

OFPS



SERVICE

EDUCATION

RESEARCH

Ontario Forensic Pathology Service



Annual Report
July 27, 2014 – July 26, 2015



On the cover:

The model for the OFPS is the self-sustaining cycle of “service, education and research” (sometimes called knowledge translation). The cover illustrates how these three pillars support the work of the OFPS to serve the forensic pathology needs of Ontario.

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CHIEF FORENSIC PATHOLOGIST'S REPORT

The OFPS has had another wonderful year of engagement and achievement! We have continued to perform high quality autopsies that provide facts and expert opinions behind sudden and unexpected deaths. We help solve these mysteries through medicolegal death investigation, using the subspecialty branch of medicine known as forensic pathology. The OFPS is committed to further developing forensic pathology, the foundation of modern medical death investigation, as a public service in Ontario and as a medical discipline in Canada.

The OFPS has come a long way since its inception by modernization of the Coroners Act in 2009. The past failures of the death investigation system are behind us. New challenges and opportunities have emerged, and an expanded role for forensic pathologists as coroners has been developed and embraced by the Government of Ontario and our main partner, the Office of the Chief Coroner. The integration of the unique perspective of forensic pathologists as coroners, as well as their training and experience have enriched the Ontario coroner's system. I am excited about my recent appointment as a Deputy Chief Coroner, which will help facilitate a deeper collaboration among pathologists and coroners. These steps will improve our service to the public, police, the Courts and the healthcare system. The death investigation system is committed to quality service and our entire team strives for continuous improvement.

I would like to highlight three areas of activity to illustrate our broader engagement in forensic pathology in Ontario and within the global community:

- The OFPS has become a global leader in capacity development in forensic medicine, in particular, strengthening forensic capacity in low- and middle-income countries. Over the past year, we have concentrated on Jamaica and Iraq. We are now training our second fellow from the West Indies and plan to train additional fellows who will

build forensic pathology in Jamaica from the ground up. This training is supported through the generosity of the The Raymond Chang Foundation and the family of the late Mr. Chang. We are also currently assisting our colleagues at the Medicolegal Directorate in Iraq by improving their capacity in autopsy pathology and injury interpretation in prisoners.

- The OFPS' provincial team, including scientific and administrative staff, pathologists, forensic pathologists and forensic pathologist-coroners, continue to seek the truth in their daily work. During the reporting period, the OFPS performed approximately 6,100 medicolegal autopsies to help families understand the deaths of their loved ones, and to assist the courts in administering justice. Through our partnership with the coroners, we supported a number of public health and safety activities and inquests. In addition, we continue to sustain the profession by training new forensic pathologists in Hamilton and Toronto. I'm pleased that one of our graduates, Dr. Michael D'Agostino, is the new Medical Director of the new Forensic Pathology Unit in Sault Ste. Marie.
- Together with our colleagues in the Office of the Chief Coroner and the Operational Services Branch, we have created a five-year strategic plan. The OFPS has developed an implementation plan, Our Plan 2, that builds on our successful beginnings and also aligns with the priorities of the Department of Laboratory Medicine and Pathobiology, the base of the University of Toronto's programs in forensic pathology. Our Plan 2 solidifies our integrated approach to service, education and research.

I look forward to next year when we will plan and host IAFS 2017, which will showcase our talents to the world! This is another platform through which we can engage, assist, learn and achieve.



A handwritten signature in black ink, appearing to read 'M. S. Pollanen'.

Michael S. Pollanen MD PhD
FRCPATH DMJ (Path) FRCPC

Founder, forensic pathology

Chief Forensic Pathologist and
Deputy Chief Coroner for Ontario

Director, Centre for Forensic
Science and Medicine

Professor, Department of
Laboratory Medicine and
Pathobiology, University of
Toronto

President, International
Association of Forensic Sciences
(IAFS), 2014-2017

ABOUT US

The OFPS provides forensic pathology services under the Coroners Act. The OFPS works closely with the Office of the Chief Coroner (OCC) to ensure a coordinated and collaborative approach to death investigation in the public interest. Together, the Chief Forensic Pathologist and Chief Coroner provide collaborative leadership for Ontario's death investigation system.

Pathologists are specialized medical doctors who have undertaken five years of additional training after medical school in pathology, the study of disease. Forensic pathologists have additional post-graduate training in forensic pathology, the application of medicine and science to legal issues, usually in the context of sudden death. Forensic pathology is the branch of medicine that underlies death investigations as recognized by the Royal College of Physicians and Surgeons of Canada, the National Academy of Sciences of the United States and other professional bodies.

Most deaths in Ontario are due to natural causes and do not require medicolegal investigation. However, deaths that are sudden and unexpected require investigation by a coroner. These include deaths from accidents, suicides, homicides, and sudden deaths from previously undiagnosed diseases.

When a coroner requires an autopsy to answer questions about a death, an autopsy is ordered from the OFPS. Of the approximately 15,000 deaths investigated by coroners annually, about 6,000 undergo medicolegal autopsy performed by pathologists working under the OFPS. These autopsies are conducted in Forensic Pathology Units and community hospitals across the province. In some of these cases, the death is considered to be "routine"

(e.g., sudden natural deaths and some accidents and suicides), while "complex" cases include homicides, criminally suspicious cases and pediatric deaths.

The OFPS and the OCC share a vision, mission and values.

Our **vision** is a high quality death investigation system for a safer and healthier Ontario.

Our **mission** is to provide high quality death investigation services that support the administration of justice, the prevention of premature death, and is responsive to Ontario's diverse needs.

Our **values** are:

Integrity.

We remember that the pursuit of truth, honesty and impartiality are the cornerstones of our work.

Responsiveness.

We embrace opportunities, change and innovation.

Excellence. We constantly strive for best practice and best quality.

Accountability.

We recognize the importance of our work and will accept responsibility for our actions.

Diversity.

We have a diverse team with different backgrounds, professional training and skills.

The OFPS applies these core values by embracing an independent and evidence-based approach that emphasizes the importance of thinking objectively in pursuit of the truth. The OFPS is committed to service, research

OUR LEGISLATION

and teaching.

The Coroners Act defines the roles and responsibilities of pathologists and coroners in death investigations and enhances the quality, organization and accountability of forensic pathology services. The Coroners Act:

- defines the OFPS as the unified system under which pathologists provide forensic pathology services, including autopsies
- defines the position of the Chief Forensic Pathologist as overseer of forensic pathology services
- defines the positions of the Deputy Chief Forensic Pathologist and pathologist
- requires a registry of pathologists accredited to perform medicolegal autopsies
- requires the Chief Forensic Pathologist to communicate with the College of Physicians and Surgeons of Ontario on any adverse findings related to competency and professionalism of a registered pathologist

Registered pathologists have legal authority under the Coroners Act to attend scenes and to order ancillary tests as required, pursuant to their duties.

OUR GOVERNANCE

The OFPS and the OCC are part of the Ministry of Community Safety and Correctional Services and are accountable to the Minister of Community Safety and Correctional Services, The Honourable Yasir Naqvi. The Deputy Minister of Community Safety and Correctional Services, Matthew Torigian, provides direction on administrative matters.

The Death Investigation Oversight Council (DIOC) ensures that death investigation services are provided in an effective and accountable manner. As an independent advisory agency, DIOC provides oversight of the OFPS and OCC, administers a public complaints process, and provides advice and recommendations to the Chief Coroner and Chief Forensic Pathologist. The current Chair is The Honourable Joseph C.M. James.

OUR STRUCTURE

Ontario Forensic Pathology Service (OFPS)

Under the Coroners Act, the Chief Forensic Pathologist administers and operates the OFPS. Specifically, the Chief Forensic Pathologist:

- supervises and directs pathologists in the provision of services
- conducts programs for the instruction of pathologists
- prepares, publishes and distributes a code of ethics
- maintains a register of pathologists authorized to provide services

The Deputy Chief Forensic Pathologist has all the powers and authorities of the Chief Forensic Pathologist in the event

the Chief Forensic Pathologist is absent or unable to act, or if the Chief Forensic Pathologist's position becomes vacant. The Deputy Chief Forensic Pathologist also supports the Chief Forensic Pathologist in the administration, oversight and quality management of the OFPS. Dr. Toby Rose has been the Deputy Chief Forensic Pathologist since 2011.

The head office of the OFPS is located at the Forensic Sciences and Coroner's Complex (FSCC) in northwestern Toronto with the Provincial Forensic Pathology Unit, the OCC, the Centre of Forensic Sciences (CFS) and the Office of the Fire Marshal and Emergency Management (OFMEM) to facilitate communication and professional collaboration. The OFPS and the OCC are supported by Operational Services. In 2015, **Martin Chicilo** joined the OFPS/OCC as the new Director to oversee quality and information management, business planning, financial control and communications.

Provincial Forensic Pathology Unit (PFPU)

The forensic pathologists of the Provincial Forensic Pathology Unit (PFPU) perform approximately 2,400 autopsies per year, mainly from the Greater Toronto Area. The PFPU, affiliated with the University of Toronto, is also the central referral facility for many complex autopsies from across the province, including homicides, skeletal remains and suspicious infant and child deaths. The Medical Director of the PFPU reports to the Chief Forensic Pathologist. Dr. Jayantha Herath is the Medical Director of the PFPU. The operation of the PFPU includes professional and technical roles in

addition to forensic pathologists. These include forensic anthropologists, pathologist assistants, technologists and imaging specialists, as well as administrative and management personnel.

Forensic Pathology Units

Forensic Pathology Units are located in university teaching hospitals in Hamilton, Kingston, London, Ottawa, Sault Ste. Marie and Sudbury. These units provide expertise in forensic pathology for approximately 2,500 routine and complex autopsies annually, including homicides and pediatric cases. The Ministry of Community Safety and Correctional Services, through the OFPS, provides funding to these units.



Martin Chicilo

Complex forensic autopsies are performed by qualified forensic pathologists, most of whom work at a Forensic Pathology Unit or at the Provincial Forensic Pathology Unit in Toronto. Some non-suspicious pediatric autopsies are performed at the Hospital for Sick Children in Toronto and the Children’s Hospital of Eastern Ontario in Ottawa. Perinatal autopsies are also performed at Mount Sinai Hospital in Toronto. Occasionally, pediatric forensic cases from Northwestern Ontario are transferred to Winnipeg for autopsy by pathologists registered in Ontario.

Community Hospitals

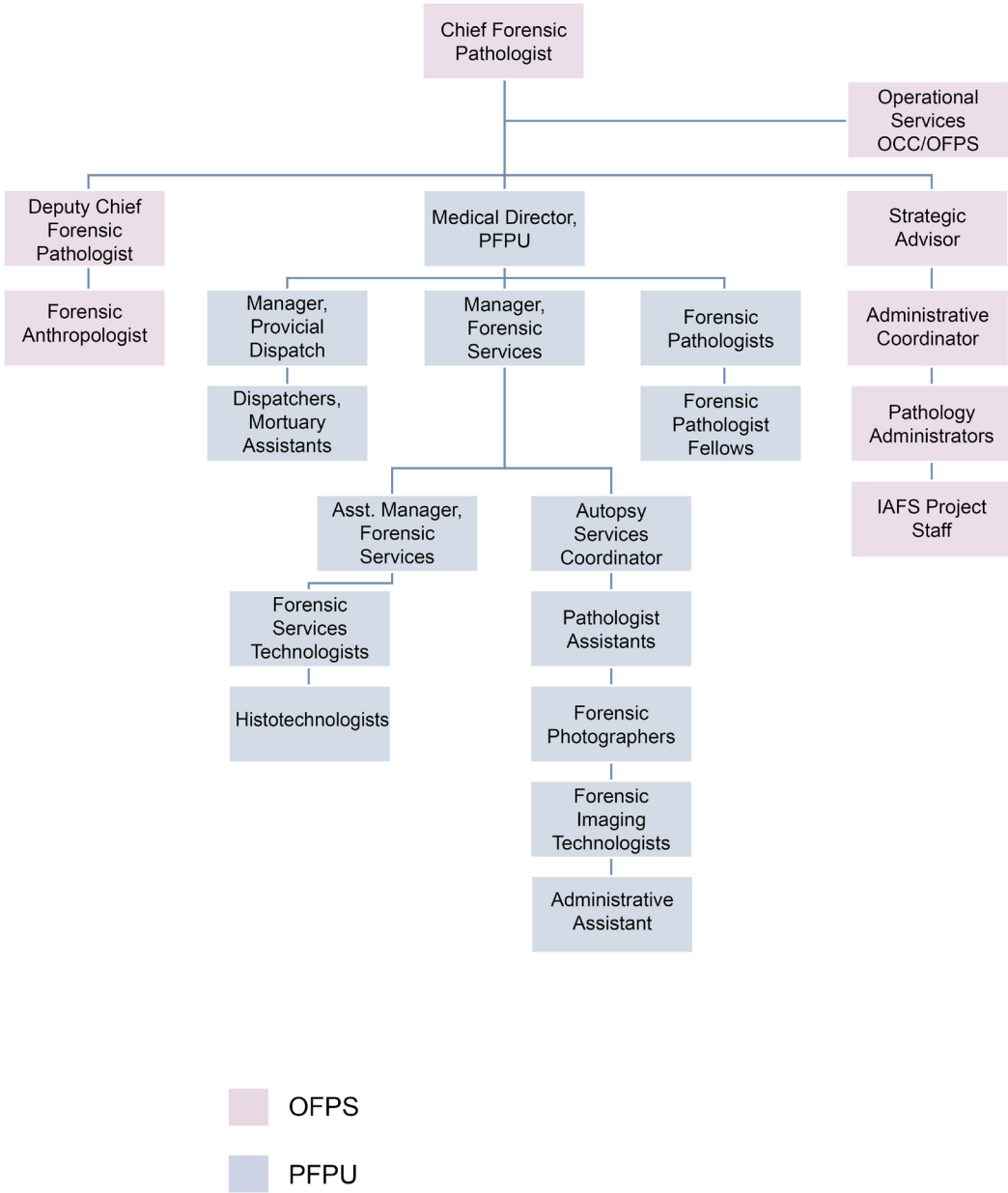
Pathologists working in 22 community hospitals support the work of the OFPS by conducting routine medicolegal autopsies in their facilities on a ‘fee-for-service’ basis.

OUR PARTNERS AND WORKING RELATIONSHIPS

Our major partners are the OCC, municipal and provincial police agencies, the Office of the Fire Marshal and Emergency Management, the Special Investigations Unit (SIU), the Centre for Forensic Sciences and the criminal justice system.

The OFPS also collaborates with universities on research, education and training. Furthermore, the OFPS provides services to organizations outside Ontario such as the federal Department of National Defence.

OFPS Directorate and Provincial Forensic Pathology Unit (PFPU) Organizational Model



OUR SERVICES

The OFPS provides a range of services in support of the death investigation, justice and health care systems.

1. Pre-autopsy consultations

Forensic pathologists consult with Regional Supervising Coroners to determine the appropriate location for an autopsy based on the complexity of a case and the skills of local pathologists.

Forensic pathologists work with Regional Supervising Coroners to facilitate organ and tissue donation through the Trillium Gift of Life in appropriate cases, in accordance with the wishes of the deceased and the family of the deceased.

2. Scene visits

Pathologists attend scenes to gain necessary information as part of a complete autopsy. Some forensic pathologists have been appointed as Coroners. These Forensic Pathologist-Coroners perform coroner's duties for suspicious deaths and homicides, including scene visits as well as certification of cause and manner of death.

In some cases, photographs, video recordings and other imaging techniques are used instead of the scene visit.

3. Autopsies

Pathologists conduct autopsies and observe, document and interpret findings to help determine cause of death. There are five steps to a medicolegal autopsy:

- review of case history, scene and circumstances
- external examination, including photographic documentation
- internal examination by dissection, including photographic documentation as indicated
- ancillary tests: may include imaging, histology, cardiovascular, neuropathology, anthropology and odontology consultations, toxicology, metabolic screening and DNA testing
- opinion and report writing

Most autopsies are performed under authority of an Ontario Coroner's Warrant. Forensic pathologists in the OFPS also provide autopsy services to other jurisdictions like Nunavut, as well as to the Department of National Defence for military personnel who die outside of Canada.

4. Consultations and expert opinions

Forensic pathologists and other consultants:

- participate in case conferences with other death investigation partners
- assist in identification of unidentified remains and missing persons
- provide consultations and expert opinions on complicated and "cold" cases from Ontario and other jurisdictions. These requests may come from police agencies, crown prosecutors, defence attorneys or the Criminal Conviction Review Group
- provide consultations and expert opinions on injuries on living individuals to assist with investigations

5. Testimony in trials and other hearings

Forensic pathologists and other consultants testify as expert witnesses at coroner's inquests, at all levels of court and at public inquiries. This contribution to the justice system is of the utmost importance to the public.

6. Collaboration with coroners

Forensic pathologists serve on OCC death review committees that have quality assurance and death prevention mandates:

- Maternal and Perinatal Death Review Committee
- Geriatric and Long-Term Care Review Committee
- Patient Safety Review Committee
- Paediatric Death Review Committee
- Deaths Under Five Committee

7. Special services

Special services are provided on request to other agencies, including international groups and non-governmental organizations. In cases of multiple fatalities, these services may include disaster victim identification or human rights death investigations.

OUR ACTIVITIES (July 27, 2014 – July 26, 2015)

Administration and Operation of the OFPS

Our Plan 2: 2015

Now in its sixth year, the OFPS has created the first joint five-year strategic plan with the OCC that sets out four priorities to guide the death investigation system in Ontario:

1. A sustainable and effectively resourced system: Provincial complement of highly qualified human resources, supported by modern processes, systems, infrastructure, and technology.
2. Effective, relevant and reliable services: System delivers effective and efficient investigation and certification of deaths, and high quality forensic medicine and autopsy services.
3. Leverage data, build knowledge and provide education: Robust data creates knowledge and drives education and innovation in death investigation and forensic medicine.
4. Improve the health and safety of Ontarians: Enhanced review mechanisms and stronger partnerships contribute to a safer and healthier Ontario.

The OFPS has also developed a supporting implementation plan to follow our successful start-up plan (Our Plan, 2009-2014) that responded to the Inquiry into Pediatric Forensic Pathology and amendments to the Coroners Act in 2009. The OFPS has addressed all the objectives outlined in our start-up plan to provide the basis for continued growth.

Our Plan 2 focuses on capacity development and sustainability, and establishes measurable objectives to

implement the four strategic priorities of the OFPS/OCC Plan.

Highlights of Our Plan 2 include:

- adding resources across the province including the North
- addressing the needs of First Nations and remote communities
- enhancing the provision of autopsies using imaging modalities
- expanding the role of Forensic Pathologist-Coroners at Forensic Pathology Units and for broader case types
- identifying human remains that are persistently unidentified
- maintaining residency training programs in forensic pathology
- maintaining training programs for less developed countries
- maintaining educational activities for pathologist assistants, police, physicians, lawyers and other learners
- encouraging peer-reviewed publications and presentations
- impacting public health and safety through tissue donation, molecular autopsy, multiple fatality planning, etc.

Forensic Pathology Advisory Committee

The Forensic Pathology Advisory Committee provides advice to the Chief Forensic Pathologist regarding professional medicolegal autopsy practices. This committee includes the Directors of the Forensic Pathology Units, the President of the Ontario Association of Pathologists and the Chief Coroner.

During the reporting period, the committee convened twice to discuss policy issues, including:

- strategic planning
- Forensic Pathologist-Coroner implementation
- transportation-related passenger fatalities

Forensic Services Advisory Committee

The Forensic Services Advisory Committee was created to strengthen the objectivity of the OFPS and to improve communication with key external stakeholders such as police, crowns and defense attorneys, who are represented on the committee. The committee meets as required to provide advice to the Chief Forensic Pathologist on topics that advance the quality and independence of medicolegal autopsies.

During the reporting period, the committee did not meet.

Registry of Pathologists

Under the Coroners Act, medicolegal autopsies may be performed only by pathologists who are appropriately credentialed and registered by the OFPS. On the basis of their qualifications, registered pathologists may be approved to perform:

- all medicolegal autopsies including homicide and criminally suspicious cases (Category A)
- routine cases only (Category B)
- non-suspicious pediatric cases only (Category C)

As of July 26, 2015, a total of 106 registered pathologists were active, including 34 Category A pathologists permitted to conduct all types of autopsies. These 34 pathologists are recognized as having additional experience, training and/or certification in forensic pathology.

The Credentialing Subcommittee of the Forensic Pathology Advisory Committee reviews applications and provides advice to the Chief Forensic Pathologist regarding acceptance and renewal to the register.

Pathologists are registered for a five-year term after which their appointments are considered for renewal. The Quality Team assembles data for review by the Credentialing Subcommittee, including:

- case load, cumulative over five years and year-by-year
- turnaround time for post-mortem examination reports
- peer review history
- complaints, incident reports and critical incidents, and remediation by the Chief Forensic Pathologist and by the College of Physicians and Surgeons of Ontario (CPSO), where applicable

The OFPS Register is available publicly through the Ministry's website at: http://www.mcscs.jus.gov.on.ca/english/DeathInvestigations/Pathology/PathologistsRegistry/pathologists_registry.html

Performance management of registered pathologists related to quality of medicolegal autopsies is the responsibility of the Chief Forensic Pathologist. When there is an issue of professional misconduct or incompetence, the Chief Forensic Pathologist is legislatively obligated to report any registered pathologist to the College of Physicians and Surgeons of Ontario.

Supervision and Direction of Pathologists

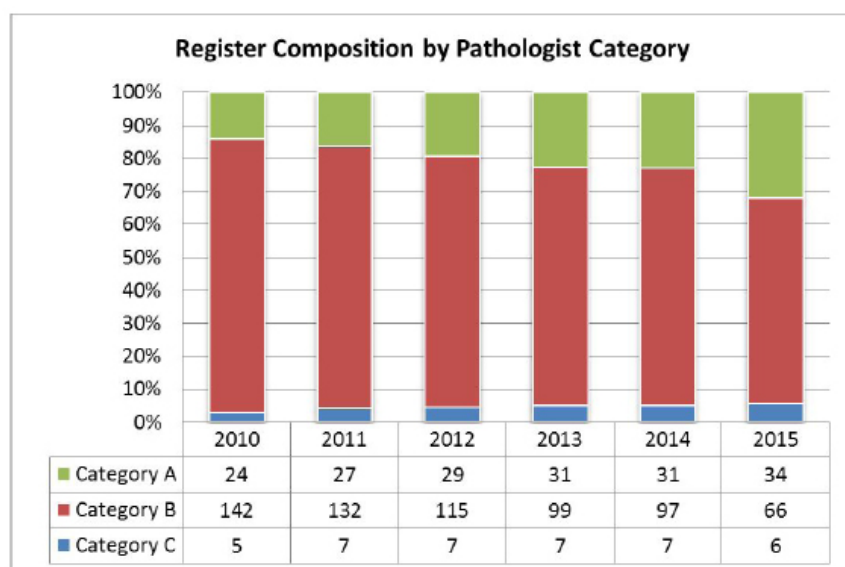
To promote consistent and high quality practices across Ontario and to assist registered pathologists in their work, the OFPS provides a Practice Manual and Toolkit, updated in 2014.

The Practice Manual includes the Code of Ethics, practice guidelines for medicolegal autopsies, and explanations of the peer review system and Register. Together, these documents provide the professional and policy foundation for the OFPS.

The Code of Ethics was adapted from the Forensic Pathology Section of the Canadian Association of Pathologists.

Pathology Information Management System (PIMS)

The OFPS uses the Pathology Information Management System (PIMS) to collect information about autopsies performed across Ontario. All registered pathologists contribute information to the system through the Post-mortem Examination (PME) record. This record, an electronic form used to capture high level data about autopsies, is completed and submitted to the OFPS directly after the autopsy. The record is reviewed daily by a senior forensic



Register Composition by Pathologist Category

pathologist to ensure that autopsies are done according to guidelines. The collected information is also used to evaluate resources, as well as to provide statistics about performance and quality. PIMS, in conjunction with the PME record, facilitates accountability and the oversight of autopsies by the Chief Forensic Pathologist.

Caseload Statistics

Caseload statistics are derived from Post-mortem Examination Records submitted during the reporting period.

Each OFPS case begins with a coroner's request for an autopsy by warrant to a pathologist. Autopsies on homicides, criminally suspicious and pediatric cases, deaths involving firearms and routine (non-suspicious) autopsies are performed in Forensic Pathology Units by appropriately qualified forensic pathologists. Some non-suspicious (medical type) autopsies of children are performed at pediatric sites. Routine autopsies are conducted in community hospitals. Eighty-two percent (82%) of all autopsies were performed in Forensic Pathology Units and pediatric sites, and 18% in community hospitals.

Chart 1 shows the distribution of autopsies captured in the system by OCC investigative regions.

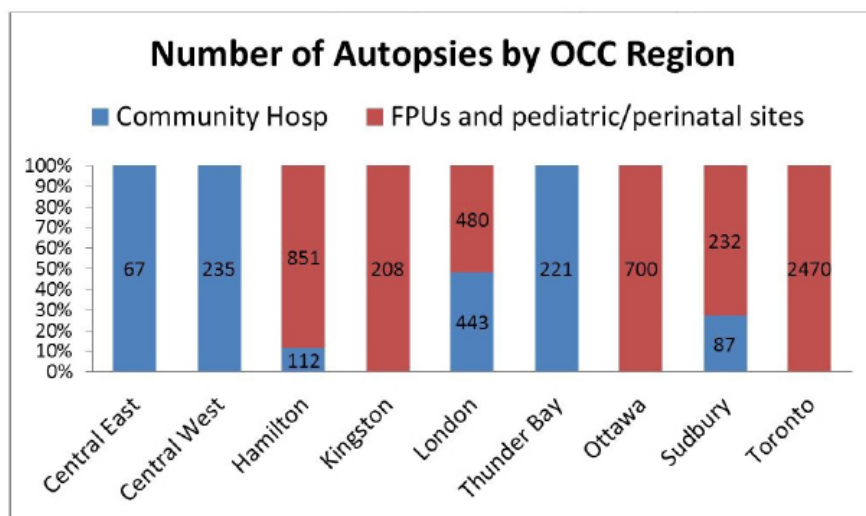


Chart 1: Distribution of Autopsies by OCC Investigative Region

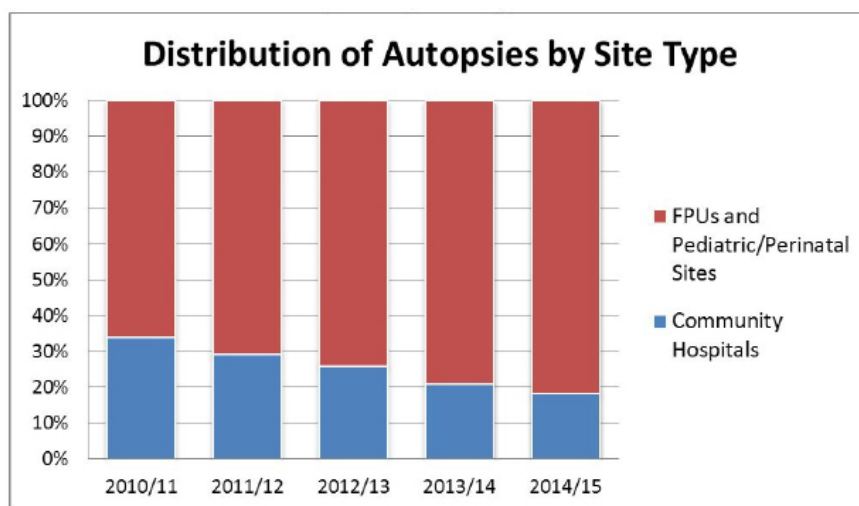


Chart 2: Distribution of Autopsies by Site Type

Pediatric cases stratified by age group and case type are shown in Chart 3.

Pediatric autopsies (for children 17 years of age or under) are often complex, requiring additional ancillary testing and/or consultation with other medical specialists. Pediatric autopsies of a criminally suspicious nature are all performed in Forensic Pathology Units.

Chart 4 provides the location of autopsies by case type as entered in PIMS. The category ‘sudden’ includes non-homicidal gunshot wounds, drug overdoses and others not specified in the available categories.

In some cases, the decision is made to limit an autopsy to an external examination after discussion between a forensic pathologist and a Regional Supervising Coroner, and where sufficient information can be obtained from a limited examination. There were 315 such cases performed in Forensic Pathology Units and eight in community hospitals. Forensic pathologists at the PFPU rely on imaging technology to inform their decisions about limited autopsies.

Quality Management

The OFPS has a robust quality assurance program comprised of the following:

- Pathologist Register
- practice guidelines, including standardized reporting templates and forms
- consultation in difficult or challenging cases
- collection of standardized case information through the Post-mortem Examination record
- peer review of all autopsy reports on homicide, criminally suspicious and SIU cases, and complex pediatric cases (deaths under five) prior to report distribution

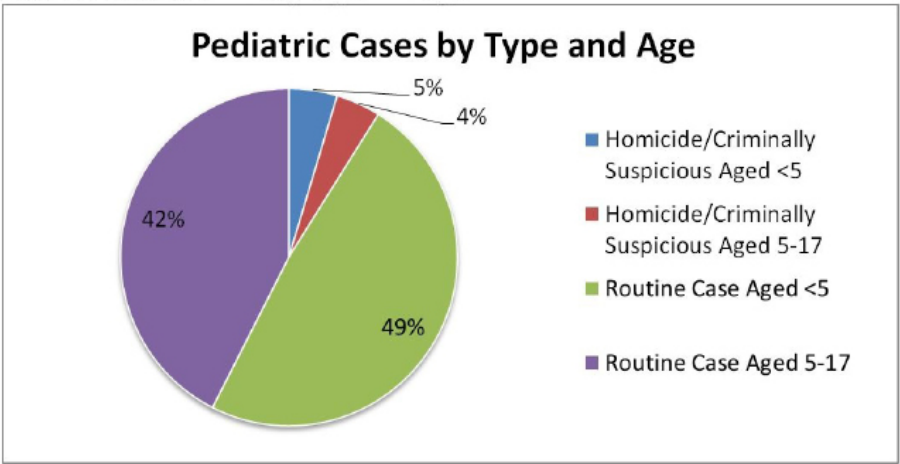


Chart 3: Pediatric Cases by Type and Age

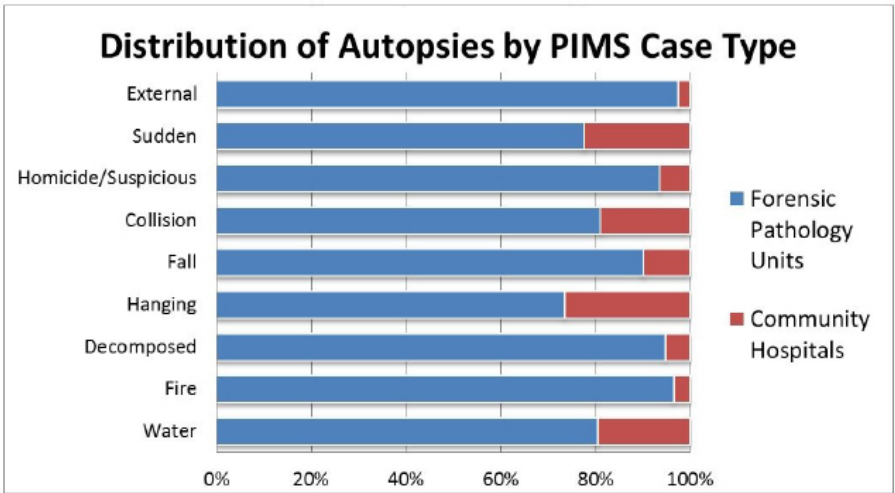


Chart 4: Distribution of Autopsies by PIMS Case Type

- audit of autopsy reports on routine cases
- peer review of courtroom testimony
- detection and follow-up of significant quality issues and critical incidents
- reporting of key performance indicators to clients and stakeholders
- tracking of complaints to ensure timely resolution and corrective action
- continuing medical education in forensic pathology to
 - maintain specialist competence as required by the Royal College of Physicians and Surgeons of Canada
 - address performance concerns

Peer Review of Autopsy Reports for Homicide, Criminally Suspicious, Pediatric and SIU Cases

196 autopsy reports were peer reviewed. On average, about 8.5 reviews were completed by each reviewing forensic pathologist. The average turnaround time for peer review was 5 days. The OFPS turnaround time standard for peer review is ten working days.

Peer Review of Courtroom Testimony by Forensic Pathologists

Forensic pathologists who testify submit one transcript of courtroom testimony each year for review by another forensic pathologist.

Courtroom testimony is assessed for:

- accuracy and evidence-base
- professionalism and objectivity
- clear language
- presentation of limitations, uncertainties and alternate hypotheses

No problems have been identified in courtroom testimony reviewed to date.

Audit of Autopsy Reports for Routine Cases

Autopsy reports for routine cases are audited for administrative and technical accuracy by Directors of Forensic Pathology Units. Reports from community hospitals are audited by the Chief Forensic Pathologist or designate.

The administrative audit focuses on completeness and adherence to guidelines. All community hospital reports undergo administrative audit and ten per cent of routine autopsy reports from Forensic Pathology Units undergo this type of audit.

The technical audit focuses on the content of the report to ensure that the approach, conclusions and opinions derived from the evidence are reasonable.

Technical audit is done for all reports that fall into the following categories:

- cases with an undetermined cause of death
- non-traumatic and non-toxicologic deaths of individuals younger than 40 years old
- reports from pathologists performing fewer than 20 autopsies per year

Key Performance Indicators

Key performance indicators for autopsy reports such as submission compliance, completeness, turnaround time and validity are collected from the administrative and technical reviews and reported.

Table 1 shows the indicator, the target outcome and overall performance for Forensic Pathology Unit and community hospital pathologists.

Table 1

Key Performance Indicators for Autopsy Reports	Target	Results	Compliance
Submission Compliance (PME Record)	100%	95%	approaching compliance
Completeness	95%	99%	good
Consistency	95%	99%	good
Turnaround Time (Routine)	90 days	Average= 92 days	good
Turnaround Time (Suspicious/Homicide)	90 days	*Average=108 days (145 days for homicides, 71 days for suspicious)	approaching compliance
Reports with Significant Issues (Forensic Pathology Units)	< 2%	0%	good
Reports with Significant Issues (Community Hospitals)	< 2%	1.39%	good
Critical Incidents	0	(21 amended reports requested out of 1506 audits)	good

*Turnaround time may be influenced by case complexity and availability of ancillary testing

Chart 5 illustrates completeness of autopsy reports in accordance with practice guidelines during the period April 1 – March 31 of each year as shown by Administrative Audit.

Pathologists in community hospitals are expected to follow the best practices set out in the Practice Manual. Pathologists are provided feedback from routine audits with the goal of improving report quality.

Note: community hospitals may use their own institutions' report templates, if they include the required template fields.

Chart 6 illustrates consistency of the content and opinion of autopsy reports as assessed by the reviewing pathologist during the period April 1 – March 31 of each year as shown by Technical Audit.

Significant Issues

Significant issues include substantial errors, omissions and other deficiencies.

A critical incident is a significant issue that contributes to a serious error in a death investigation. All critical incidents are analyzed to determine root cause and corrective action.

If the reviewing forensic pathologist detects a significant issue during the technical review, feedback is provided to the case pathologist. In 2015, no significant issues were detected in routine case reports from Forensic Pathology Unit pathologists, while 1.39% of reports from community hospital pathologists had significant issues.

The purpose of quality assurance is to improve the quality of autopsies and reports. When a significant issue is detected, the reviewing pathologist contacts the original pathologist directly to discuss the issues and recommend

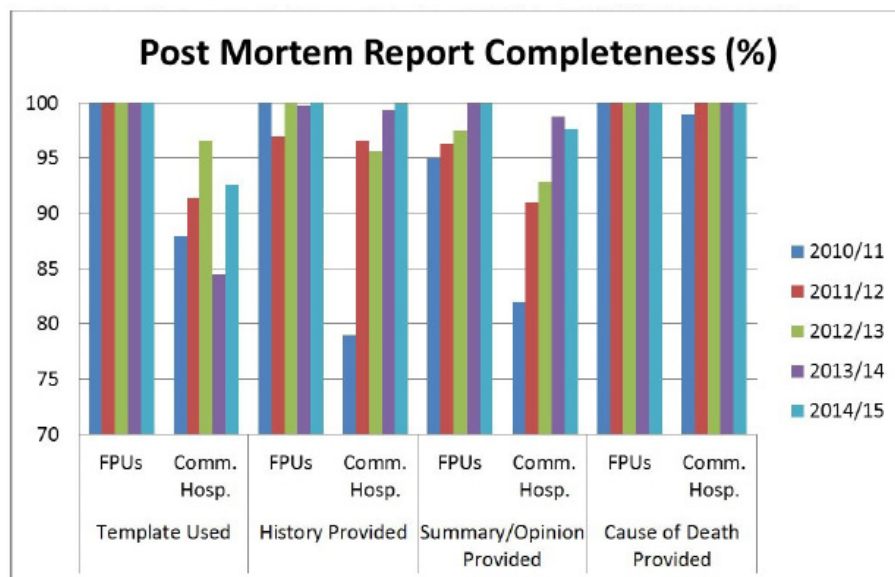


Chart 5: Completeness Measures as shown by Administrative Audit

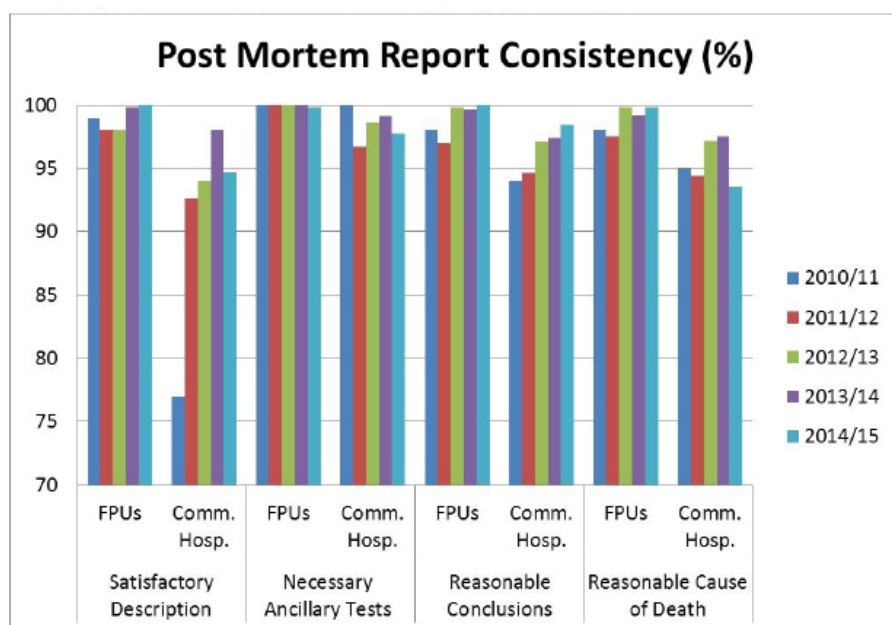


Chart 6: Consistency Measures as shown by Technical Audit

changes to the report. The continual improvement of autopsy practice and report writing is addressed by:

- continuing education events such as the Annual Education Course for Coroners and Pathologists and special workshops on autopsy practice
- 2014 Practice Manual for Pathologists and Toolkit, including synoptic reports, annotated autopsy report templates, and Chief Forensic Pathologist's Guidance with Case Examples

Turnaround Time

Timeliness of autopsy reports is a key performance indicator. Turnaround time is influenced by case complexity, return of ancillary test results, pathologist workload and staffing levels. The OFPS policy regarding turnaround time is:

- 90% of autopsy reports are to be completed within 90 days of the day of the post-mortem examination
- cases involving homicides, pediatric deaths, deaths in custody and those in which the coroner has requested that the report be prioritized (due to requests from family or other parties) are to be expedited as a matter of routine
- no more than ten per cent of cases should be greater than six months old. There must be a justifiable reason (e.g., delays caused by molecular autopsy for channelopathy) for delay in those cases

Chart 7 depicts the turnaround time for community hospital pathologists and forensic pathologists in Forensic Pathology Units. The longer turnaround time for forensic pathologists may be explained by the more complex nature of the autopsies performed.

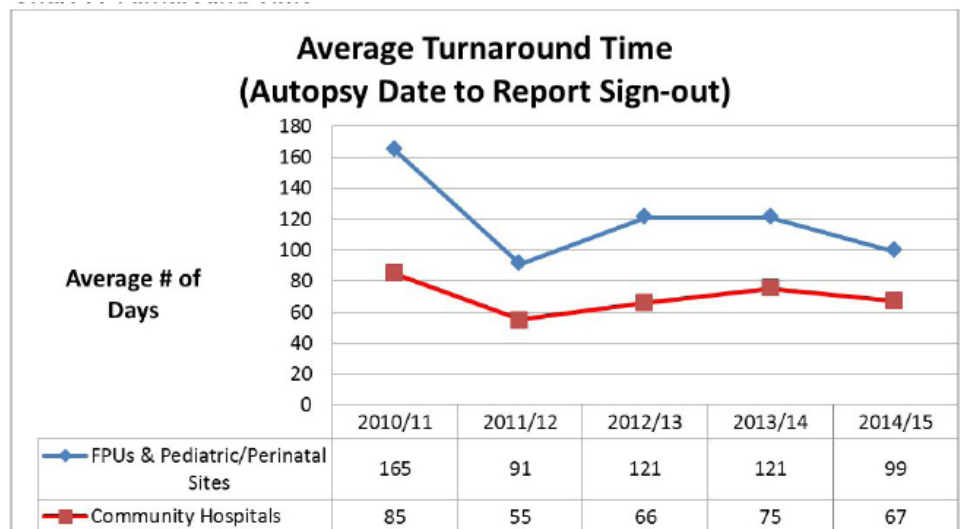


Chart 7: Turnaround Time

Clinical Forensic Medicine

At present, qualified expert opinions and testimony by forensic specialists are usually available only in cases of violent death. However, cases of serious assault with a surviving victim can often benefit from the review and interpretation of injuries by a forensic expert, and the expert's opinion can be useful to the criminal justice system. Forensic pathologists consult by reviewing medical records and digital photographs.

Forensic Anthropology

Forensic anthropologists are experts in the study of skeletal remains in the medicolegal context. Forensic anthropologists make an important contribution to death investigations where the remains are skeletonized, burned, decomposed, mutilated or otherwise unrecognizable. Forensic anthropologists act as part of the death investigation team, and as consultants to forensic pathologists. They help to plan for multiple fatality events and also identify found remains as non-human (animal) by examining digital photographs or the remains themselves.

One full-time forensic anthropologist, Dr. Kathy Gruspier, works in the OFPS along with several fee-for-service consultants.

Since 2005, the OFPS has worked with the OCC and the Missing Persons and Unidentified Bodies Unit of the Ontario Provincial Police (OPP) on the Resolve Initiative, adding information to a database and building profiles of unidentified human remains. Police services and members of the public

can access this information through a website. Possible matches can be confirmed by DNA comparison and other identification techniques. As a result, more than two dozen missing individuals have been identified and subsequently claimed by their families.

In 2012, Dr. Gruspier reviewed all unidentified bodies, updated information on many cases, and added additional cases to the database and website. One of the identifications that resulted from this effort was that of Peter Hester:

Peter Hester, a 32 year old Cree man, was last seen in a boat in James Bay in 1979. His missing person case was added to the Resolve database in 2013. That year, a weathered and old-appearing skull was found on the shore of James Bay near Moosonee. A forensic anthropologist determined that it came from a 32 to 71 year old male of Asian or First Nations ancestry. Radiocarbon analysis for evidence-based determination of post-mortem interval indicated that the person had lived some of his life between 1950 and 1963. When details of the remains were searched against the Resolve database, there were three possible matches. DNA comparison with Peter Hester's relatives confirmed that these were his remains. His family, who had never stopped searching for him, were finally able to hold a funeral.

Other Professional Consultants

The OFPS relies on the expert contributions of other professionals, including cardiovascular pathologists, neuropathologists, forensic odontologists, radiologists and a forensic entomologist.



Forensic Anthropologist Dr. Kathy Gruspier (centre), with Yolanda Nerkowski (left) and Taylor Gardner (right), Pathologist's Assistants

Histology

Histology is the preparation of microscope slides from tissues obtained at autopsies for examination by a pathologist. The number of slides prepared for each case varies with the type of case and the pathologist's preference.

Histology services are provided by laboratories at community hospitals and Forensic Pathology Units located in hospitals. At the Provincial Forensic Pathology Unit, two full-time histotechnologists are employed to process over 2000 tissue specimens each month.

Toxicology

Toxicological analysis of post-mortem samples is performed by scientists at the Centre of Forensic Sciences (CFS). In many cases, pathologists rely on the results and interpretive notes provided by toxicologists in coming to an opinion about the cause of death.

During the reporting period, toxicological analysis was requested in approximately 3500 death investigations. The average time to issue a toxicology report by the CFS was 43 days. In cases where toxicology was required, the autopsy reports were all issued within 90 days of receiving the toxicology reports.

The OFPS, OCC and CFS worked collaboratively to develop a rapid ("STAT") toxicology testing protocol for autopsy cases at the Provincial Forensic Pathology Unit. In cases of suspected or possible drug overdose, a preliminary toxicology report could be generated within 24 hours with a final report available within two weeks. A

pilot project involving 50 cases was conducted, the results of which are being prepared for publication.

Organ Retention

Much of our understanding of human disease has come from the examination of tissues and organs of deceased persons by pathologists. Pathologists may need to retain an organ for more detailed examination to determine the cause of death and/or whether other family members are at risk. For decades, retaining organs for testing after autopsy was standard practice, and this information was not always shared with bereaved families. Now, pathologists must seek approval to retain an organ. In addition, under Regulation 180 of the Coroners Act, families are routinely notified when an organ is retained and their wishes regarding final disposition of the organ are sought wherever possible.

To ensure transparency regarding past practices, the Chief Forensic Pathologist and Chief Coroner reached out to those who lost a family member in Ontario before June 14, 2010, resulting in a coroner's investigation and autopsy.

Amendments to Regulation 180 were publicly announced in June 2013 that provide for a longer retention period and central storage of organs retained before June 14, 2010. Since 2015, historically retained organs are stored at the Forensic Services and Coroner's Complex (FSCC).

Molecular Forensic Pathology

The OFPS provides high quality cardiovascular pathology services to investigate sudden cardiac death.

Young people who die suddenly may have a wide range of cardiovascular diseases, which may be genetic and have implications for their families and the health care system.

These cases undergo molecular autopsy, consisting of a detailed examination of the heart, ideally by a cardiovascular pathologist. In addition, tissue or blood, a source of DNA, is obtained at the post-mortem examination and is processed and banked at a Forensic Pathology Unit. When required, DNA may be sequenced to identify pathogenic mutations. With the results of a post-mortem examination and clinical investigation, DNA analysis can help define the underlying disease that caused death, facilitate screening in surviving family members and contribute prognostic information for affected relatives. The priority is to ensure families receive information regarding a potential genetic condition and options for referral.

Where families are referred for genetic follow-up, the specific testing of the banked DNA will usually be initiated by clinicians. Genetic testing could be initiated by the OFPS in certain circumstances: the genetic condition is well understood pathologically, e.g., cardiomyopathies or aortopathies; cases of serial deaths in a family; or a need for definitive diagnosis for medicolegal purposes. Families will still be referred for assessment, and reports will be available to families or the clinics.

Forensic Imaging

Pathologists at the Provincial Forensic Pathology Unit (PFPU) incorporate the findings of advanced post-mortem imaging modalities such as computed tomography (CT) and magnetic resonance (MR) imaging into their daily practice. Introduction of these techniques has resulted in targeted examinations, resulting in efficiencies and benefits to families.

Senior residents from the University of Toronto's Diagnostic Radiology Residency Program spend one month at the PFPU where they are integrated into daily service work. The residents learn about lethal injury and disease as well as changes in the body after death. They write reports on post-mortem CT and MRI scans, and are able to see pathologic lesions in a way that is not possible in the clinical setting.

Forensic Pathologists at the PFPU and senior Diagnostic Radiology faculty are designing and implementing a research framework to facilitate contributions to the forensic and radiologic literature.

Tissue Recovery for Donation

The OFPS and OCC are committed to facilitating and increasing the availability of tissue for transplantation through the Trillium Gift of Life Network (TGLN). The FSCC houses a dedicated Tissue Recovery Suite that is used exclusively for obtaining donor tissues including corneas, heart valves, skin and bones. After consent by the family, tissues are recovered by trained staff from TGLN and the OCC and OFPS.

For the reporting period, tissues have been recovered at the FSCC in 28

cases. Of these, 19 were multi-tissue recoveries in the Tissue Recovery Suite. The remaining nine cases were eye recoveries.

Consent Autopsies

In Ontario, it is often difficult for families to obtain answers about a loved-one's death when a medicolegal death investigation is not required. In the past, forensic pathologists have occasionally performed family-consent autopsies on request.

On this basis, the OFPS has undertaken a one-year pilot project with North York General Hospital and Toronto East General Hospital to assess the need for, and the resources required to support such a service at the Provincial Forensic Pathology Unit. This service is offered in cases of adult deaths that do not require a coroner's investigation and where the treating clinician or family have questions and the family consents to an autopsy.

OFPS-Based Education

Annual Education Course for Coroners and Pathologists

This two-and-a-half day course is offered jointly by the OCC and OFPS each autumn. This meeting qualifies as continuing education for the Maintenance of Certification program of the Royal College of Physicians and Surgeons of Canada.

The 2015 course was held from October 15 – 17 and was attended by 20 registered pathologists.

The topics covered included:

- fatal childhood motor vehicle injuries
- forensic neuropathology
- autopsy demonstration
- ethical issues in death investigation
- maternal, fetal and pediatric case studies

The Centre for Forensic Science and Medicine (CFSM) at the University of Toronto

The CFSM at the University of Toronto (U of T) is dedicated to the advancement of teaching and research in the forensic disciplines at the interfaces of medicine, the law and social sciences. The CFSM aims to contribute to the development of knowledge in these fields by drawing together a diverse group of practitioners and scholars. Presently, the Chief Forensic Pathologist holds the position of Director of the CFSM. Many of the forensic pathologists working in the OFPS are faculty for the CFSM's continuing educational programs.

The disciplines involved in the CFSM include law, forensic sciences, forensic pathology, forensic psychiatry and psychology, forensic anthropology, forensic odontology and forensic pediatrics. The CFSM is affiliated with the U of T's postgraduate residency and fellowship training program in forensic pathology, the Faculties of Medicine and Law, and the Forensic Sciences Program.

Continuing Education Events

With funding support from the ministry, the CFSM hosts continuing education events that bring national and international experts to U of T to discuss topics in forensics. The courses are attended by academics, those working

in forensic disciplines, other medical and legal professionals, and law enforcement practitioners. In 2015, the following courses were offered:

Contemporary Forensic Anthropology (January)

An international faculty discussed issues including aging of human remains, race estimation, Disaster Victim Identification and identification of “the missing” and undocumented immigrants.

Expert Forensic Evidence in Criminal Proceedings (January)

This joint program of the CFSM and Osgoode Professional Development involved a faculty of Crown attorneys, defence litigators, forensic experts and a judge. They discussed expert testimony, distinguishing between science and pseudo-science, experts in the media, and forensic pathology as a prototype for other forensic disciplines.

Modern Autopsy (February)

This workshop reviewed “the autopsy in medicine and law” as well as “the autopsy in special cases.”

Dr. Frederick Jaffe Memorial Lectureship

The CFSM created a special lecture series in memory of Dr. Frederick Jaffe, one of the first forensic pathologists in Canada. Dr. Jaffe authored a textbook, *Guide to Pathological Evidence*, which was used for many years by attorneys and judges. He was also the first director of a province-wide forensic medical service.

This year’s lecture on October 5, 2015, was given by Frederick R. Bieber, PhD, Medical Geneticist and Associate Professor of Pathology, Harvard Medical School, on the topic “Standing at the Crossroads of Science and Law: Forensics, Privacy, and Public Policy.”

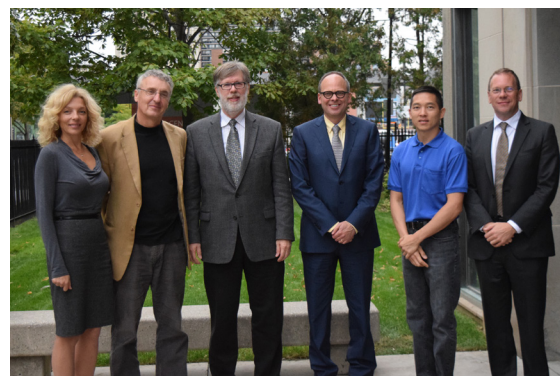
IAFS 2017

The Ministry of Community Safety and Correctional Services is pleased to host the 21st Triennial Meeting of the International Association of Forensic Sciences (IAFS) in Toronto from August 21 - 25, 2017.

The IAFS is a not-for-profit association governed by a council made up of its past presidents. It is the only worldwide association of academics and practicing professionals from various disciplines in forensic science. Its objectives are to develop forensic sciences, assist forensic scientists and others to exchange scientific and technical information, and organize triennial meetings.

The theme of the IAFS 2017 conference is “Inter-Professional Collaboration in Forensic Science.” It is expected to attract delegates practicing in the disciplines of forensic pathology and death investigation, forensic sciences, policing, and the legal and judicial systems.

To support IAFS 2017 planning, including scientific content and logistics, the ministry has established an Executive Governance Committee which receives input from international and multidisciplinary experts as well as a professional congress organizer, International



Dr. Frederick Jaffe Memorial Lecture:
(left to right) Iona Jaffe, Paul Jaffe,
Dr. Frederick Bieber, Dr. Richard Hegele,
Andrew Chang and Dr. Michael Pollanen



Conference Services (ICS) Ltd. The Sheraton Centre Toronto Hotel will be the main venue for IAFS 2017. Some pre-conference workshops will be held at the Forensic Services and Coroner's Complex.

As President of the IAFS for 2014-2017 and Chair of IAFS 2017, one of Dr. Pollanen's goals is to raise awareness of the need for capacity development in the forensic sciences to support human rights and justice, particularly in low- and middle-income countries.

The official website of the conference is: www.iafstoronto2017.com.

Training Canadian Forensic Pathologists

The Provincial Forensic Pathology Unit (PFPU), in partnership with the Forensic Pathology Residency Training Program at University of Toronto (U of T) and with funding support from the Ministry of Health and Long-term Care, has the first training program in Canada leading to certification in forensic pathology by the Royal College of Physicians and Surgeons of Canada (RCPSC). Since 2008, 13 pathologists have completed training, nine of whom are now working within the OFPS. One former trainee practices forensic pathology in Quebec. The Hamilton Forensic Pathology Unit also trains forensic pathology residents in partnership with McMaster University.

In July 2015, two new residents began their training in forensic pathology in the U of T program:

Brett Danielson MD received his Doctor of Medicine from the University of Manitoba in 2010. He completed his residency in Anatomical Pathology at U of T and passed the RCPSC examination in Anatomical Pathology in 2015.

Ingo von Both MD PhD completed his residency in Anatomical Pathology at the University of Cologne, Germany, followed by a PhD. He came to Toronto in 2000, where he was a Post-Doctoral Fellow at Mount Sinai Hospital and then a Research Associate at SickKids. In 2015, Ingo completed his residency in Anatomical Pathology at U of T and passed the RCPSC exam.



Dr. Brett Danielson



Dr. Ingo von Both

Clinical Fellows in Forensic Medicine

We are committed to developing global forensic medicine and have outreach activities and training collaborations with Jamaica, the Middle East, Sri Lanka, Chile and soon, Zambia. Since 2007, seven international fellows have trained in forensic pathology at the PFPU. Beginning in 2016, clinical fellows will be eligible to write the Royal College of Physician and Surgeons of Canada examination in Forensic Pathology, through the Subspecialty Examination Affiliate Program.

Some trainees will now benefit from the new G. Raymond Chang Forensic Pathology Fellowship through the University of Toronto's Department of Laboratory Medicine and Pathobiology. This is the first fund in the world that enables young physicians from the developing world to train and ultimately strengthen forensic capacity in their own countries. This fellowship will provide financial support to trainees whose countries may not be able to fund a year of training in Canada, particularly those from the West Indies.

The Raymond Chang Foundation is named for the late Toronto-based businessman and philanthropist who had a passion for adult education and was dedicated to improving opportunities where it was most needed. Born in Jamaica, Mr. Chang was a proud and active member of the Caribbean-Canadian community. He was appointed to the Order of Jamaica in 2011 and as an officer of the Order of Canada in 2014.

Raymond Chang understood the relevance of forensic pathology as a truth-seeking tool for justice. The Fellowship is a legacy that lives on through the dedication of his children, Andrew Chang and Brigette Chang-Addorisio. Their generosity and shared vision has ensured a sustainable fellowship training program at the University of Toronto.

Our current fellow, **Althea Neblett MBBS DM** is a native of Barbados, but has lived and worked in Jamaica for the last ten years. She received her MBBS in 2008 and completed her DM in Anatomical Pathology in 2014, both at the University of the West Indies. The first recipient of the G. Raymond Chang Forensic Pathology Fellowship, Dr. Neblett will return to Jamaica to be a pioneer of her generation of forensic pathologists.



(Left to right) Andrew Chang, Brigette Chang-Addorisio, Dr. Toby Rose, Dr. Althea Neblett



Raymond Chang



Dr. Althea Neblett

Recruitment of Forensic Pathologists

The capacity of the OFPS has been enhanced through the recent addition of talented new recruits:

Kona Williams MD FRCPC graduated from the University of Ottawa with a degree in Medicine in 2009. She pursued a residency in Anatomical Pathology at the University of Ottawa, followed by a residency in Forensic Pathology at the PFPU. Dr. Williams began working as a Forensic Pathologist at the Provincial Forensic Pathology Unit (PFPU) in January 2016.

Rebekah Jacques MD FRCPC graduated from Queen's University in Kingston with a Doctor of Medicine in 2009. She completed her residency in Anatomical Pathology at the University of Western Ontario, followed by a residency in Forensic Pathology at the PFPU. After working at the Hamilton Forensic Pathology Unit for a short time, she joined the PFPU in January 2016.

Forensic Pathology Units

Sault Ste. Marie Forensic Pathology Unit

In May 2015, the seventh Forensic Pathology Unit in the province opened in Sault Ste. Marie (SSM). The ministry is providing annual funding to the Sault Area Hospital to augment vital autopsy services in northeastern Ontario, including the City of Sault Ste. Marie and Algoma District. This increases the scope of medicolegal autopsy service that has been provided in the region over many years.

Dr. Michael D'Agostino, a graduate of the Provincial Forensic Pathology Unit – University of Toronto residency training program, is the Medical Director of the new unit. Sixty-two autopsies were performed in 2015, since the unit opened. The work is supported by two pathologist assistants, as well as hospital technical and administrative staff.

The unit teaches students from medical schools around the province and has hosted a Pathologist Assistant student from Western University for an elective rotation.

Eastern Ontario Regional Forensic Pathology Unit (Ottawa)

The Eastern Ontario Forensic Pathology Unit has four full-time forensic pathologists who performed approximately 700 medicolegal autopsies in 2014/2015, as well as autopsies for the Chief Coroner for Nunavut. All four forensic pathologists hold academic appointments at the University of Ottawa and teach in the Faculty of Law and to residents in Anatomical Pathology, as well as to residents at the University of Toronto.

Other activities of Ottawa forensic pathologists include:

- teaching to external partners, including the Canadian Police College
- presenting at provincial, national and international meetings, including the National Association of Medical Examiners (NAME), the American Academy of Forensic Sciences and the British Association in Forensic Medicine



Dr. Kona Williams



Dr. Rebekah Jacques



Sault Ste. Marie Forensic Pathology Unit

- participating in academic and professional activities:
 - Dr. Parai is Chair of the Forensic Pathology section of the Canadian Association of Pathologists (CAP) and the Chair elect of the Royal College Specialty Committee in Forensic Pathology
 - Dr. Kepron is a member of Deaths Under Five Committee of the Office of the Chief Coroner
 - Dr. Walker teaches at the University of West Indies in Jamaica
 - Dr. Milroy serves as Chair of and Dr. Kepron is a member of the Royal College Examiners Committee in Forensic Pathology
 - Dr. Milroy is associate editor of the Journal of Forensic and Legal Medicine and was guest editor for Academic Forensic Pathology in 2015

The first annual conference in Forensic and Pediatric Pathology, chaired by Drs. Walker and Kepron, took place in Ottawa in September 2015. This successful meeting included speakers from Australia and the U.S., as well as Ontario.

Hamilton Forensic Pathology Unit

The Hamilton Forensic Pathology Unit at the Hamilton Health Sciences Centre is affiliated with McMaster University. All four forensic pathologists hold academic appointments and teach residents in Anatomical and General Pathology, medical students and undergraduates.

The current pathology team is comprised of Dr. John Fernandes, Dr. Chitra Rao, Dr. Allison Edgecombe, Dr. Elena Bulakhtina and Dr. Vidhya Nair. In 2014/2015, approximately 850 medicolegal autopsies were performed.

In 2015, Dr. John Fernandes, Medical Director, assumed the role of Chief of the Hamilton Regional Laboratory Medicine Program.

The Hamilton FPU, in partnership with McMaster University, has a training program in Forensic Pathology. In July 2015, a new resident began training in forensic pathology in Hamilton:

Andreea Nistor MD graduated from medical school in Bucharest, Romania in 2002. She completed her residency in Anatomical Pathology at the University of Manitoba and passed the RCPSC examination in Anatomical Pathology in 2015.

Other academic pursuits include teaching residents in the McMaster University General and Anatomic Pathology programmes and undergraduate medical students from McMaster University. The staff continues to participate in the University of Toronto Forensic Sciences Program, and is responsible for the course FSC401 Forensic Pathology.



Eastern Ontario Regional Forensic Pathology Unit (Ottawa)



Hamilton Forensic Pathology Unit

Kingston Forensic Pathology Unit

The Kingston Forensic Pathology Unit at Kingston General Hospital is affiliated with Queen's University. In 2014/2015, about 200 medicolegal autopsies were performed.

Dr. Kris Cunningham has continued to play a role at the unit with monthly medicolegal work rounds, teaching to Queen's University Anatomical Pathology residents and undergraduate life science students, and consultations related to cardiovascular, surgical and autopsy pathology, and medicolegal autopsy issues.

Beginning in 2015, monthly medicolegal work rounds are now teleconferenced to Lindsay and Peterborough to allow participation by local coroners in these areas. This initiative is a collaboration between Regional Supervising Coroner Dr. Paul Dungey and Kingston FPU.

London Forensic Pathology Unit

The London Forensic Pathology Unit, serving southwestern Ontario, is based in the Department of Pathology and Laboratory Medicine at London Health Sciences Centre (University Hospital). In 2014/15, the Unit performed about 480 coroners' autopsies.

Dr. E. Tweedie continued to coordinate the forensic course offered in the Bachelor of Medical Sciences and Master of Clinical Sciences (MCISc) – Pathologists' Assistant (PA) programs at Western University.

Dr. E. Tugaleva is the Medical Director of the MCISc PA program and assists Dr. N. Chan, the Program Director. Enrolment in this two year program

has increased from four students to six. This year, the program was accredited for seven years by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). This program is one of only two accredited in Canada. Students' training has been enhanced by rotations at the Provincial Forensic Pathology Unit and at other sites, including hospitals in Toronto.

Dr. Shkrum has focussed on the hospital-consent autopsy service. He is addressing alignment of organ retention/disposition protocols with those for coroners' autopsies, development of quality assurance measures, improvements in the authorization form to ensure greater transparency for the next-of-kin, and orientation for clinical services.

Northeastern Regional Forensic Pathology Unit (Sudbury)

The Northeastern Regional Forensic Pathology Unit (NERFPU) of Health Sciences North in Sudbury is affiliated with Laurentian University and the Northern Ontario School of Medicine. In 2014/15, about 230 medicolegal autopsies were performed. With the retirement of Dr. Alex Steele, NERFPU has taken on medicolegal autopsies from the North Bay region.

In 2015, Dr. Bojana Mitrovic, an Anatomical Pathologist, joined to perform routine medicolegal autopsies as well as surgical pathology, which has significantly increased the capacity of the unit. In addition, a third Pathologist Assistant, Katie Greenall, was recruited from British Columbia.

Dr. Queen, Medical Director, remains on the Royal College of Physicians and Surgeons of Canada Examination Board in Forensic Pathology.



Kingston Forensic Pathology Unit



London Forensic Pathology Unit



Northeastern Regional Forensic Pathology Unit (Sudbury)

Provincial Coroner Dispatch

Provincial Dispatch is the single point of contact to notify any coroner in Ontario of a death that may require investigation. The computer-aided, centralized, 24/7 dispatch service, located at the Forensic Services and Coroner's Complex (FSCC), ensures that the right coroner is assigned to investigate each death while creating a digital record to capture case information in real time. The team of 14 dispatchers receives approximately 300 phone calls and makes 700 outgoing calls in each 24-hour period, resulting in coroners dispatched to over 20,000 cases per year.

Dispatchers also receive and release bodies for autopsies and storage at FSCC.

Provincial Coroner Dispatch staff are featured in photos at right.

Collaboration with the Victorian Institute of Forensic Medicine (VIFM) in Australia.

The Victorian Institute of Forensic Medicine (VIFM) in Melbourne, Australia, operates under the auspices of the Department of Justice and as the Department of Forensic Medicine at Monash University. The VIFM provides forensic medical and scientific services to the Australian justice system and works with international organizations, including the International Committee of the Red Cross, the World Health Organisation and agencies of the United Nations.

The OFPS, the Provincial Forensic Pathology Unit (PFPU) and the VIFM collaborate in teaching, quality assurance and exchange of best practices. Some autopsy reports written by the Chief Forensic Pathologist for Ontario are



(Left to right) Tanya Hatton, Daniel Franey (missing Renato Tanel)



(Left to right) Julie Crowe, Jason Campitelli, Debra Wells



(Left to right) Stephanie Skirrow, David Todd, Jessica Naumovski, Tiffany Monk



Noelle Kelly



(Left to right) Tara Dadgostari, Lesley-Anne Westby, Lyndsey MacEwen



Ron Littlejohn

peer reviewed by VIFM forensic pathologists.

In 2015, Dr. Michael Pickup, Forensic Pathologist, PFPU, spent six weeks at the VIFM learning from their long experience with diagnostic imaging for medicolegal autopsies.

Forensic Pathologist-Coroners

In 2013, the Ontario Government directed forensic pathologists to be appointed as coroners for cases of suspicious death or homicide, ensuring the public and the courts benefit from their expertise throughout death investigations. In these cases, the forensic pathologist appointed as coroner will be responsible for identification, the completion of all required documentation, family communication, post-mortem examination, the Report of the Post-mortem Examination, the Coroner's Investigation Statement and the Medical Certificate of Death. The model promotes collaboration among all coroners, including attending scenes together and sharing ideas and perspectives to support professional development.

Implementation began in 2014, with forensic pathologists at the Provincial Forensic Pathology Unit in Toronto appointed as coroners. The first phase involves criminally suspicious and homicide cases investigated by the Toronto Police Service (TPS). During this report period, Forensic Pathologist-Coroners have been involved with 51 death investigations.

The next regions to have Forensic Pathologist-Coroners introduced will be Ottawa and Sault Ste. Marie in 2016.

International Assistance and Capacity Development

Ontario has a history of providing leadership and support to international Disaster Victim Identification missions. These humanitarian missions are assembled following natural or human-caused disasters where help is needed to identify victims. The OFPS has participated internationally with Interpol, the International Committee of the Red Cross (ICRC), the Federal Bureau of Investigation and other experts from the forensic community.

Some nations do not have a robust system of forensic medicine to uphold human rights and justice. Dr. Pollanen, in his roles as the Chief Forensic Pathologist and the Program Director of the Centre for Forensic Science and Medicine, has worked to build forensic medicine capacity and support human rights investigations in areas like the Middle East, South Asia, Africa and the Caribbean. Some of this work has involved United Nations agencies and the International Criminal Court, as well as the ICRC. In 2015, Dr. Pollanen visited the Medico Legal Directorate in Baghdad, Iraq as a consulting forensic pathologist and visiting professor. Future partnerships may include Central America and China.

In 2015, the Provincial Forensic Pathology Unit (PFPU) hosted a number of international guests and observers:

- **Dr. Judith Mowatt, Dr. Canute Thompson, Mr. Floyd Corrie and Mr. Mark Davis**, Institute for Forensic Science and Legal Medicine (IFSLM) and Government of Jamaica
- **Dr. Rexson Tse**, Newcastle Department of Forensic Medicine New South Wales, Australia



Dr. Pollanen with medical students from the University of Baghdad, Iraq



(Left to right) Dr. Mustafa Rasool, Medico Legal Directorate, Baghdad, Iraq; Dr. Pollanen; Dr. Soledad Martinez, Servicio Medico Legal, Chile; Claudia Garrido Varas, Forensic Advisor, International Committee of the Red Cross

- **Dr. Asser Hedegard Thomsen**, Department of Forensic Pathology, Aarhus, Denmark
- **Dr. Daniele Losada**, Campinas University, Brazil
- **Magistrate Hugh Dillon**, Deputy State Coroner, New South Wales Australia
- **Professor Roger Byard**, University of Adelaide, Australia
- **Mr. Luis Fondebinder**, Argentine Forensic Anthropology Team
- **Dra. Semma Villanueva, Dr. Mario Garcia and Dr. Ismael Raudales**, Centro de Ciencias Forenses, Honduras
- **Dr. Vidija Soerdjbalie-Maikoe**, Netherlands Forensic Institute, Netherlands
- **Professor Gert Saayman**, University of Pretoria, South Africa
- **Dr Allan Cala**, NSW Institute of Forensic Medicine, Newcastle, Australia
- **Dr. Zaid Ali Abbas Al-Yousif and Dr. Amir Jameel Hamuod**, Medico Legal Directorate, Baghdad, Iraq
- **Dr. Isabel Brouwer and Mr. Rob Cluny**, Department of Forensic Medicine, Sydney, Australia
- **Dr. Sarbar Napaki**, Pathologist, Doha, Qatar
- **Ms. Bibi Sangha**, Flinders University, Australia and **Dr. Robert Moles**

In 2015, the PFPU entered into a Memorandum of Understanding with the Institute for Forensic Science and Legal Medicine, Ministry of National Security, Jamaica to support professional development in forensics. The PFPU will host forensic pathologist trainees, pathologist assistants, administrators and others from IFSLM as observers to promote best practices in forensic medicine.

Professional Activities and Outreach

Registered pathologists and forensic consultants enrich the practice of forensic science and medicine by participating in provincial, national and international professional organizations such as the Ontario Association of Pathologists, Canadian Association of Pathologists, National Association of Medical Examiners, Canadian Society of Forensic Sciences, American Academy of Forensic Sciences, the International Association of Forensic Sciences and other organizations.

OFPS forensic pathologists participate in activities of the Royal College of Physicians and Surgeons of Canada that focus on the promotion and accreditation of forensic pathology and anatomical pathology in Canada.

This past year, OFPS pathologists lectured and delivered courses to audiences that included forensic pathologists and scientists, other medical practitioners, the judiciary, lawyers, police, advocacy groups and others.

OFPS pathologists serve as members of editorial boards of international peer-reviewed forensic journals, and act as reviewers for other specialist journals.

Scholarly Activities

Teaching

Most forensic pathologists and forensic consultants hold academic appointments at their respective universities. They teach undergraduate and graduate

forensic science students, medical students, pathologist assistant and physician assistant students, dentists, nurses, medical artists, law students, medical imaging residents, and pathology and forensic pathology residents. Forensic Pathology Units also host many medical students and pathology residents from Canadian universities and elsewhere.

Forensic pathologists also act as visiting faculty to foreign universities.

Research

Forensic pathologists contribute to and support research aimed at understanding causes of sudden death and improving public safety.

Dr. Mike Shkrum, Medical Director of the London Forensic Pathology Unit, performs research into injuries resulting from motor vehicle crashes:

- Director and Principal Investigator, Motor Vehicle Safety (MOVES) Research Team, funded by Transport Canada
- Co-Principal Investigator with Dr. A. Howard, Fatal Child Injuries in Real World Crashes. Network Centres of Excellence, Automobile of the 21st Century (AUTO21). Supervisor of MSc student S. Shekari. Successful thesis defence Association of Head and Cervical Spine Injuries in Pediatric Occupants Involved in Motor Vehicle Collisions, 2014
- Principal Investigator, Causes of Fatal Motor Vehicle Collisions in Southwestern Ontario (MOVES Research Team). Supervisor of MSc student, J. Roos

- Co-Principal Investigator with Dr. D. Fraser, Protecting Children: A Multidisciplinary Team Approach to Prevent Rear Occupant Motor Vehicle Crash-Related Injuries. Children's Health Foundation (CHF), London Health Sciences Centre

Dr. Elena Tugaleva and Dr. Mike Shkrum are co-supervisors of MSc candidate A. Evetts, Department of Pathology, Schulich School of Medicine, Western University, who is researching organ weights and measures in infants aged one month to one year investigated by the OCC.

Papers Published by OFPS-Affiliated Staff Working in Forensic Pathology Units

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2. Cohen MC, Ramsay DA. Commentary on "Shaken Baby Syndrome" and Forensic Pathology. *Forensic Sci Med Pathol* 10, 244-245, 2014.
3. Daniels J, Lytwyn A, Li J, Hamid J, Hoppe F, Fernandes JR. Benford's law for quality assurance in forensic pathology manner of death reporting. In press with BMJ.
4. Del Bigio MR, Miller A, Herath JC: Lymphocytic hypophysitis: a single centre experience of 11 Cases. Presented in the Platform Session of the 90th Annual Meeting of the American Association of Neuropathologists, Inc. June 12-15, 2014 at Portland, Oregon and abstract published in *J Neuropathol Exp Neurol*, Vol. 73, No. 6, June 2014. pp. 585-638.
5. Herath JC, Kalikias S, Phillips SM, Del Bigio MR. Traumatic and other non-natural childhood deaths in Manitoba, Canada: A retrospective autopsy analysis (1989-2010). *Can J Public Health* 2014;105(2):e103-e108.
6. Kepron C, Pollanen MS. Rickets or abuse? A histologic comparison of rickets and child abuse-related fractures. *Forensic Sci Med Pathol* 2015; 11(1):78-87.
7. Kitulwatte ID, Kim PJ, Pollanen MS. Acute hemorrhagic leukoencephalomyelitis in a man with viral myocarditis. *Forensic Sci Med Pathol*. 2015 Sep;11(3):416-20.
8. Kitulwatte ID, Pollanen MS. A Comparative Study of Coronary Atherosclerosis in Young and Old. *Am J Forensic Med Pathol*. 2015 Dec;36(4):323-6.
9. Kocovski L, Fernandes JR. Sudden cardiac death, a modern pathology approach to hypertrophic cardiomyopathy. *Archives of Pathology & Laboratory Medicine*: 2015; 139(3):413-416.
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Goals for Next Year

The OFPS plans to continue to:

- expand involvement of Forensic Pathologist-Coroners in cases of homicides and criminally suspicious deaths
- implement the strategic objectives of Our Plan 2
- plan the 21st Triennial Meeting of the International Association of Forensic Sciences in Toronto in August 2017

OUR PEOPLE (as of February 2016)



OFPS Directorate

Michael POLLANEN
Toby ROSE
Kathy GRUSPIER
Effie WALDIE
Natasha DESJARDINS
Cathy ARABANIAN
Lori BRADSHAW
Judith DE SOUZA
Rosa VIOLILLO
James PARRY
My Phuong PHAM

Chief Forensic Pathologist
Deputy Chief Forensic Pathologist
Forensic Anthropologist
Strategic Advisor
A/Administrative Coordinator to the CFP
Pathology Administrator
Pathology Administrator
Pathology Administrator
Pathology Administrator
Project Manager, IAFS 2017
Project Assistant, IAFS 2017

Operational Services

Martin CHICILLO
Saira SEQUEIRA
Cathy DOEHLER
Amanda ANTENUCCI
Lisa PERRI
Scott PIMENTEL
Andrew STEPHEN
Nadia UDDIN
Rayo SATTHA
Ramona BHAGWANDIN
Maxine COOMBS
Alice GONSALVES
Yasmin NOWSHERWANJI
Vicki STAMML
Laura DONALDSON
Sohan ALAM
Nick MAMMOLITI
Diane SAMUEL
Anna TORRIANO
Cheryl MAHYR
Reed CARROLL

Director, Operational Services
Executive Assistant
A/Manager, Quality & Information Management
A/Quality Analyst
Quality & Information Management Analyst
Systems Officer
Information Management Lead
Lead, Business and Technology Solutions
Manager, Business Services
Program Assistant
Office Services Coordinator
Office Services Coordinator
Office Services Coordinator
Office Services Coordinator
Manager, Business Planning & Controllershship
Junior Financial Business Analyst
A/Financial Officer
Financial Analyst
Financial Officer
Issues Manager
Manager, Security and Facilities Management

Provincial Forensic Pathology Unit

Jayantha HERATH
Kris CUNNINGHAM
Maggie BELLIS
Rebekah JACQUES
Anita LAL
Noel MCAULIFFE
Michael PICKUP
Ashwyn RAJAGOPALAN
Kona WILLIAMS
Brett DANIELSON
Althea NEBLETT
Ingo VON BOTH

Medical Director and Forensic Pathologist
Forensic Pathologist/Cardiovascular Pathologist
Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Forensic Pathology Fellow
Forensic Pathology Fellow
Forensic Pathology Fellow

Secret Santa 2015



Jeffrey ARNOLD	Manager, Forensic Services
Amber MANOCCHIO	Assistant Manager, Forensic Services
Bonita ANDERS	A/Assistant Manager, Forensic Services
Lucy COSTA	Administrative Assistant
Jennifer CLEMENT	Forensic Imaging Technologist
Becky JACOB	A/Forensic Imaging Technologist
Julia PRENTICE	A/Forensic Imaging Technologist
Dawn THORPE	Forensic Imaging Technologist
Miguel ARIAS	Coordinator, Autopsy Services
Meredith BERGGREN	A/Forensic Pathologist's Assistant
Jessie COTTON	Forensic Pathologist's Assistant
Gillian CURRIE	A/Forensic Pathologist's Assistant
Maureen CURRIE	Forensic Pathologist's Assistant
Shelby DEAN	A/Forensic Pathologist's Assistant
Taylor GARDNER	Forensic Pathologist's Assistant
Terry IRVINE	Forensic Pathologist's Assistant
Sarah JAMES	A/Forensic Pathologist's Assistant
Konstantin KRUTIKOV	A/Forensic Pathologist's Assistant
Nancy LIU	A/Forensic Pathologist's Assistant
Guiseppe MENDIZABAL ARBOCCO	A/Forensic Pathologist's Assistant
Tiffany MONK	Forensic Pathologist's Assistant
Yolanda NERKOWSKI	Forensic Pathologist's Assistant
Irina SHIPILOVA	Forensic Pathologist's Assistant
David LARRAGUIBEL	Forensic Photography Technologist
Vi-Chi TRAN	Forensic Photography Technologist
Amanda (Amy) FONG	Histotechnologist
Christiane GUILLEMETTE	Histotechnologist
Zhanna KONOVALOVA	A/Forensic Services Technologist
Solange MALHOTRA	A/Forensic Services Technologist
Vincenzo PACHECO	A/Forensic Services Technologist
Stephanie SANTANGELO	A/Forensic Services Technologist
Sonja STADLER	Forensic Services Technologist
Michelle WATSON	Forensic Services Technologist
Joanne WHITNEY	Manager, Dispatch Services
Jason CAMPITELLI	Dispatch/Morgue Attendant
Julie CROWE	Dispatch/Morgue Attendant
Tara DADGOSTARI	Dispatch/Morgue Attendant
Daniel FRANEY	Dispatch/Morgue Attendant
Tanya HATTON	Dispatch/Morgue Attendant
Noelle KELLY	Dispatch/Morgue Attendant
Ron LITTLEJOHN	Dispatch/Morgue Attendant
Lyndsey MACEWEN	A/Dispatch/Morgue Attendant
Jessica NAUMOVSKI	Dispatch/Morgue Attendant
Stephanie SKIRROW	Dispatch/Morgue Attendant
Renato TANEL	Dispatch/Morgue Attendant
David TODD	Dispatch/Morgue Attendant
Debra WELLS	Dispatch/Morgue Attendant
Lesley-Anne WESTBY	Dispatch/Morgue Attendant
Renee KOSALKA	Forensic Anthropologist
Greg OLSON	Forensic Anthropologist
Murray PEARSON	Forensic Odontologist
Bob WOOD	Forensic Odontologist
D'Arcy LITTLE	Forensic Radiologist
Sherah VANLAERHOVEN	Forensic Entomologist



William HALLIDAY	Neuropathologist
Lili HAZRATI	Neuropathologist
Julia KEITH	Neuropathologist
David RAMSAY	Neuropathologist

Hamilton Forensic Pathology Unit

John FERNANDES	Medical Director and Forensic Pathologist
Elena BULAKHTINA	Forensic Pathologist
Allison EDGECOMBE	Forensic Pathologist
Chitra RAO	Forensic Pathologist
Vidhya NAIR	Cardiovascular Pathologist
Boleslaw LACH	Neuropathologist
John PROVIAS	Neuropathologist
Tracy ROGERS	Forensic Anthropologist
Ross BARLOW	Forensic Odontologist
Murray PEARSON	Forensic Odontologist
Danny POGODA	Forensic Odontologist
John THOMPSON	Forensic Odontologist

London Forensic Pathology Unit

Michael SHKRUM	Medical Director and Forensic Pathologist
Elena TUGALEVA	Forensic Pathologist
Edward TWEEDIE	Forensic Pathologist
Christopher ARMSTRONG	Pathologist
Nancy CHAN	Pathologist
Manal GABRIL	Pathologist
Bertha GARCIA	Pathologist
Aaron HAIG	Pathologist
Christopher HOWLETT	Pathologist
Jeremy PARFITT	Pathologist
Joanna WALSH	Pathologist
Lee-Cyn ANG	Neuropathologist
Robert HAMMOND	Neuropathologist
David RAMSAY	Neuropathologist
Mike SPENCE	Forensic Anthropologist
Mark DARLING	Forensic Odontologist
Stanley KOGON	Forensic Odontologist
Thomas MARA	Forensic Odontologist

Eastern Ontario Forensic Pathology Unit

Christopher MILROY	Medical Director and Forensic Pathologist
Charis KEPRON	Forensic Pathologist
Jacqueline PARAI	Forensic Pathologist
Alfredo WALKER	Forensic Pathologist
Eric BELANGER	Cardiovascular Pathologist
Chi LAI	Cardiovascular Pathologist
John VEINOT	Cardiovascular Pathologist
Gerard JANSEN	Neuropathologist
John WOULFE	Neuropathologist
David CAMELLATO	Forensic Odontologist



Ottawa Children's Hospital of Eastern Ontario

Jean MICHAUD	Neuropathologist
Joseph DE NANASSY	Pediatric Pathologist
David GRYNSPAN	Pediatric Pathologist
Elizabeth NIZALIK	Pediatric Pathologist

Kingston Forensic Pathology Unit

David HURLBUT	Medical Director and Pathologist
John ROSSITER	Neuropathologist
Suzy ABU-ABED	Pathologist
David BERMAN	Pathologist
Alexander BOAG	Pathologist
Scot BRADSHAW	Pathologist
Tim CHILDS	Pathologist
Christopher DAVIDSON	Pathologist
Patricia FARMER	Pathologist
David LEBRUN	Pathologist
Marosh MANDUCH	Pathologist
Paul MANLEY	Pathologist
Neil RENWICK	Pathologist
Sandip SENGUPTA	Pathologist
Sonal VARMA	Pathologist
Iain YOUNG	Pathologist

Hospital for Sick Children

David CHIASSEON	Section Head Autopsy Services/Forensic Pathologist
Gregory WILSON	Pediatric Pathologist
Cynthia HAWKINS	Neuropathologist
Lili-Naz HAZRATI	Neuropathologist

Northeastern Regional Forensic Pathology Unit

Martin QUEEN	Medical Director and Forensic Pathologist
David CHIASSEON	Forensic Pathologist (part-time)
Silvia GAYTAN-GRAHAM	Neuropathologist
Scott FAIRGRIEVE	Forensic Anthropologist
Scott KEENAN	Forensic Odontologist

Sault Ste. Marie Forensic Pathology Unit

Michael D'AGOSTINO	Medical Director/Pathologist
Paul MOZAROWSKI	Pathologist
Kelli-Ann LEMIUEX	Administrative Director
Annette MACUMBER	Administrative Assistant



Mount Sinai

Sarah KEATING
Patrick SHANNON

Perinatal Pathologist
Perinatal Pathologist

Community Pathologists

Chhaya ACHARYA	Bluewater Health
Nihad ALI-RIDHA	Mackenzie Richmond Hill Hospital
Pat ALLEVATO	Windsor Regional Hospital Metropolitan Campus
Reza BEHJATI	Orillia Soldier's Memorial Hospital
Pravin BHAVSAR	Grand River Hospital Kitchener-Waterloo Centre
Brian CUMMINGS	Grand River Hospital Kitchener-Waterloo Centre
Ardit DELIALLISI	Grey Bruce Health Services
Franco DENARDI	Greater Niagara General Hospital - St. Catharines Site
Dimitrios DIVARIS	Grand River Hospital Kitchener-Waterloo Centre
Dina ELDEMELLAWY	Children's Hospital of E. Ontario
Peter ENGBERS	Woodstock General Hospital
Nicholas ESCOTT	Thunder Bay Regional Health Sciences Centre
Ram GIDWANI	Bluewater Health
Julien HART	Joseph Brant Memorial Hospital
Angela HAWORTH	Joseph Brant Memorial Hospital
Prashant JANI	Thunder Bay Regional Health Sciences Centre
Chaozhe (Bell) JIANG	Joseph Brant Memorial Hospital
Suhas JOSHI	Greater Niagara General Hospital - St. Catharines Site
Shiv KAPUR	Royal Victoria Regional Health Centre
Dimitri KOUTSOGIANNIS	Greater Niagara General Hospital - St. Catharines Site
Adriana KRIZOVA	St. Michael's Hospital
Charles LITTMAN	University of Manitoba-MS442, Thorlakson Bldg-Health Sciences Centre
Dong LIU	Woodstock General Hospital
Rosemary LUBYSKI	Bluewater Health
Kelly MACDONALD	Lake of the Woods District Hospital
Kerry MACDONALD	Lake of the Woods District Hospital
Karen MACNEILL	Royal Victoria Regional Health Centre
Shahid MALIK	Bluewater Health
Zbigniew MANOWSKI	The Trillium Health Centre - Mississauga Site
Bojana MITROVIC	Health Sciences North - Ramsey Lake Health Centre
Leena NARSINGHANI	Royal Victoria Regional Health Centre
Ken NEWELL	Grey Bruce Health Services
John PENSWICK	Muskoka Algonquin Health Care
Susan PHILLIPS	University of Manitoba-MS442, Thorlakson Bldg-Health Sciences Centre
Russell PRICE	Royal Victoria Regional Health Centre
Paul RA	Windsor Regional Hospital Metropolitan Campus
Roland RIECKENBERG	Orillia Soldier's Memorial Hospital
Sajid SHUKOOR	Windsor Regional Hospital - Ouellette Campus
Abdul SYED	Royal Victoria Regional Health Centre
Syed Fasahat WASTY	St Thomas-Elgin General Hospital
David WELBOURNE	Thunder Bay Regional Health Sciences Centre

Ontario Forensic Pathology Service

Forensic Services and Coroner's Complex
25 Morton Shulman Avenue
Toronto, Ontario, M3M 0B1
Tel: (416) 314-4040
Email: ofps@ontario.ca