if applicable) and any other investigative reports provided (e.g. report from the Office of the Fire Marshal). After discussion at a committee meeting, a final case report is prepared consisting of a summary of events, discussion and recommendations (if any), with a goal to inform the prevention of future deaths in similar circumstances. The report is forwarded to the involved CAS, MCYS and the referring Regional Supervising Coroner who may conduct further investigation (if indicated).

Recommendations are also distributed by the Committee Chair to agencies and organizations who may be in a position to effect implementation. Organizations are asked to respond back within one year with the status of implementation of recommendations.

CAS Response to PDRC – Child Welfare and Internal Review Recommendations

Following receipt of PDRC – Child Welfare reports, individual CAS agencies consider the report and implement recommendations as appropriate. Progress reports are submitted to MCYS Regional Offices outlining agency responses to the recommendations addressed to them. Ministry Regional Offices are responsible for follow-up with individual agencies on a quarterly basis regarding the actions taken to respond to the Internal Review and PDRC recommendations.

Findings and recommendations from these reviews have been utilized to change practices, develop training, policy and procedures and to initiate new approaches and programs.

Appendix B – PDRC – Child Welfare Case Review Themes – Definitions

Substance Abuse: CAS documented that at least one of the caregivers suffered from substance abuse issues.

Mental Health: CAS documented that at least one of the caregivers suffered from mental health issues.

Domestic Violence: CAS documented that the caregiver(s) had been involved in at least one partner violence incident.

Criminal Activity: CAS and/or PDRC have information that the caregiver (s) has a history of criminal activity.

Physical Abuse: It was suspected and/or verified by a CAS on at least one occasion, that the child/children in the family were victims of physical abuse.

Emotional Abuse: It was suspected and/or verified by a CAS on at least one occasion, that the child/children in the family were victims of emotional abuse.

Sexual Abuse: CAS documented history of sexual abuse within the family (caregivers were victims or perpetrators) and/or the CAS has suspected and/or verified on at least one occasion that the child/children in the family were victims of sexual abuse and/or perpetrators.

Neglect/Inadequate Supervision: It was suspected and/or verified by a CAS on at least one occasion, that the child/children in the family were victims of neglect or inadequate supervision.

3 or more CAS Openings: A CAS had opened a file relating to the caregiver(s) on at least three separate occasions.

3 or more CAS Referrals: A CAS had received at least three separate referrals relating to the caregiver(s) (referrals could have been received during one opening, or during a number of openings or could have been reports received, not investigated).

Previous Death of a Child: The caregiver(s) have experienced a previous death of a child.

Caregiver Capacity Concerns: CAS or PDRC has noted concerns about the caregiver(s) parenting capacity either before or after the death of the child.

Childhood History with CAS: One or both of the caregivers has had involvement with the CAS as a child.

Youth of Primary Caregiver: The primary caregiver is 24 years old or younger

High Risk Subject Child: The deceased child was "high risk" meaning < 1 year of age; and/or had special needs

Unsafe/hazardous Living Conditions: Home environment may have placed a child at risk of harm and/or contributed to the death of the child (very cluttered, dirty, dangerous)

Problems with caregivers' level of motivation or cooperation with intervention: Pattern of avoidance, lack of follow through, aggressive and/or unmotivated to cooperate.

[1] Based on regional boundaries of the Office of the Chief Coroner (2015)

[2] Kinney, HC, Thach BT. The sudden infant death syndrome. N Engl J Med 2009; 361 (8): 795-805.

[3] Sklansky et al, J. Ultrasound Med 2009, Kipps et al Amer. J. Cardiol. 2011, Chew et al Ultrasound in Obst. Gyn, 2007

[4] Vida et al J. Thoracic and Cardiovascular Surgery, 2008. 135. 339

[5] With the exception of Akwesasne Child and Family Services, which is governed by the Mohawk Council of Akwesasne.

[6] Chi-square test was performed. Relation between the variables was significant, $\chi^2(3, N=1024) = 25.678, p < 0.0001$.

[7] The Northern and Rural Healthcare Panel (2011, March 30). **Rural and Northern Healthcare Report Executive Summary.**

[8] A chi-square test was performed. Relation between the variables was significant, $\chi^2(4, N=374) = 43.844, p < 0.0001$.

[9] A Fisher's exact test was performed. The relation between the variables was not significant, $p = 0.7885$.

[10] A Fisher's exact test was performed. The relation between the variables was not significant, $p = 0.1238$.

[11] Includes the one case that occurred outside Ontario. The case was closed as a result of being outside the OCC's jurisdiction.