BC Coroners Service
2008 Annual Report

Ministry of Public Safety
and Solicitor General

BRITISH COLUMBIA

PSSG10-020

Posted: July 9, 2010

http://www.pssg.gov.bc.ca/coroners/

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Message from the Deputy Chief Coroner

On behalf of the British Columbia Coroners Service, I have the honour of presenting the 2008 Annual Report. This report represents the Service's commitment to provide the public with information relevant to all aspects of our operation, along with comprehensive statistical information. It is also a reflection of the dedication and hard work of all Coroners in British Columbia, whose efforts improve community safety and quality of life for all British Columbians.

This report will be posted to the BCCS website so that it will be available to the public. We invite everyone to visit our website at www.pssg.gov.bc.ca/coroners/ and to provide us with their suggestions and comments in order to assist us in continuing to further improve our services to the public.

I would also like to take this opportunity to introduce Dr. Diane A. Rothon as the new Chief Coroner for the Province of British Columbia. Dr. Rothon joined the Coroners Service on April 1, 2010.

Norm Leibel

Deputy Chief Coroner

Vision

Our communities and homes are safe places.

Mission Statement

Providing exceptional public service through independent, factual death investigation to improve community safety and quality of life.

Values

Integrity, Respect, Inclusiveness, Accountability, Quality Service, Healthy Work Environment

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1: Organization

History

The Office of the Coroner is one of the oldest common law institutions, with references dating as far back as the time of Saxon King Alfred in 925 A.D. The first detailed statute concerning coroners was the *Statute of Westminster* of 1275. Formerly, the coroner was a protector of Crown revenue, responsible for bringing suspects to trial. The coroner was known as a "Keeper of the pleas of the Crown," or in Latin, "custos placitorum coronas," from which the word "coroner" is derived.

Coroners have been investigating deaths in British Columbia for more than 100 years. B.C. inherited the *English Coroners Act (of 1848)* when it became a province in 1871. Coroners conducted their work independently through their own municipalities, as there was no provincial organization.

In 1932, the City of Vancouver built the first “Coroner’s Court” building. The building contained a court room, where coroner’s inquests were held, a morgue and autopsy facilities. The building was also shared with the City Analyst’s Laboratory. The analysts performed toxicological analysis for the Coroners Department of Vancouver.

Coroners worked independently until the appointment of a Supervisory Coroner, Glen McDonald, who served in this capacity from 1969 to 1979.

The first BC *Coroners Act* was enacted into law in 1979. At this time, the Vancouver Coroners Department/Office came under the authority of the province and was declared a provincial service. The first Chief Coroner, Dr. William McArthur, was appointed in 1979.

Organizational Structure

The BC Coroners Service (BCCS) is an agency within the Ministry of Public Safety and Solicitor General (PSSG), which works to maintain and enhance public safety across the province.

Branches and divisions within PSSG include Corrections, Policing & Community Safety, the Insurance Corporation of BC, and the Office of the Superintendent of Motor Vehicles. Emergency Management BC is a branch of PSSG that was established to oversee the integrated planning, mitigation, response and recovery activities for the threat and occurrence of natural and other disasters. The BCCS, as well as the Provincial Emergency Program and the Office of the Fire Commissioner, is part of Emergency Management BC.

The Chief Coroner, whose office is located in Burnaby, is the head of the BCCS. There are also regional offices, one in each of five BCCS regions within the province. While these regions approximate the BC Health Authority Regions (Fraser, Interior, Vancouver Island, Northern, and Vancouver Coastal), there are some differences in the regional delineations.

The regional offices are located in Victoria, Vancouver, Surrey, Kelowna and Prince George, and each is managed by a Regional Coroner. Regular operations are run out of the regional offices, while administration, research and planning are conducted out of the Office of the Chief Coroner.

Fraser Region: Burnaby to the Coquihalla Highway summit, east to Manning Park and north to Jackass Mountain bordering Merritt.

Interior Region: Includes the region north to and including 100 Mile House and Blue River, east to the Alberta border, south to the USA border and west to the Manning Park gate, including Ashcroft, Lytton and Lillooet.

Island Region: Includes all of Vancouver Island, the Gulf Islands and Powell River.

Northern Region: Includes the region north, east and west from 100 Mile House to all Provincial borders, and the Queen Charlotte Islands/Haida Gwaii.

Vancouver Metro Region: Includes Sunshine Coast, Sea to Sky Corridor, North Shore, Vancouver, UBC, Delta and Richmond.

Figure 1. The BCCS Provincial Regions

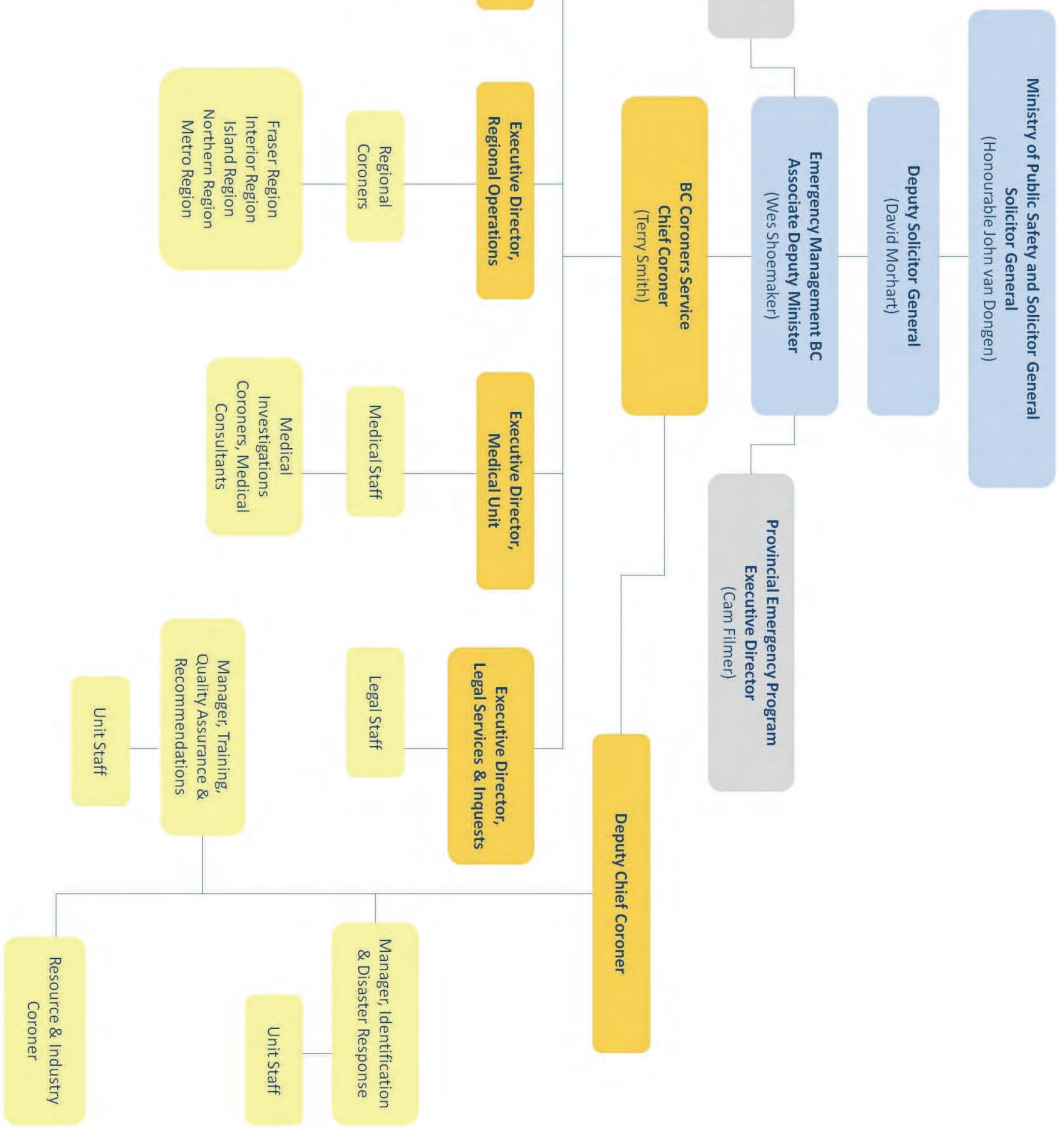

Figure 2. The Structural Organization of the BCCS in 2008

Function of the BCCS

There are both Coroner and Medical Examiner systems in Canada.

British Columbia, along with Ontario, Saskatchewan, Quebec, New Brunswick, Prince Edward Island, Nunavut, the Northwest Territories and Yukon, operates under a Coroner system. Medical Examiner systems operate in Alberta, Manitoba, Nova Scotia and Newfoundland.

Coroners are not necessarily medical specialists, though many have some medical training. Coroners in British Columbia have varied backgrounds including medical, investigative, legal, and social science. Conversely, all medical examiners in Canada are physicians.

The responsibilities and functions of the BCCS include:

- ascertaining and clarifying the facts of all sudden and unexpected deaths in B.C. to determine the identity of the deceased, and how, when, where and by what means the death occurred;
- reviewing all deaths of children under the age of 19 in the province;
- ensuring that no death is overlooked, concealed or ignored;
- producing a judicial document[1], either a Coroner's Report or a Verdict at Coroner's Inquest, that reports on the findings of the coroner's investigation;
- making recommendations, where appropriate and feasible, to both public and private agencies so that a similar death is less likely to occur in the future;
- conducting inquests (quasi-judicial court proceedings) when mandated by the Coroners Act or when there is a strong public interest in the circumstances of the death or potential for prevention of death in similar future circumstances;
- establishing Death Review Panels, to allow for aggregate review of deaths with similar circumstances to identify opportunities for intervention to prevent future deaths; and
- collecting death information and conducting statistical analyses.

[1] *The Coroner's Report or Verdict at Coroner's Inquest, which is the official record of the identity of the deceased, and how, when, where and by what means he or she died. The medical cause of death and classification are noted. See Appendix I for definitions of classification of death.*

Death Notification Requirements

The *Coroners Act* (SBC 2007) sets out the legislated requirements for reporting a death to the BCCS in Sections 2 through 4. These sections of the *Act* require that a person must notify a Coroner or a peace officer of the facts and circumstances relating to a death when a person has died under circumstances where an investigation may be required. The Act specifically requires the reporting of violent, unexplained or sudden/ unexpected deaths; deaths in custody; and deaths of persons to whom the Mental Health Act applies.

Deaths that must be reported by anyone:

2*(1) A person must immediately report to a coroner or peace officer the facts and circumstances relating to the death of an adult or child who the person has reason to believe has died*

a) as a result of violence, accident, negligence, misconduct or malpractice,

b) as a result of a self-inflicted illness or injury,

c) suddenly and unexpectedly, when the person was apparently in good health and not under the care of a medical practitioner,

d) from disease, sickness or unknown cause, for which the person was not treated by a medical practitioner,

e) during pregnancy, or following pregnancy in circumstances that might reasonably be attributable to pregnancy,

f) if the chief coroner reasonably believes it is in the public interest that a class of deaths be reported and issues a notice in accordance with the regulations, in the circumstances set out in the notice, or

g) in any prescribed circumstances.

2(2) If a child died in circumstances other than those described in subsection (1), a person who, by regulation, must report child deaths, must immediately report to the chief coroner, in the form required by the chief coroner,

a) the facts and circumstances relating to the child's death, and

b) any other information required by the chief coroner.

Deaths that must be reported by peace officers:

3(1) If a peace officer receives a report of a death under section 2 [deaths that must be reported by anyone], the peace officer must immediately report to a coroner the facts and circumstances relating to the death.

3(2) A peace officer must immediately report to a coroner the facts and circumstances relating to the death of a person who dies

a) while detained by or in the custody, or in a custodial facility, of a peace officer, or

b) *as a result, directly or indirectly, of an act of a peace officer performed in the course of his or her duty.*

Deaths that must be reported by institutional administrators:

4 The person in charge of an institution referred to in this section must immediately report to a coroner the facts and circumstances relating to the death of a person who dies

a) while a patient of a designated facility or private mental hospital within the meaning of the Mental Health Act, whether or not on the premises or in actual detention,

b) while the person is committed to a correctional centre, youth custody centre or penitentiary or a police prison or lockup, whether or not on the premises or in custody, or

c) while a patient of a hospital within the meaning of the Hospital Act, if the patient was transferred to the hospital from a place referred to in paragraph (a) or (b).

The Coroners Act can be viewed online at: www.qp.gov.bc.ca/statreg/stat/C/07015_01.htm.

Budget

The BCCS operating cost for 2008/2009 was $17.3 million (April 1, 2008, to March 31, 2009). This was spent in three areas: salaries and benefits, direct costs and support costs. Salary and benefits comprised slightly less than half of the total expenditure. In 2008, the BCCS employed 68 community coroners, 33 full-time coroners, and 34 other staff members (number of support staff variable over the year).

Direct costs comprised just over one third of the expenditures, and included expenses such as inquests (e.g., juries, court reporters and related inquest fees), forensic services (e.g., autopsies, toxicological analysis) and body handling (e.g., recovery, storage and transport costs). Support costs include expenses such as external contracts, systems, communications and facilities.

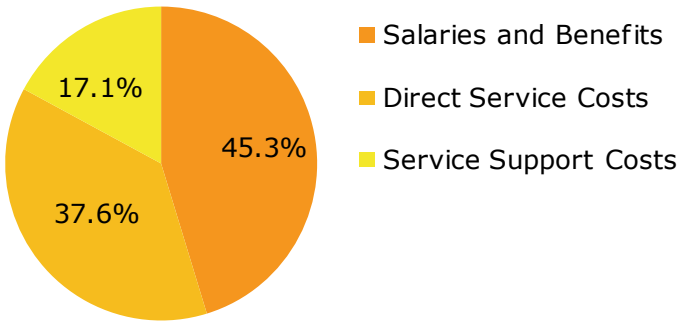

Figure 3. BCCS Total Expenditure for the 2008/2009 Fiscal Year

Organizational Achievements

Achievements from 2008 include:

- Investigated 7,968 deaths across B.C.
- Held 17 inquests.
- Distributed over 500 recommendations issued by inquest juries and coroners.
- Held three Death Review Panels to examine aggregate death circumstances and identify opportunities for intervention to prevent similar deaths in the future.
- Issued a number of Public Safety Bulletins to further injury and death prevention efforts.
- Completed and distributed a five-year retrospective review of child and youth suicide, available on our website: www.pssg.gov.bc.ca/coroners/child-death-review/index.htm.
- Implemented key investigative protocols to improve investigation standards and efficiency and enhance data collection.

2: Investigation

Coroner's Investigations

The Coroner investigates sudden and unexpected deaths of adults and all deaths of children in B.C. to ensure no death is overlooked, concealed or ignored, and to learn if anything can be done to prevent future deaths. The Coroner is a quasi-judicial investigator, independent from law enforcement agencies and health authorities. Coroners come from a range of backgrounds, including medical, legal and social sciences.

The Coroner does not assign fault or blame, but conducts a fact-finding investigation into deaths that are unnatural, unexpected, unexplained or unattended. The investigation requires a careful examination of the circumstances surrounding a death to determine identity and understand how, when, where and by what means an individual died. Pathologists, toxicologists and specialized investigators may be consulted to provide assistance in an investigation. Identification of risk factors to help prevent future deaths forms a critical part of the overall mandate of the BCCS.

When a death is reported to the BCCS, the Coroner has the authority to collect information, conduct interviews, inspect and seize documents such as medical records, and secure the scene. The facts surrounding the death, as determined by the Coroner, are released in a written Coroner's report, which may also include recommendations to prevent future deaths.

Pathology Services (Autopsy)

An autopsy is a complete internal and external examination of the body after death. An autopsy is ordered when the cause of death cannot otherwise be determined, or if mandated by policy. For cases in which autopsy is not mandatory, if a reasonable and probable cause can be deduced on the basis of the deceased's medical history, the circumstances surrounding a death and a careful examination of the body, an autopsy may not be necessary. The BCCS retains the services of pathologists who conduct autopsies on a fee-for-service basis.

An autopsy can be forensic or non-forensic. Non-forensic autopsies are performed in cases where the death appears to be due to natural causes, or a result of a non-criminal or accidental injury. A forensic autopsy may be required for several reasons:

- to determine the cause of death when it cannot otherwise be determined;
- to collect evidence from the body;
- to clarify the time and circumstances of death; and
- to identify artefacts of violence or trauma that may be used to support a criminal investigation.

In 2008, the BCCS ordered 2,183 autopsies.

Toxicology

Toxicology is the study of the nature, effects and detection of poisons and the treatment of poisoning. The pathologist may collect specimens for toxicological analysis if the cause of death is not obvious at autopsy, if poisoning or drug or alcohol use is suspected, or if mandated by policy, such as for operators of motor vehicles. Toxicological testing may also be conducted in cases where no autopsy is required, but use of alcohol or drugs is suspected to have contributed to the death.

Toxicology testing is most often provided on a fee-for-service basis at the Provincial Toxicology Centre, an accredited laboratory. For deaths in which there is also a criminal investigation in progress, the RCMP Forensic Laboratory conducts toxicology testing. The BCCS may also make use of toxicological tests performed at regional hospitals.

In 2008, the Coroners Service ordered 1,916 toxicological tests.

Units/Divisions

The BCCS has specialized investigation units, due to the complexity of many death investigations. These include the Medical Unit, Child Death Unit, Identification and Disaster Response Unit, and the Resource Industry Unit. The Training and Development Unit and the Legal Services and Inquests Unit are additional, non-investigative units that serve important functions for the BCCS.

Medical Investigation Unit

The Medical Investigation Unit provides coroners with guidance and assistance in investigating medical issues and in obtaining relevant medical information. Cases with complex medical issues are transferred to the Medical Investigation Unit for investigation and completion. The unit serves as a liaison with medical and nursing staff and health authorities. It functions to provide consistency in the management of investigation of deaths with complex medical issues, through the development and use of medical investigation protocols. The unit also works to identify common factors contributing to death, which may require subject-specific review to inform prevention strategies.

In addition, the unit represents the BCCS on the Perinatal Mortality Review Committee and the BC Patient Safety Quality Council. The unit also participates in meetings of the Vancouver section of the Canadian Community Epidemiology Network on Drug Use.

During 2008, the Medical Unit investigated a variety of deaths, including deaths following recent discharges from emergency departments, deaths of patients diagnosed with psychiatric conditions, and complex child deaths.

Child Death Unit

When a child dies in B.C., the BC Coroners Service receives the report, investigates the circumstances and further conducts a comprehensive review into the life and death of the child. This function is provided by the Child Death Unit and is staffed with both Coroners and Case Review Specialists. In late 2008, the Child Death Investigation and Child Death Review functions were re-aligned to form one specialized unit.

Deaths of children require special consideration for several reasons, particularly the significant physiological differences between children and adults. Child deaths are often the most complex and difficult cases coroners are asked to investigate.

The overall goal of child death investigation and support is to:

- assist the pathologist, police, and coroners in ruling in or ruling out natural causes of death, child abuse or neglect, or injury;
- assume jurisdiction for complex, high-profile child death cases;
- provide expertise and consultation to field coroners using the knowledge shared within the Child Death Unit;
- identify public health threats and trends, such as those related to consumer products or unsafe health practices;
- contribute to the understanding of the risk factors and to develop preventive strategies; and
- provide information to epidemiologists and agencies with an interest in the welfare of children (e.g., Representative for Children and Youth).

Although the ultimate objective of a scene investigation is to accurately assign a cause of death, other goals are to identify health threats posed by consumer products and to understand the associated risk factors. These duties are performed using standardized investigative procedures, data collection instruments, and training for scene investigations, and they underscore the central role of medical examiners and coroners in public health surveillance and epidemiologic research of sudden unexpected infant and child deaths.

Child Death Review is an internationally recognized function by which the circumstances of all child deaths are examined individually and in aggregate. B.C.'s Child Death Review function is embedded in the BCCS Child Death Unit. Through the application of a child death review protocol, the multi-disciplinary review team identifies risks and protective factors related to a child's life and death, and uses that information to determine how similar deaths may be prevented in the future.

The overall goal of child death review is to:

- identify trends and themes to determine what areas may require attention through an aggregate review or death review panel;
- conduct best practice reviews to inform the development of evidence-based recommendations aimed at improving the health and well-being of all B.C. children;
- ensure comprehensive knowledge transfer both within and beyond BCCS;
- report out on findings in a manner that other jurisdictions and the public will be able to use.

In June 2008, the Unit released the 2007 Annual Report examining the deaths of 395 children and youth. The report can be viewed online at www.pssg.gov.bc.ca/coroners/child-death-review/docs/CDRU-2007annualreport.pdf.

In December 2008, the special report on child and youth suicide "Looking for Something to Look Forward To" was released. This report examined the circumstances of 81 children who took their own lives between January 2003 and December 2007. The findings were considered by a panel of experts who developed a series of recommendations directed to multiple jurisdictions. The report can be viewed at www.pssg.gov.bc.ca/coroners/child-death-review/docs/cdru-suicidereportfull.pdf.

Work continued on a five-year retrospective review of infants who died suddenly in circumstances related to sleep.

Identification and Disaster Response Unit

The Identification and Disaster Response Unit (IDRU) continued to evolve throughout 2008. Development continued on both the BCCS DNA program and Geographic Information System (GIS), to improve the manner in which Missing Persons and Unidentified Human Remains are monitored and compared.

The IDRU forensic analyst developed a relationship with members of the Behavioural Sciences Section of RCMP "E" Division, to improve the efficacy of law enforcement search tools used to extract missing persons cases suitable for comparison against unidentified human remains. Both agencies are continuing to enhance comparison strategies and tools by drawing on the extensive knowledge and expertise available in participating agencies.

Over the previous two years, the IDRU has been committed to the design and implementation of technological platforms that support one-to-many comparisons of descriptor profiles, DNA profiles, spatial co-ordinates and dental records. The IDRU has developed a custom DNA database to facilitate the comparison of missing persons' DNA profiles against those of unidentified human remains. This database is on target to be fully implemented in 2009. Currently, the BCCS employs the services of a number of forensic DNA laboratories, which use technologies that have become the gold standard for human identification. These technological advances allow investigators to make crucial associations that might otherwise go unseen. We anticipate that the database will result in a number of linkages that will advance or solve identification cases; such positive outcomes will increase as the number of DNA profiles entered into the system increases.

The process of spatializing missing persons and human remains cases in the BCCS Geographic Information System (GIS) began in 2008; the IDRU aims to have over a thousand such cases entered into the GIS database by 2009. This technology provides a suitable platform for linkage analysis based on spatial data collected by coroners in the field. The GIS is not just a map but an information management system; critical data necessary for comparison efforts can be consolidated into the GIS database, and efforts to do so have now begun.

In 2008, a working group of dental experts was assembled to complete dental charting, x-ray scanning and database coding for Canadian and U.S. data systems for selected missing persons cases. The dental profiles were prepared for the BCCS Dental Databank, which is expected to be implemented in 2009.

IDRU has prepared facial reconstructions on many of the unidentified human remains cases in its inventory. The IDRU worked closely with law enforcement and forensic experts to present to the public the most enhanced descriptor profile for each set of unidentified human remains, many of which will be presented to the public in co-operation with Ontario Provincial Police on an integrated website, hopefully by late 2009.

For the first time, in 2008 the IDRU assisted front-line coroners with complex scene management and the subsequent co-ordination of forensic services for identification purposes. This allowed coroners to concentrate their efforts on the investigation, while necessary laboratory studies and analysis were co-ordinated by the IDRU to confirm identity and facilitate the repatriation of human remains.

IDRU's disaster response co-ordinator continued to prepare the Disaster Victim Identification-BC Task Force for deployment to multiple fatality incidents. Lessons learned from recent international disasters provide valuable insight into fatality management, while developing joint-agency operational guidelines ensures a suitable platform from which to deploy a co-ordinated and effective response to a challenging event.

The disaster response co-ordinator was assigned the Vancouver 2010 Winter Olympic Games portfolio to represent BCCS and will be working collaboratively with Integrated Public Safety through 2009 to assist with Games-related planning initiatives.

Resource Industry Unit

The Resource Industry Unit is dedicated to the investigation of deaths in the forest industry and related sectors. In addition to examining the circumstances related to a specific death, the unit considers forestry fatalities within the historical and provincial context of the industry.

Although the main focus is on fatal incidents in the forestry sector, the unit also provides coroners across the province with assistance in investigations of complex industrial cases in other areas such as transportation, construction, mining and the oil and gas industry. The unit also examines non-workplace deaths involving tree falling, bucking and related activities such as those undertaken by homeowners on private land.

In August 2008, BCCS held an inquest into the boating death of a worker employed at a logging camp in a remote coastal inlet. The inquest examined the circumstances of this particular incident, as well as general issues of commercial boating safety and safety of forest workers commuting to work in remote locations by boat. The jury made eight recommendations aimed at improving marine vessel safety and the safety of forest worker transport.

Training and Development Unit

The Training and Development Unit assesses emerging trends and developments affecting the training needs of BCCS staff, and develops and provides comprehensive educational programs in response. These programs are geared to ensuring BCCS staff are able to fulfil their responsibilities. Outreach and training is also provided to stakeholders and community groups. The unit also oversees the BCCS Occupational Health and Safety program and provides personal protective equipment and best practices for coroners in the field.

In 2008, the unit managed several programs including the Coroners Basic Training Course and the Student Practicum Program. The Coroners Basic Training Course is an annual intensive training program that provides new coroners with an understanding of their role and authority under the Coroners Act. The Student Practicum Program placed a number of criminology and forensic science students in various units of the organization. Participating institutions include Simon Fraser University and the BC Institute of Technology in B.C., and King's College in London, U.K. In addition to these programs, the unit held monthly training seminars for BCCS staff.

Legal Services and Inquests Unit

The Legal Services and Inquests Unit operates under the direction of the Executive Director of Legal Services (Chief Counsel), assisted by the Legal Assistant/Inquest Co-ordinator. The main responsibility of this unit is to oversee the holding of inquests. In addition, the unit provides direction, training and assistance to Presiding Coroners. There are 15 trained and experienced Presiding Coroners.

The unit is responsible for the provision of legal advice on day-to-day issues related to the interpretation of the Coroners Act and the legal mandate of the BCCS. The unit researches and prepares legal opinions, policies and procedures regarding issues that may arise within the British Columbia Coroners Service. The unit also researches and assesses legal trends and emerging issues in provincial, federal and international jurisdictions and provides legal advice on their potential impact on the BCCS.

In co-operation with the provincial Legal Services Branch, the unit provides legal advice, representation and guidance to the Chief Coroner on a broad range of corporate and operational issues including proposed legislative amendments, policy developments and administrative procedures.

The Inquest Committee, chaired by the Chief Counsel, reviews all potential inquest and death review panel matters to provide advice to the Chief Coroner. The committee works with the Regional Coroners to ensure that all potential inquest matters that require the attention of the Chief Coroner are brought forward. The committee provides recommendations and background information on inquest and death review panels related issues to the Chief Coroner.

The Coroners Act can be viewed online at www.qp.gov.bc.ca/statreg/stat/C/07015_01.htm.

3: Statistics

General Statistics

There were a total of 31,891[2] deaths in BC in 2008, of which 7,968 were reportable to the BCCS as required by the Coroners Act. Therefore, the BCCS investigated approximately 25% of all deaths in the province in 2008.

Table 1. Number[3] and Classification[4] of Deaths Reported to the BCCS (2008)

Classification	Deaths
Accidental	1,363
Homicide	117
Natural	5,806
Suicide	478
Undetermined	204
Total	7,968

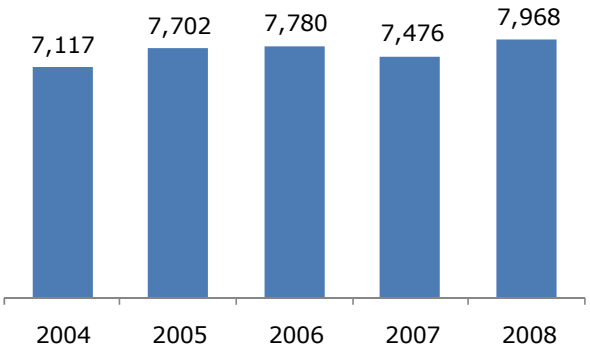

Figure 4. Number of Deaths Reported to the BCCS (2004-2008)

[2] *Total deaths in B.C. in 2008 from Vital Statistics BC Quarterly Digest, Volume 18, Number 4. (Vital Statistics Agency of BC, www.vs.gov.bc.ca)*

[3] *The statistics in this section are preliminary and are subject to change until all investigations are complete. Undetermined deaths may become otherwise classified as investigations progress.*

[4] *Please refer to the glossary provided in Appendix I for definitions of the death classifications.*

Table 2. Rate of Deaths Reported to the BCCS by Region[5] (2008)

Region	# of Deaths	Population[6]	Deaths per 10,000 Pop.[7]
Fraser	1,917	1,541,479	12.4
Interior	2,008	722,556	27.8
Island	1,902	741,299	25.7
Metro	1,431	1,092,358	13.1
Northern	710	283,911	25.0
Total	7,968	4,381,603	18.2

Table 3. Classification of Deaths by Region of Death (2008)

Region	Accidental	Homicide	Natural	Suicide	Undetermined	Total
Fraser	310	47	1,388	117	55	1,917
Interior	353	22	1,490	95	48	2,008
Island	315	15	1,450	92	30	1,902
Metro	222	21	1,030	123	35	1,431
Northern	164	12	452	52	30	710
Total	1,364	117	5,810	479	198	7,968

[5] *Deaths reported to the Chief Coroner's Office (143 cases) have been assigned the region corresponding to the township of death for the purpose of this report.*

[6] *Population estimates for 2008 by Health Authority area; Health Authority areas approximate the BCCS regions. (BC Statistics Agency, www.bcstats.gov.bc.ca)*

[7] *Number of deaths for each 10,000 persons in B.C..*

Accidental Deaths

Table 4. Accidental Deaths by Recreational Activity (2008)

Activity		Deaths
Air	Other Aircraft	11
	Ultra-Light Aircraft	4
Land	Hiking/Climbing	8
	Horseback Riding/Polo	1
	Motorbike/ATV/Offroad	12
	Mountain Biking	1
	Street Bike (No MVA)	3
Snow	Snowboarding	4
	Snowmobiling	16
	Skiing	8
	Tobogganing	1
Water	Canoe	3
	Diving	2
	Fishing	8
	Innertube	1
	Kayak	1
	Power Boating	7
	Raft	3
	Sailboat/Sailboard	1
	Swimming	13
Other	Hot Tub	1
	Public Park	3
	Shovel Snow	2
	Other	9
Total		123

The most common causes of accidental death were:

- 26.6% due to motor vehicle incidents (MVIs)[8],
- 23.1% due to alcohol and/or drug poisoning,
- 20.3% due to falls,
- 9.0% due to injuries incurred during recreational activities, and
- 5.6% due to injuries that occurred while working.

[8] *MVIs counted in recreational and occupational categories not included.*

Table 5. Accidental Deaths by Occupational Activity (2008)

Activity	Deaths
Forestry	13
Construction	12
Commercial Driver	6
Farm Worksite	5
Property Maintenance	4
Commercial Fishing or Other Vessel	5
Mining	3
Air	2
Industrial	2
Other	4
Total	56

Table 6. Accidental Deaths by Other Activity (2008)

Activity	Deaths
MVI[9]	363
Alcohol/Drug/Other Poisoning	315
Fall	277
Fire	48
Drowning[10]	40
Airway Obstruction	31
Exposure	12
CO Poisoning	9
Firearms	6
SkyTrain or Railway	1
Other	43
Under Investigation	19
Total	1,164

[9] *Does not include recreational and occupational non-traffic MVI deaths.*

[10] *Does not include drowning deaths listed in recreational water-related activities category.*

Accidental Drowning Deaths

Table 7. Accidental Drowning Deaths by Age Group (2008)

Age Group	Deaths
< 13	2
13-19	6
20-29	20
30-39	14
40-49	10
50-59	8
60-69	9
70-79	5
80 +	4
Total	78

There were 78 deaths in B.C. due to accidental drowning (including deaths due to recreational activities) in 2008.

Although this is a 20% increase over 2007, it is slightly below the average of the preceding 10 years (1998 to 2007) of 84.3 deaths per year.

Table 8. Accidental Drowning Deaths by Region (1999-2008)

Region	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Fraser	13	18	21	8	17	15	7	11	12	13
Interior	25	22	15	28	25	18	17	28	16	29
Island	20	25	21	19	15	20	14	21	15	18
Metro	22	15	11	15	16	8	13	17	14	10
Northern	14	17	17	14	22	11	12	9	8	8
Total	94	97	85	84	95	72	63	86	65	78

The most common circumstances resulting in accidental drowning were recreational activities, which accounted for 36 deaths in 2008.

Most deaths occurred in July and August.

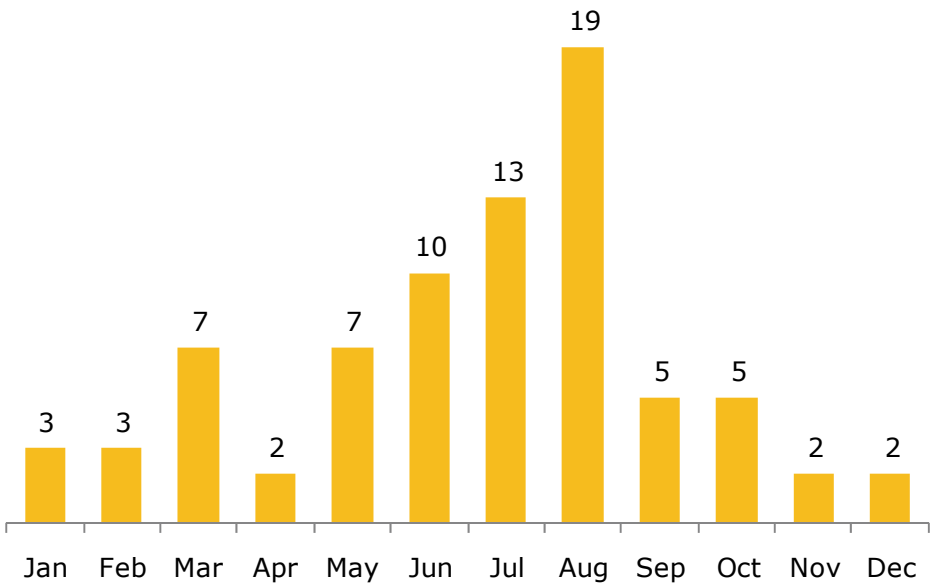

Figure 5. Accidental Drowning Deaths by Month (2008)

Table 9. Accidental Drowning Deaths by Activity (2008)

Activity		Deaths
Recreational	Canoe	1
	Diving	2
	Fishing	6
	Hiking/Climbing	1
	Hot Tub	1
	Innertube	1
	Kayak	1
	Motorbike/ATV/Offroad	3
	Power Boating	3
	Raft	3
	Sailboat/Sailboard	1
	Snowskiing	1
	Swimming	10
	Ultra-Light Aircraft	1
	Other	1
	Recreational Subtotal	36
Occupational	Commercial Fishing	1
	Other	1
	Occupational Subtotal	2
Other	MVI*	10
	Bathtub	4
	Other Subtotal	14
Activity Unknown		26
Total		78

* In five cases of MVI drowning, the decedent was in a vehicle that entered a body of water. In the other five cases, the decedent was in a vehicle that overturned into a ditch filled with water.

Accidental Motor Vehicle Incident Deaths

Of the 1,364 accidental deaths in B.C. during 2008, 27.4% were the result of motor vehicle incidents (MVIs).

There was an 11.6% decrease in the number of MVI deaths from 2007 to 2008, continuing the general downward trend in MVI fatalities over the past seven years.

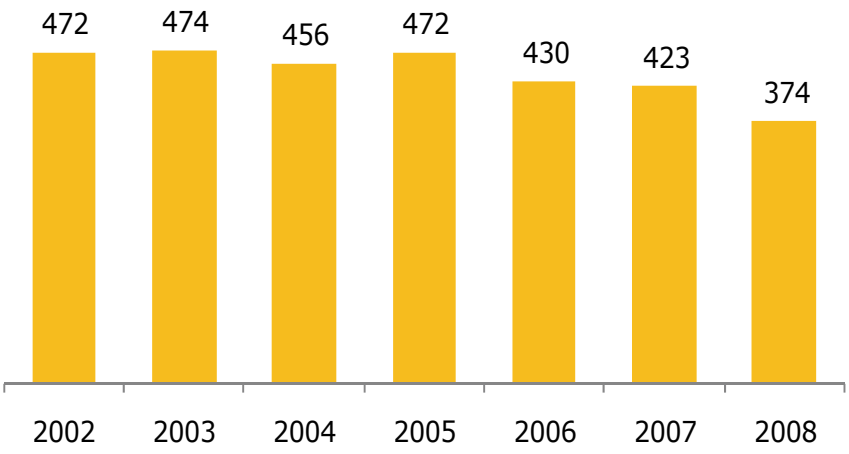

Figure 6. Number of MVI deaths in B.C. (2002-2008)

Table 10. Motor Vehicle Incident Death Rate by Region (2008)

Region	Deaths	Rate per 100,000 Pop.
Fraser	99	6.4
Interior	114	15.8
Island	60	8.1
Metro	41	3.8
Northern	60	21.1
Total	374	8.5

While the highest number of fatalities occurred in the Interior region, the fatality rate (per 100,000 population) was highest in the Northern region.

Factors contributing to the higher motor vehicle fatality rate in the north include[11]:

- higher rates of speed,
- farther distances travelled,
- increased public interface with commercial vehicles,
- longer emergency response times, and
- remoteness to medical facilities.

[11] *CrossRoads: Report on Motor Vehicle Crashes in Northern B.C., Northern Health Authority 2005.*

Table 11. Motor Vehicle Incident Deaths by Region (2008)

MVI Type	Fraser	Interior	Island	Metro	Northern	Total
Driver	46	60	26	11	31	174
Passenger	15	23	14	4	20	76
Commercial Driver	1	3	-	-	2	6
Commercial Passenger	-	2	-	-	-	2
Motorcycle, Moped	9	13	9	6	2	39
Pedestrian	21	8	8	17	3	57
Bicyclist	4	2	-	2	-	8
Motorized Wheelchair	1	-	-	-	-	1
Other	2	3	3	1	2	11
Total	99	114	60	41	60	374

MVI fatalities were 67.6% male and 32.4% female, which is a similar ratio to previous years.

The gender difference is much smaller for non-fatal injury rates. For example, in 2007 non-fatal injuries were almost equal between genders: 52.2% male and 47.8% female[12].

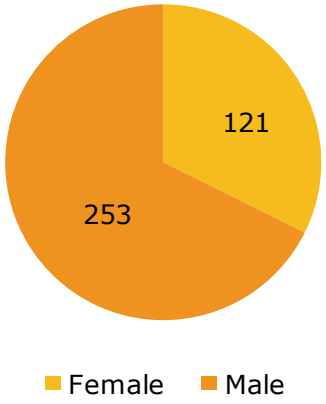

Figure 7. MVI deaths by Gender (2008)

[12] *Traffic Collision Statistics: Police-attended Injury and Fatal Collisions 2007, ICBC (www.icbc.com/road-safety/safety-research/collision-statistics).*

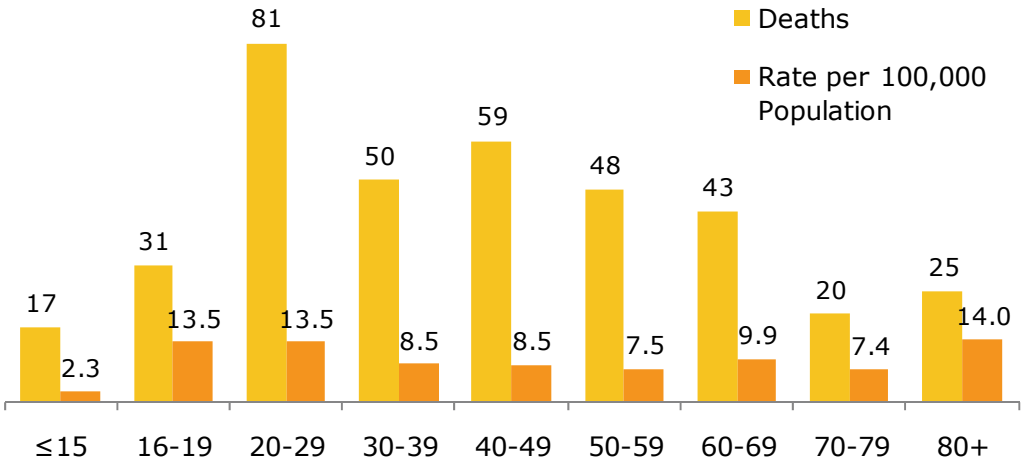

Figure 8. MVI Deaths and Death Rate per 100,000 Population by Age Group (2008)

The 20-29 age group had the largest proportion of deaths, at 21.7%.

In 2008, April was the month with the lowest incidence of MVI deaths, while July was the highest.

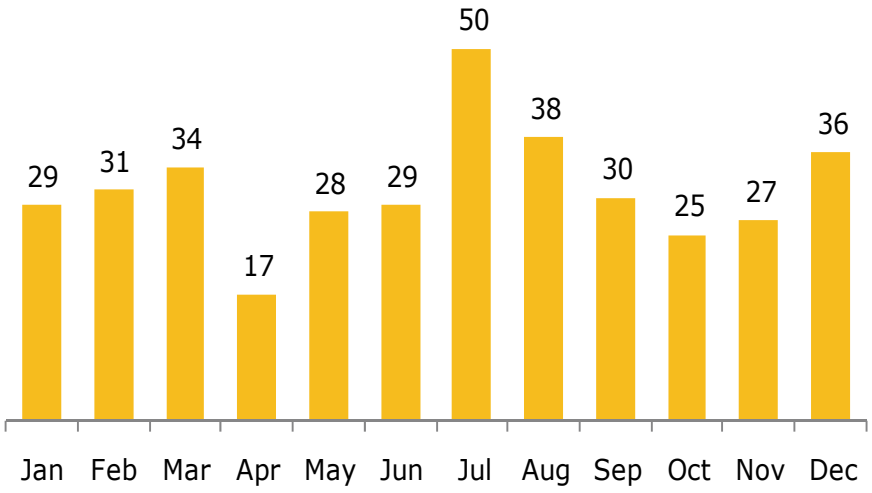

Figure 9. MVI Deaths by Month (2008)

Alcohol contributed to 19% of deaths in 2008. Drugs[13] and alcohol combined account for 33.7% of MVI deaths.

Table 12. MVI Deaths with Alcohol and/or Drugs Contributing (2002-2008)

Contributing Factor	2002	2003	2004	2005	2006	2007	2008
Alcohol	108	99	106	124	86	94	71
Drugs	12	9	21	20	19	31	19
Alcohol & Drugs	6	21	18	25	27	38	36
Total	126	129	145	169	132	163	126

In their most recent statistical report on MVIs[14], ICBC reported that alcohol was the second-most common human factor, after excessive speed, in fatal collisions.

This report can be viewed online at the ICBC Traffic Collision Statistics webpage: www.icbc.com/road-safety/safety-research/collision-statistics.

[13] *Drugs may include over-the-counter and prescription medications as well as illicit drugs.*

[14] *Traffic Collision Statistics: Police-attended Injury and Fatal Collisions 2007, ICBC.*

Motorcycle Deaths

Table 13. Number of Licensed Motorcycles and Fatality Rate (2002-2007[15])

Year	# Licensed Motorcycles[16]	Deaths	Rate per 10,000 Licences
2002	69,136	31	4.5
2003	73,258	33	4.5
2004	77,670	45	5.8
2005	83,218	48	5.8
2006	91,844	39	4.2
2007	98,639	48	4.9

In 2008, there were 39 deaths resulting from motorcycle incidents, an 18.8% decrease from 2007. Although motorcycle licences are held by only 7.8% of drivers, motorcycle deaths represent 10.4% of all MVI deaths.

While the number of motorcycle deaths has increased 26% since 2002, the number of licensed motorcycles has also increased. The rate of fatalities has remained relatively stable over this period.

[15] *Data not yet available for 2008.*

[16] *Traffic Collision Statistics: Police-attended Injury and Fatal Collisions 2007, ICBC.*

Table 14. Motorcycle Deaths by Region (2002-2008)

Region	2002	2003	2004	2005	2006	2007	2008
Fraser	8	14	16	14	8	13	9
Interior	9	6	11	18	14	16	13
Island	4	7	11	9	6	10	9
Metro	3	5	4	4	7	6	6
Northern	7	1	3	3	4	3	2
Total	31	33	45	48	39	48	39

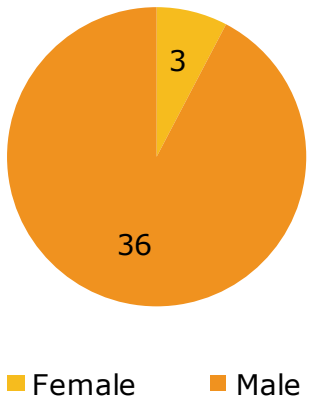

Figure 10. Motorcycle Deaths by Gender (2008)

Motorcycle fatalities were 92.3% male and 7.7% female.

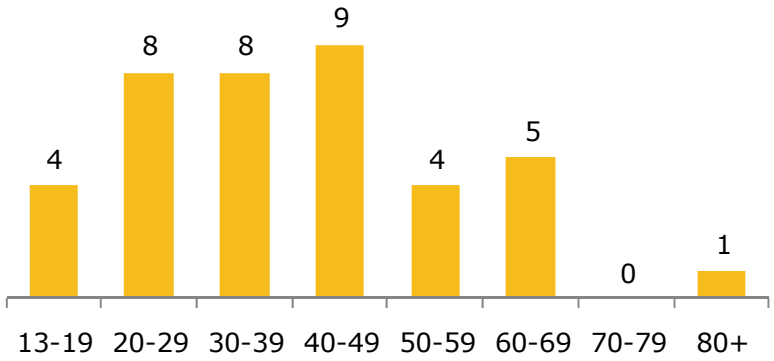

Figure 11. Motorcycle Deaths by Age Group (2008)

The 40-49 age group had the largest proportion of deaths, at 23.1%.

In 2008, December was the month with the lowest incidence of motorcycle deaths, while August was the highest.

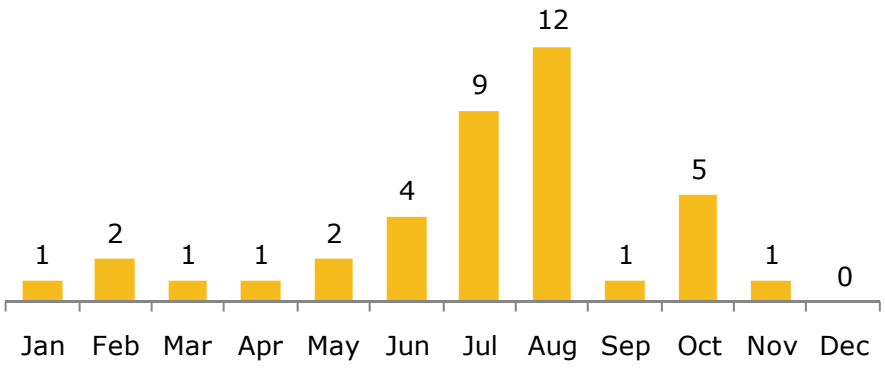

Figure 12. Motorcycle Deaths by Month of Death (2008)

Table 15. Motorcycle Deaths with Alcohol and/or Drugs Contributing (2002-2008)

Contributing Factor	2002	2003	2004	2005	2006	2007	2008
Alcohol	11	4	7	10	4	9	5
Drugs	1	-	2	6	2	2	-
Alcohol & Drugs	1	4	3	1	1	5	2
Total	13	8	12	17	7	16	7

Child Deaths

The BCCS investigates the deaths of all children in B.C., including natural and expected deaths, to better understand how and why children die. A child is defined as anyone under the age of 19.

Table 16. Child Deaths by Classification of Death (2008)[17]

Classification	2004	2005	2006	2007	2008
Accidental	69	65	72	70	83
Homicide	5	5	15	5	13
Natural	54	72	89	82	215
Suicide	25	13	15	11	14
Undetermined	21	31	27	39	35
Total	174	186	218	207	360

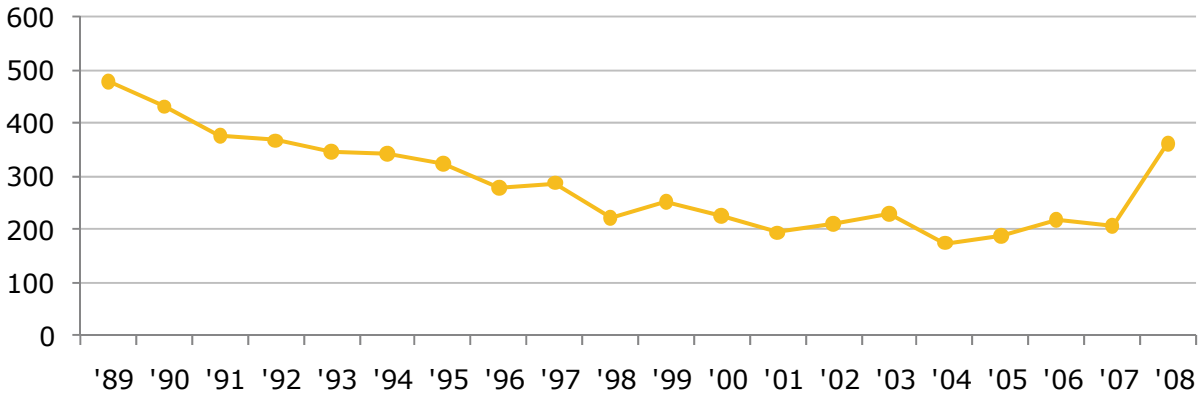

Figure 13. Total Number of Child Deaths Reported to the BCCS (1989-2008)

[17] *In September 2007, a revision to the Coroners Act specified that all child deaths must be reported to the BCCS. As a result of this legislative change, more child deaths were investigated in 2008 than in previous years; this increase is primarily in natural deaths.*

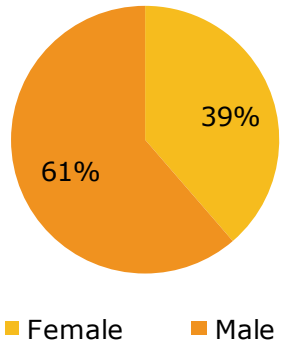

Figure 14. Child Deaths by Gender (2008)

Table 17. Child Deaths by Gender (2008)

Region	Total
Female	138
Male	219
Total	360

In 2008, there were 360 deaths of children in BC. Of these, 60.8% were male and 38.3% were female (sex is unknown for 3 individuals).

Although a child is anyone from birth through age 18, 50.0% of child deaths were infants under the age of 1 year.

Table 18. Child Deaths by Age Group (2008)

Age Group	Deaths
< 1 year	180
1 - 4 years	32
5 - 9 years	28
10 - 14 years	31
15 - 18 years	89
Total	360

Table 19. Child Deaths by Region (2008)

Region	Deaths
Fraser	89
Interior	47
Island	63
Metro	125
Northern	36
Total	360

Table 20. Accidental Child Deaths by Means of Death (2008)

Means of Death	2004	2005	2006	2007	2008
MVI	35	36	44	44	46
Drug and/or Alcohol Poisoning	6	4	6	8	6
Drowning	6	8	4	1	6
Airway Obstruction	4	-	2	4	4
Fall	2	2	1	6	3
Fire	2	1	3	-	2
Crushing	-	-	1	-	2
ATV/DirtBike	3	1	2	-	1
Machinery/Forklift	-	2	-	1	1
Poisoning: Other	1	1	1	-	1
Exposure	1	1	-	-	1
Firearms	-	-	1	1	1
Medical Treatment	1	1	2	1	-
Railway	-	1	1	1	-
Snowmobile	-	2	1	-	-
Other	7	4	3	2	6
Under Investigation	1	1	-	1	3
Total	69	65	72	70	83

Deaths due to MVIs are the leading cause of accidental death in children, accounting for 55.4% of accidental deaths in 2008.

New infant and child seat regulations came into effect in B.C. in July 2008, with the goal of reducing the number of such deaths.

Table 21. Child MVI Deaths by Position in Vehicle (2008)

Position in Vehicle	2004	2005	2006	2007	2008
Driver	8	13	10	11	13
Passenger	16	18	19	20	22
Motorcycle, Moped	-	3	1	2	3
Pedestrian	8	1	7	9	4
Bicyclist	3	-	4	1	1
Other	-	1	3	1	3
Total	35	36	44	44	46

Suicide

Table 22. Suicides in B.C. (2004-2008)

Year	Deaths
1989	489
1990	426
1991	489
1992	514
1993	492
1994	513
1995	534
1996	557
1997	583
1998	509
1999	498
2000	484
2001	470
2002	537
2003	478
2004	526
2005	487
2006	461
2007	476
2008	478

There were 478 suicide deaths in 2008. The number of suicide deaths in B.C. has remained steady over the past 20 years. However, because the population of B.C.[18] has been increasing during this period, this translates into a decline in the provincial suicide rate (number of deaths per 100,000 people).

[18] *B.C. population estimates from BC Stats, (www.bcstats.gov.bc.ca).*

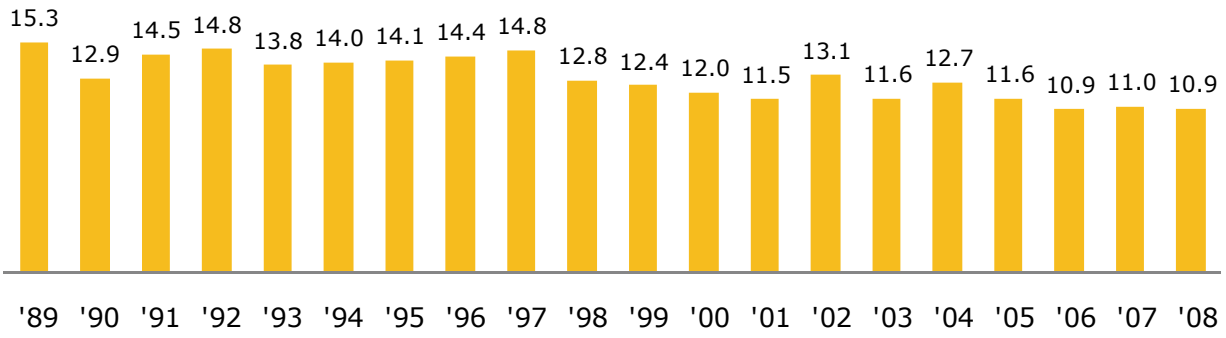

Figure 15. Suicide Rate in B.C. per 100,000 Population (1989-2008)

In 2008, there were 10.9 suicides for every 100,000 people in B.C., down from a high of 15.3 in 1989.

Table 23. Suicide Rate by Region (2008)

Region	Deaths	Rate per 100,000 Pop.
Fraser	117	7.6
Interior	95	13.1
Island	92	12.4
Metro	123	11.3
Northern	51	18.0
Total	478	10.9

The lowest regional rate was for Fraser, which had 7.6 suicide deaths per 100,000 people. The highest regional rate was for Northern, which had 18 suicide deaths per 100,000 people.

Table 24. Suicide Means of Death (2008)

Means of Death	Deaths
Hanging	159
Alcohol/Drug/Other Poisoning	99
Firearms	79
Fall	49
Carbon Monoxide Poisoning	33
Drowning	16
Suffocation	10
Stabbing or Incised Injury	9
Motor Vehicle Involved	8
SkyTrain	3
Exposure: Cold	2
Other	5
Under Investigation	6
Total	478

Hanging accounted for one third of all suicide deaths, 33.3%. Intentional self-poisoning was the second-most common means of death, accounting for 20.7% of cases.

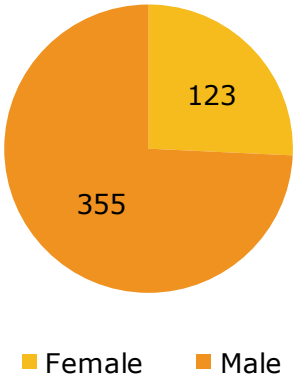

Figure 16. Gender of Suicide Deaths (2008)

Table 25. Average Age of Suicide Deaths (2008)

Gender	Median Age	Average Age
Female	50.8	50.5
Male	46.3	48.3
Overall	47.2	48.9

Males were three times more likely to die by suicide, accounting for 74.3% of deaths. This gender disparity in suicide is observed world wide, although there is some cultural variation[19].

Table 26. Suicide Deaths by Age Group and Gender (2008)

Age Group	Female	Male	Total
≤ 9	-	-	-
10 - 19	5	13	18
20 - 29	15	50	65
30 - 39	10	51	61
40 - 49	30	95	125
50 - 59	26	58	84
60 - 69	23	39	62
70 - 79	6	24	30
80 +	8	25	33
Total	123	355	478

[19] *World Health Organization. More detail can be found on the WHO webpage on suicide at: www.who.int/topics/suicide/en/.*

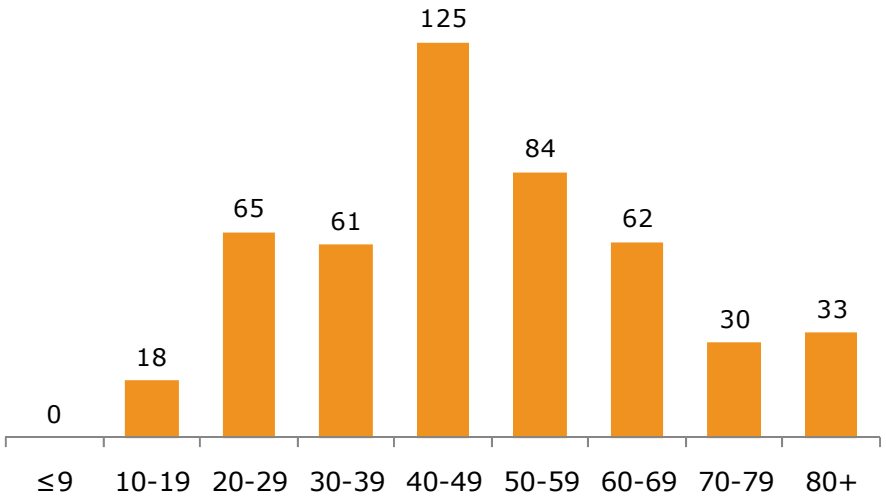

Figure 17. Suicide Deaths by Age Group (2008)

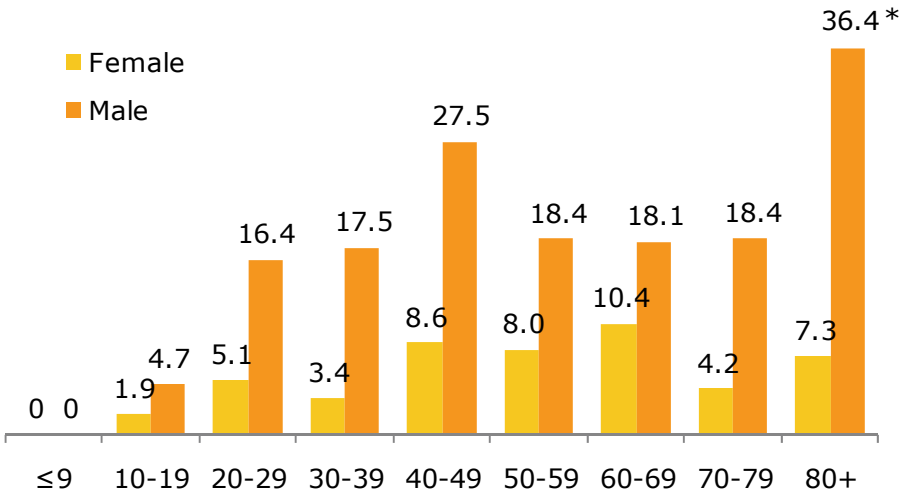

Figure 18. Suicide Rate per 100,000 Population,
by Age Group and Gender (2008)

* Slight fluctuations in the number of deaths in a small population can result in greater variability when calculating population rates. Although the suicide rate for the 80+ males was high in 2008, over the previous 15 years total suicide deaths in this group have ranged from 10 to 25, translating into population rates of 16.8 to 53.7, reflecting the small population size in this age group.

Illicit Drug Deaths

Illicit drug deaths (IDD) in B.C. peaked at 417 in 1998.

Table 27. Illicit Drug Deaths in B.C. (2004-2008)

Year	Deaths
1989	67
1990	82
1991	124
1992	164
1993	361
1994	317
1995	224
1996	312
1997	310
1998	417
1999	278
2000	248
2001	246
2002	170
2003	189
2004	194
2005	219
2006	232
2007	200
2008	159

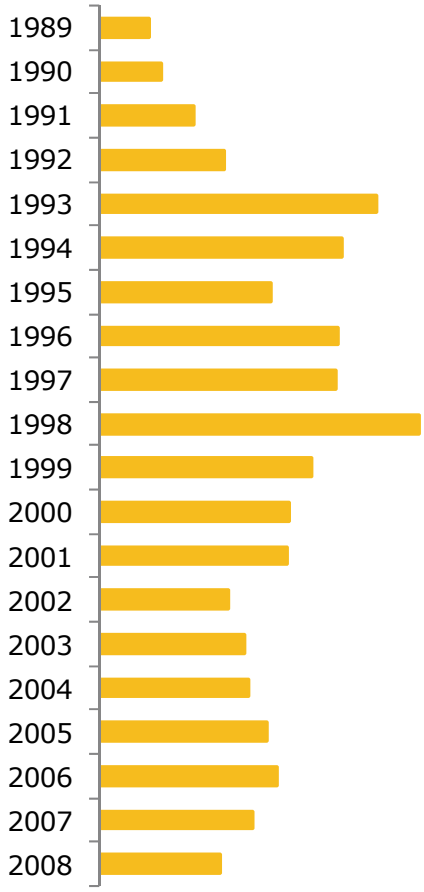

Figure 19. Illicit Drug Deaths in B.C. (1989-2008)

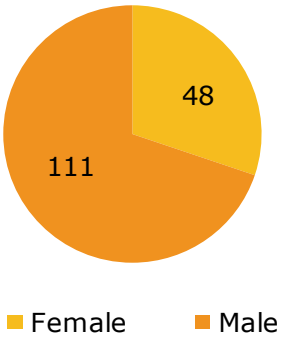

Figure 20. Illicit Drug Deaths by Gender (2008)

Table 28. Classification and Gender of Illicit Drug Deaths (2008)

Classification	Female	Male	Total
Accidental	44	107	151
Suicide	3	3	6
Undetermined	1	1	2
Total	48	111	159

A majority of IDD in 2008, 94.4%, were accidental overdose events. Decedents were more than twice as likely to be male, 69.8%, than female, 30.2%.

Table 29. Illicit Drug Deaths by Region (2008)

Region	Deaths	Rate per 100,000 Pop.
Fraser	54	3.5
Interior	17	2.4
Island	37	5.0
Metro	44	4.0
Northern	7	2.5
Total	159	3.6

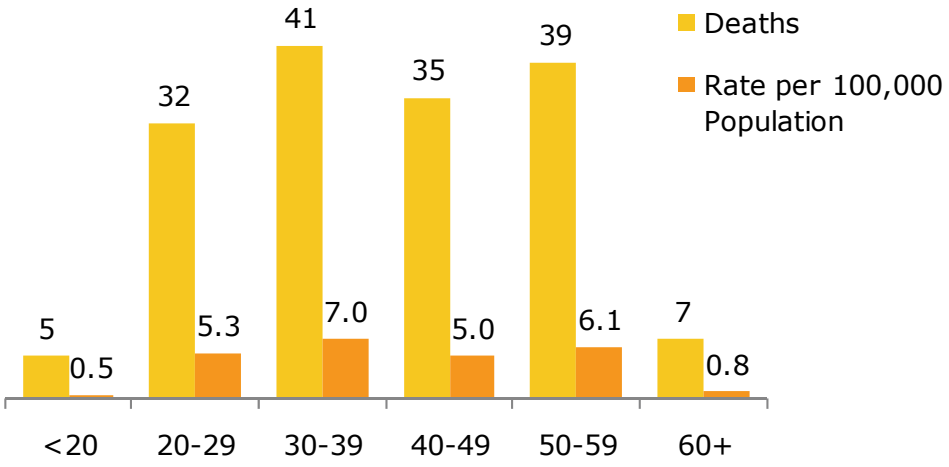

Figure 21.Illicit Drug Deaths and Rate per 100,000 Population, by Age Group (2008)

Table 30. Illicit Drug Deaths by Age Group (2008)

Age Group	Deaths
< 20	5
20-29	32
30-39	41
40-49	35
50-59	39
60 +	7
Total	159

4: Prevention

Recommendations

In addition to investigation, prevention of death also forms part of the mandate of the BCCS. The principal means of prevention is the issuing of recommendations following an investigation, so that a similar death is less likely to occur in the future.

Recommendations focus on improving systems and standards, and may be issued to both public and private agencies. In addition to the recommendations that a jury may make following inquest proceedings, a coroner can also make recommendations, where appropriate and feasible. Prior to September 2008, a jury or coroner could make one of two types of recommendations:

> *Action*: a change is recommended to the agency and a response to this recommendation is requested by the BCCS. Recommendations may be directed to one or more agencies/ individuals.
>
> *Information*: no changes are recommended, but the findings of the investigation are brought to the agency or individual's attention for informational purposes only. A response to the information is not requested.

As of September 2008, the BCCS no longer issues recommendations for information purposes.

A response to action recommendations is requested within 90 days of distributing the recommendation.

The Chief Coroner is responsible for bringing the findings and recommendations from coroner's investigations and inquest juries to the attention of appropriate individuals, agencies, the public and ministries of government. Although the BCCS has no statutory authority to order change or otherwise ensure that recommendations are carried out, it is expected that recommendations will be given serious consideration by the agencies to which they are directed.

The BCCS has been successful in having recommendations considered and implemented in the past, as indicated by the recommendation response rates summarized in the tables below. As a direct result of coroner and jury recommendations, policies and procedures have been changed with the goal of preventing similar deaths in the future.

Recommendation Statistics

Recommendation statistics represent the total number of recommendations distributed to individuals and agencies. One recommendation may be distributed to multiple recipients. Each distribution is counted in the following statistics, thus if a recommendation is issued to three separate agencies, it is counted as three recommendations.

The BC Coroners Service distributed a total of 506 recommendations in 2008, issued by juries at inquest or through coroner's investigations. Recommendations were issued on 89 cases: 72 were coroner cases and 17 were inquest cases. The majority of these were accidental deaths.

Table 31. Number of Recommendations Distributed by Type and Year[20] (2004-2008)

Year	Type	#	Total
2004	Action	233	
	Information	49	282
2005	Action	228	
	Information	46	274
2006	Action	149	
	Information	38	187
2007	Action	615	
	Information	69	684
2008	Action	451	
	Information	55	506

[20] *The increases in the number of recommendations issued in 2007 and 2008 are due in part to an increased number of inquests and/or the number of recommendations per inquest.*

Of the 506 recommendations distributed in 2008, 237 were made by Coroners:

- 76.8% were Action recommendations, and
- 23.2% were Information recommendations.

The remaining 269 recommendations were made by Inquest juries:

- 100% of these were Action recommendations.

The Coroners Service had a 70.3% response rate to recommendations that were sent for action (i.e., requiring a response), with 86.1% of responses being positive[21]. This response rate will increase as responses are received.

Table 32. Number of Recommendations Distributed by Source and Type (2008)

Type	Coroner	Jury	Total
Action	182	269	451
Information	55	-	55
Total	237	269	506

Table 33. Number of Recommendations Distributed by Classification of Death (2008)

Classification	#
Accidental	266
Homicide	82
Natural	51
Suicide	22
Undetermined	85
Total	506

[21] *Positive responses include those where agencies acknowledge the recommendation, have already taken action or are going to be taking further action to implement the recommendation, or are taking the recommendation into consideration and evaluating further. A negative response includes those where agencies are unable to implement the recommendation. A negative response may sometimes be explainable; for example, an agency may not be able to implement recommended changes due to legislative reasons or financial constraints.*

Table 34. Number of Recommendations by Topic (2008)

Topic	#
Medical	161
Police/Corrections	154
Transportation	59
Industry	37
Child/Youth Programming	33
Recreation	24
Drug/Alcohol Treatment	23
Disaster Planning	13
Schools	2
Total	506

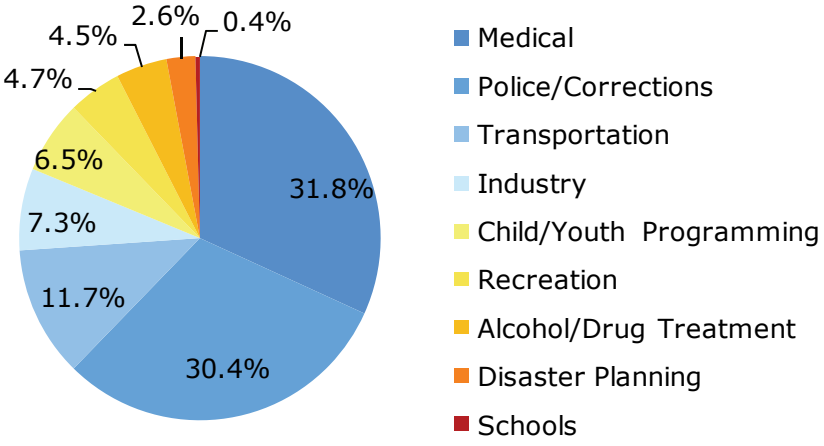

Figure 22. Topic of Recommendations (2008)

Table 35. Agencies Receiving Ten or More Recommendations (2008)

Recipient	#
Royal Canadian Mounted Police	52
Ministry of Public Safety and Solicitor General	42
Vancouver Coastal Health Authority	28
Transport Canada	25
Interior Health Authority	17
College Of Physicians And Surgeons	17
Ministry of Health	15
Fraser Health Authority	13
Vancouver Police Department	13
Attorney General	11

Highlighted Recommendation Cases

The following cases were selected to highlight investigations by coroners where public safety concerns were identified and recommendations were made to prevent future injuries and deaths occurring in similar circumstances. In each of these cases, the recommendations were issued in 2008. The full Coroner's Report for each case may be requested via the contact form on the BCCS website, at: www.pssg.gov.bc.ca/coroners/contact/index.htm.

Case 1: Landslide

On January 19, 2005, a 43-year-old woman died in North Vancouver due to suffocation and traumatic asphyxia, when a landslide hit her home. Investigation revealed that previous geotechnical appraisals of the area had noted heightened risk of landslide and recommended specific risk reduction measures, which were not all undertaken. The death was classified as Accidental.

The coroner recommended that the Ministry of Public Safety and Solicitor General (PSSG) develop a provincial strategy for prevention and mitigation of landslide risk, safety standards for residential developments, and guidelines on how and when landslide assessments for residential developments should be conducted. Additionally, it was recommended that PSSG work with local governments to develop a database for collection and use of landslide risk information. The coroner recommended that PSSG and the Association of Professional Engineers and Geoscientists of BC (APEGBC) develop a provincial qualifications standard for professionals conducting landslide assessments. The coroner also recommended that the Union of BC Municipalities (UBCM) examine local governments' internal procedures for reviewing landslide assessment reports, evaluating risk and implementing mitigation measures, and create a forum where local governments can share knowledge and lessons learned.

PSSG responded that it will facilitate discussions with the UBCM, provincial Ministries, the APEGBC and other stakeholders, towards defining guidelines for landslide risk management, and that provincial guidelines on landslide risk assessment are currently being updated. The UBCM responded that it will, once a provincial regulation is in place, work to make local governments aware of the measures they should consider in relation to landslide issues. The APEGBC responded that training and experience standards are detailed in the current APEGBC Guidelines for Legislated Landslide Assessments for Proposed Residential Development in BC. The APEGBC will recommend to its members that they make their reports publicly available for use in developing and maintaining a publicly accessible landslide information database.

Case 2: Suicide

On April 6th 2007, a 26-year-old woman died of inhalation of gastric contents due to mixed drug intoxication. The woman had a history of depression and multiple suicide attempts. Ten days before her death, she was voluntarily hospitalized on the advice of her long-term therapist. On April 5th, she was released from hospital despite repeated statements that she intended to take her own life by overdose of her prescription medications. Her therapist was not notified of the release or consulted on any aspect of her treatment or release plan. The death was classified as Suicide.

The coroner recommended that the Vancouver Coastal Health Authority (VCH) include family members, community mental health workers and therapists in treatment and discharge planning. It was also recommended that the discharge plan address the patient's community risk factors. VCH responded that they have an initiative underway that includes work in these areas; a documented discharge plan will come out of this work. While the initiative is still underway, VCH has begun discharge planning on admission, including community risks, and has commenced patient/family/community care conferences.

Case 3: Animal Attack

On May 10th 2007, a 32-year-old woman died of exsanguination due to a tiger attack. The woman was visiting an exotic animal farm. She was standing outside a cage housing two tigers, when one of the tigers swiped at her legs through a gap in the bottom of the cage, severely mauling her. The death was classified as Accidental.

The coroner recommended that the Ministry of Environment (MOE) ensure that the Wildlife Act includes a list of controlled species and regulations regarding their possession, and that adequate resources and personnel are in place to enforce these amendments to the Wildlife Act. The MOE responded that amendments were made in April 2008 to the Wildlife Act, addressing the possessing or transportation of exotic species. MOE and Ministry of Attorney General staff are currently developing the associated regulations and creating a list of controlled species; adequate personnel and resources are provided within the ministry to ensure the Act and its regulations are implemented and enforced. To ensure successful implementation of the exotic species regulations, MOE staff will form an advisory committee with key animal health and welfare organizations, local government representatives and other stakeholders.

Cases 4 & 5: Avalanche

On April 2nd 2007, a 24-year-old woman and 27-year-old man died of asphyxia due to being buried in an avalanche. They were on a guided outing organized by a heli-ski

operation. The guide performed several safety checks before continuing down the slope, none of which revealed the potential risk. The avalanche was triggered by a second group of skiers who were higher up on the slope. The guide was the only individual in the group caught by the avalanche who was equipped with an avalanche floatation device. The deaths were ruled Accidental.

The coroner recommended that WorkSafe BC evaluate the use of avalanche floatation devices by workers exposed to high-risk avalanche conditions, and that the Helicat Canada Association review the benefits of these devices in helicopter- and snowcat-assisted commercial ski operations. Worksafe BC responded that changes to the Occupational Health and Safety Regulation were made in September 2008 regarding assessment of avalanche risk and the requirements for avalanche safety plans, which specify the equipment workers need to have for activity in avalanche hazard areas. Additionally, Worksafe BC will be contacting stakeholders to determine how to best implement the use of avalanche flotation devices within avalanche safety plans. HeliCat Canada Association responded that they will address this issue at their next Board of Directors meeting, scheduled for September 2009.

Case 6: Infant Death

On February 20th 2007, a 3-month-old girl died of sudden unexpected death in infancy. Three days prior to her death, her mother brought her to hospital as she had a cough. She was determined to have a minor infection and sent home. The following day her mother brought her back to the hospital as her symptoms had worsened. She remained in hospital overnight for observation, and was released the next day. Her mother administered a low dose of an over-the-counter infant medication prior to going to bed that evening. The following morning she was found unresponsive. The death was classified as Undetermined, and the medication was determined to be a contributing factor.

The coroner recommended that Health Canada and the College of Physicians and Surgeons support continuing education for both medical personnel and caregivers on the dangers of prescribing and administering over-the-counter (OTC) medication to infants and young children. It was also recommended that infant and children's OTC medication be administered by weight-to-dose ratios, and not age, and that medications containing sedative-like components be available only by prescription. Health Canada responded that a bulletin was issued to all Canadian physicians on the appropriate use of cough and cold products for children. Additionally, following Health Canada's recommendation, major distributors of cough and cold products in both Canada and the United States voluntarily withdrew products solely marketed to the under-two age group. Currently, Health Canada is conducting a review of the safety and efficacy of cough and cold products for use in children under the age of 12.

Case 7: Pool Drowning

On October 20th 2006, a 3-year-old boy died of drowning after falling into a backyard swimming pool. The boy had been playing outside with other children when his parents noticed he was no longer in view and was not responding to their calls. Following a search of the neighbourhood, the boy was found unresponsive in the backyard pool of a neighbour. Although the yard was fenced, two unlocked gates allowed access to the pool; the pool itself was not fenced. The death was classified as Accidental.

The coroner recommended that the Union of BC Chiefs and the Union of BC Municipalities initiate public education programs on the hazards of backyard swimming pools and the safer fencing standards, and adopt a bylaw requiring that all private swimming pools comply with these standards. Additionally, the coroner recommended that the Ministry of Housing and Social Development amend the BC Building Code to require that all private swimming pools in BC comply with safer fencing standards. The Ministry of Housing and Social Development responded that the provincial government is developing and implementing requirements for safer fencing around private swimming pools. The private pool safety strategy will be focused on reducing child drownings.

Public Safety Bulletins

The BCCS issues public safety bulletins in response to single incidents, environmental conditions, and recent trends in preventable deaths. There were three public safety bulletins issued in 2008. These bulletins are released to media provincewide and can be found on the BCCS website at www.pssg.gov.bc.ca/coroners/public-safety/index.htm.

March 7, 2008: Infant Deaths Linked To Unsafe Sleep Practices

In 88% of sudden infant deaths recently reviewed, one or more unsafe sleep risk factors was identified, and the Child Death Review Unit of the BC Coroners Service urged parents and caregivers to ensure infants are placed to sleep in a safe environment. Risk factors include unsafe sleep surfaces (adult beds or couches), unsafe sleep environments (bed-sharing, extraneous items including blankets and/or toys) and unsafe sleep positions (on stomach or side).

May 27, 2008: Stats and Studies Show Too Many Kids Victims of Fatal Pedestrian Accidents

From 2005 to 2007, 18 children were killed in pedestrian incidents in B.C., and in many of these fatalities, one or more driver behaviours were found to be contributory: driver error, inattention, impairment and excessive speed. "The safety of our children is a shared responsibility," said Kellie Kilpatrick, executive director of the CDRU. "Parents and caregivers need to know where their kids are. Drivers need to slow down and remember that children's behaviour is often unpredictable."

December 16, 2008: Coroner Issues Carbon Monoxide Warning

As temperatures dropped across the province, the BC Coroners Service and the Office of the Fire Commissioner reminded British Columbians of the dangers posed by some alternate heating and power sources. Portable camp stoves, barbecue grills or generators should never be used indoors, as these devices deplete oxygen and produce large amounts of carbon monoxide. In 2007, five people in B.C. died from carbon monoxide poisoning related to the use of gas-powered appliances.

Research

The BCCS is active in research, both within the organization and in collaboration with outside agencies. The purpose of this research is to inform and advance injury and death prevention. A database system implemented by the BCCS in 2006 has expanded the capacity for data collection and analysis.

Examples of research activities in 2008 include:

- Data on drownings and other water-incident fatalities was shared with the Water Incident Research Alliance, an organization that compiles and publishes information on Canadian water-related injury and death. WIRA is a non-profit alliance of members including the Canadian Red Cross, the Canadian Coast Guard, the Lifesaving Society, the National Search and Rescue Secretariat, and other stakeholders. Their website can be viewed at: www.waterincident.ca.

- Monthly illicit drug death statistics were shared with the Canadian Community Epidemiology Network on Drug use (CCENDU). CCENDU is a collaborative project involving federal, provincial and community agencies with interests in drug use, health and legal consequences of use, treatment and law enforcement. These reports allow real-time tracking of illicit drug deaths. The goals of CCENDU are: to facilitate the collection and dissemination of information on drug use at the local, provincial and national levels; to foster networking among key partners; to serve as an early warning system concerning emerging trends; and ultimately to support and encourage sound policy and program development related to drug use. Their webpage can be viewed at: www.ccsa.ca/Eng/Priorities/Research/CCENDU/Pages/default.aspx.

- The BCCS continues to provide the Traffic Injury Research Foundation of Canada (TIRF) with motor vehicle incident fatality data. TIRF has used data from the BCCS to research alcohol use related to motor vehicle fatalities since 1974. A fatality database is maintained for all provinces across Canada. This database provides a comprehensive source of objective data on alcohol use among persons fatally injured in motor vehicle accidents. This database provides a means of monitoring changes and trends and is a valuable tool for research on alcohol-impaired driving. More information can be found on their website at: www.tirf.ca.

5: Death Review Panels

What is a Death Review Panel?

The purpose of a Death Review Panel is to review the facts and circumstances of deaths, in order to provide advice to the Chief Coroner with respect to matters that may impact public health and safety and the prevention of deaths. Typically, a Death Review Panel is established following a series of deaths with similar circumstances, and for which there may be an opportunity for intervention to prevent further such deaths.

The *Coroners Act* outlines when a panel may be established in *Coroners Act* Section 49(1):

> *49(1) The chief coroner may, and at the direction of the minister must, establish panels to review the facts and circumstances of deaths, including child deaths, in British Columbia for the purposes of providing advice to the chief coroner respecting*
>
> > *(a) medical, legal, social welfare and other matters that may impact public health and safety, and*
> >
> > *(b) the prevention of deaths.*

The Death Review Panel Process

Once the Chief Coroner has decided to establish a panel, a chairperson and members are appointed. A panel typically consists of experts and advocates drawn from a variety of disciplines, including health, education, policing, judicial services, public health, social services, and professional bodies.

The panel meets for a period of two to three days to discuss the circumstances and preventability of the deaths, and to confirm trends, patterns or themes. A primary goal of the review panel process is to identify gaps in services and other opportunities for intervention that may prevent similar deaths in the future. Following the review, the panel may make recommendations pertaining to prevention of death and improvement of public safety. Members of the death review panel must not make any finding of legal responsibility or express any conclusion of law.

Following the review by the panel, the chair will report to the Chief Coroner any findings respecting the circumstances surrounding the deaths, and any recommendations respecting the prevention of similar deaths. Recommendations are then distributed by the Chief Coroner.

2008 Death Review Panels

There were three Deaths Review Panels held in 2008, on the topics of motorcycle fatalities, child and youth suicide, and deaths of aboriginal children. The reports produced by the panels are public documents and can be viewed on our website. The motorcycle fatality report will be posted in summer 2010.

The child and youth suicide report, titled *Looking for Something to Look Forward To: A Five-year Retrospective Review of Child and Youth Suicide in BC*, can be viewed at: www.pssg.gov.bc.ca/coroners/child-death-review/docs/cdru-suicidereportfull.pdf.

The aboriginal child death report, titled *Child Death Review Panel, Aboriginal Youth*, can be viewed at: www.pssg.gov.bc.ca/coroners/child-death-review/docs/death-review-panel-aboriginal-youth.pdf.

6: Inquests

The Inquest Process

When is an Inquest Held?

An inquest is a quasi-judicial hearing normally held in a public forum where witnesses are subpoenaed to testify under oath before a jury. There are several reasons to hold an inquest, which are outlined in the *Coroners Act* Sections 18(2), 18(3) and 19(1):

> *18(2) The chief coroner must direct a coroner to hold an inquest if the deceased person died in any of the circumstances described in section 3(2)(a) [deaths while in the custody of peace officers].*
>
> *18(3) The chief coroner may direct a coroner to hold an inquest if the chief coroner has reason to believe that*
>
> > *(a) the public has an interest in being informed of the circumstances surrounding the death, or*
> >
> > *(b) the death resulted from a dangerous practice or circumstance, and similar deaths could be prevented if recommendations were made to the public or an authority.*
>
> *19(1) The minister may order a coroner to hold an inquest if*
>
> > *(a) the coroner has not held an inquest but the minister is satisfied that it is necessary or desirable in the public interest that an inquest be held, or*
> >
> > *(b) an inquest has been held already in respect of a death but the minister is satisfied that a second inquest is necessary or desirable in the public interest.*

The Chief Coroner has established a committee consisting of the Chief Medical Advisor, the Deputy Chief Coroner and the Chief Counsel to review deaths and to provide advice regarding the exercise of the Chief Coroner's authority under Section 18(3).

Before an Inquest

Once it has been determined that an inquest will be held, the Presiding Coroner begins preparing for the inquest. Inquests are scheduled well in advance to ensure that witnesses, the venue and counsel are available. Other investigating agencies (e.g., WorkSafeBC, police) and interested persons are advised that an inquest is planned.

Once dates are confirmed, next of kin, counsel and other involved agencies are officially notified of the inquest.

The *Coroners Act* authorizes the Presiding Coroner to issue a summons to any person who, in the opinion of the Presiding Coroner, might be able to give material evidence on the matters to be inquired into at the inquest. The *Coroners Act* also allows those whose interests may be directly and substantially affected by the findings of the jury to participate in the inquest. These individuals may be granted participant status and may appear personally or by counsel, cross-examine and re-examine witnesses and, with permission, lead evidence and examine witnesses. Anyone wishing to participate in an inquest should apply to the Presiding Coroner in writing.

Prior to the inquest, copies of relevant materials as determined by the Presiding Coroner are made available to participants or their counsel. This material remains the property of the Coroners Service and must be returned at the conclusion of the inquest.

At an Inquest

The *Coroners Act* states that the inquest must inquire into and determine who the deceased was, in addition to how, when, where and by what means he or she died.

The sheriff summons the jury. If a juror must be excused or discharged during the inquest, the Presiding Coroner may proceed with the remaining jurors. If the inquest is being held into the death of a worker for whom Part I of the *Workers Compensation Act* applies, reasonable effort must be made to ensure all or part of the jury is composed of persons familiar with the type of work for which the deceased was employed. In addition to jurors, sheriffs, court reporters, witnesses, family of the deceased and members of the general public are also present at the inquest.

Inquest proceedings begin with the Presiding Coroner explaining the purpose of the inquest to the jury and the jury's responsibilities under the *Coroners Act*. The Presiding Coroner reviews applicable sections of the *Coroners Act* for the information of the jury, and Coroners Counsel gives a short summary of facts relating to the death. Jurors must be sworn in prior to the presentation of evidence. Witnesses are then called and examined by Coroners Counsel, participants and/or their counsel, the Presiding Coroner and members of the jury. Once all the evidence has been given, a summary is given to the jury by the Presiding Coroner. The jury prepares a verdict, which may be unanimous or by majority, and classifies the death. The verdict and findings must not make any finding of legal responsibility or express any conclusion of law.

A jury may also make recommendations, although the Coroners Act provides no legal authority to order implementation of recommendations. The Presiding Coroner submits

the jury's recommendations to the Chief Coroner for dissemination to appropriate people, agencies and government ministries. The jury's recommendations must be lawful, relevant and reasonable, with no finding of fault.

After an Inquest

The jury's findings and any recommendations are included in a public document entitled Verdict at Coroner's Inquest. The Presiding Coroner prepares this document after the inquest is closed. It includes the Presiding Coroner's comments, a brief overview of the circumstances of the death and the evidence presented that supports the jury's recommendations. Jury members are not permitted, at any time after the closing of the inquest, to discuss or reveal to anyone their deliberations, or the manner in which they reached their verdict.

2008 Coroners Inquests

There were 17 inquests held into 17 deaths in 2008. A complete copy of the jury's Verdict for each inquest will be available online in 2010. A schedule for upcoming inquests is available online at: www.pssg.gov.bc.ca/coroners/schedule/index.htm.

Table 36. Type of Death and Totals for Inquest Deaths (2008)

Type of Death	Deaths
Arrest: Lock-up	7
Arrest: No Lock-up	3
Police Shooting	4
Police Pursuit	1
Incarceration: Provincial Correctional Facility	1
Boating Incident	1
Total Number of Deaths	17
Total Number of Inquests	17
Total Number of Recommendations Distributed	269

Table 37. Number of Inquests and Deaths at Inquest, by Inquest Year (2002-2008)[22]

Year	2002	2003	2004	2005	2006	2007	2008
# Inquests	11	11	13	15	23	26	17
# Deaths	11	11	19	15	24	29	17

[22] *In 2004, 2006 and 2007 inquests were held for multiple fatalities.*

Table 38. Number of Deaths at Inquest by Classification of Death (2002-2008)

Classification	2002	2003	2004	2005	2006	2007	2008
Accident	5	6	11	7	11	19	12
Homicide	-	-	6	3	7	6	5
Suicide	1	5	-	2	6	-	-
Natural	5	-	1	3	-	1	-
Undetermined	-	-	1	-	-	3	-
Total	11	11	19	15	24	29	17

Table 39. Number of Deaths at Inquest by Gender (2002-2008)

Gender	2002	2003	2004	2005	2006	2007	2008
Male	11	10	14	14	19	24	16
Female	-	1	5	1	5	5	1
Total	11	11	19	15	24	29	17

Cause of death is reported as determined by the Inquest jury and listed on the Verdict at Inquest.

There is overlap between the categories of *Restraint associated/Excited delirium* and *Alcohol or drug related*. For example, in 2008 two of the cases with a Cause of Death of *Alcohol or drug related* also meet the criteria for *Restraint associated/Excited delirium*. The Cause of Death is determined at the juries' discretion, and is reported in only one category.

Table 40. Cause of Death for Inquest Deaths as Determined by Jury's Verdict (2004-2008)

Cause of Death	2004	2005	2006	2007	2008
Alcohol or drug related	1	4	5	5	7
Head injury	2	2	-	2	4
Gunshot wounds	6	5	4	3	4
Blunt force injury	-	1	4	4	1
Hanging	-	-	3	-	1
Restraint associated/Excited delirium	3	1	5	5	-
Drowning	5	-	-	1	-
Undetermined	-	-	-	2	-
Other	2	2	3	7	-
Total	19	15	24	29	17

Appendix I: Glossary

Autopsy: An examination of the body of a deceased person to determine the cause and manner of death and to evaluate any disease or injury that may be present.

Cause of Death: The immediate medical cause of death, e.g., head injury resulting from a motor vehicle accident, asphyxiation due to avalanche.

Classification of Death: All deaths are classified as one of the following:

> Accidental: Death due to unintentional or unexpected injury. It includes death resulting from complications reasonably attributed to the accident.
>
> Homicide: Death due to injury intentionally inflicted by the action of another person. Homicide is a neutral term that does not imply fault or blame.
>
> Natural: Death primarily resulting from a disease of the body and not resulting secondarily from injuries or abnormal environmental factors.
>
> Suicide: Death resulting from self-inflicted injury, with intent to cause death.
>
> Undetermined: Death which, because of insufficient evidence or inability to otherwise determine, cannot reasonably be classified as Natural, Accidental, Suicide or Homicide.

Coroner's Report: The coroner's official record of the identity of the deceased and how, when, where and by what means the deceased died. It is a public document that forms the official provincial record of the death. It may include recommendations to agencies to aid in prevention of future deaths.

Means of Death: The event responsible for the Cause of Death, e.g., motor vehicle incident resulting in a head injury, avalanche causing asphyxiation.

Natural-Expected Death: A death reported to the BCCS from the BC Vital Statistics Agency of someone who died of Natural and expected causes while under medical care. The family physician verifies the cause of death and completes the medical certificate of death.

Toxicology: The study of the adverse effects of chemicals on living organisms, particularly the symptoms, mechanisms, treatments and detection of the poisoning of people.

Verdict at Inquest: A summary of the jury's findings regarding how, when, where and by what means the deceased died. Recommendations made by the jury are also included in the Verdict at Inquest. The evidence presented at the inquest is summarized by the presiding coroner and is also included in the Verdict at Inquest. It is a public document that forms the official provincial record of the death.

Appendix II: List of Tables

Appendix III: List of Figures


BRITISH
COLUMBIA