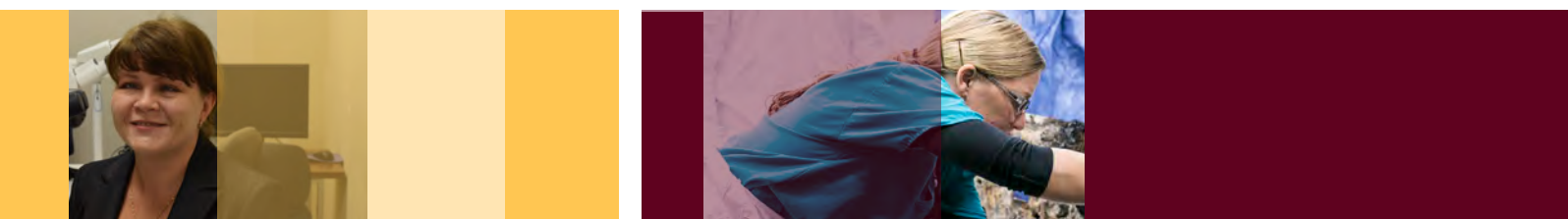
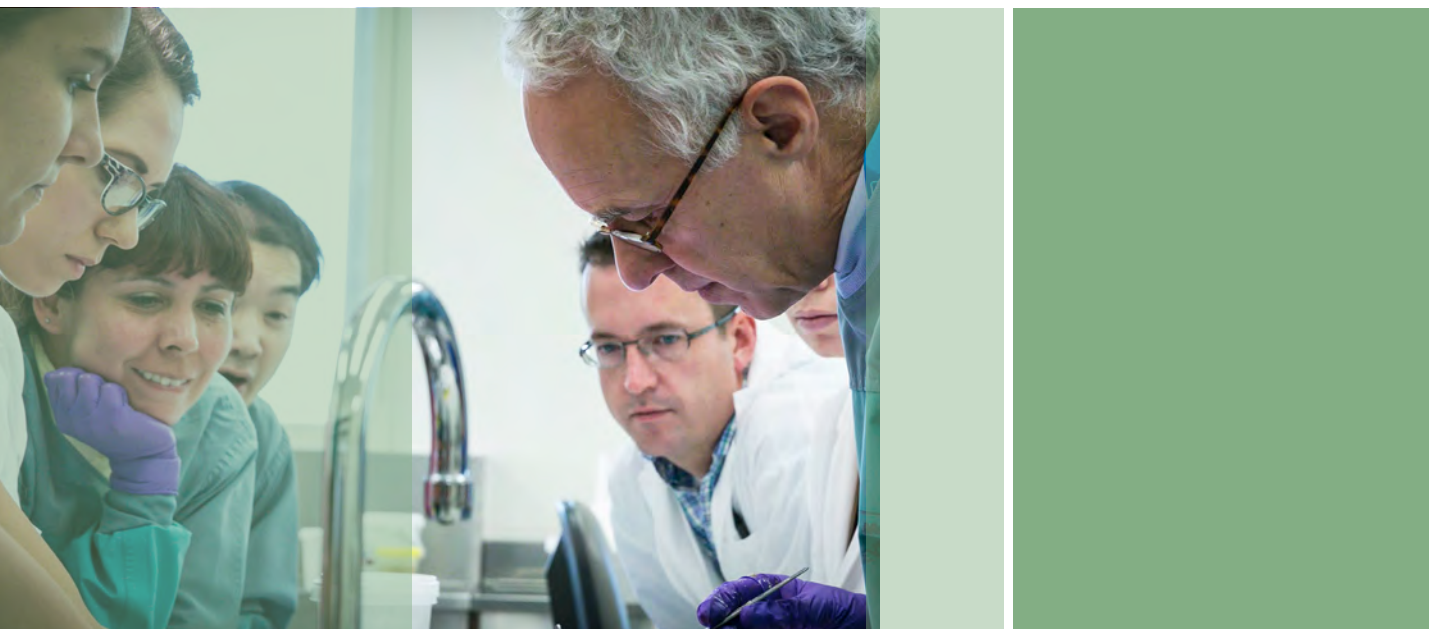


Marking Our First Five Years

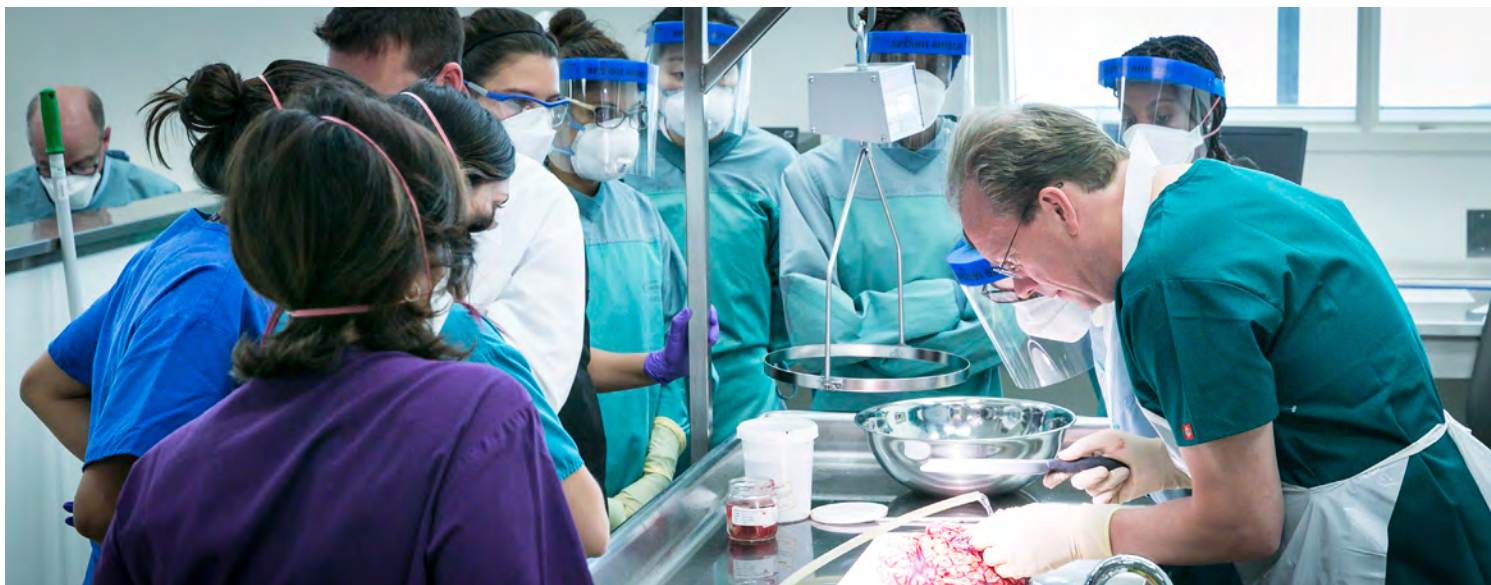


Ontario Forensic Pathology Service
Annual Report July 27, 2013 – July 26, 2014

On the cover



The Ontario Forensic Pathology Service (OFPS) was created by amendment to the Coroners Act on July 27, 2009 in response to the recommendations of the Inquiry into Pediatric Forensic Pathology in Ontario (Goudge Inquiry). Since then, the OFPS has developed into a high-quality and internationally recognized medicolegal autopsy service with advancements in service, research and education. The OFPS is committed to a truth-seeking mandate.



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Chief Forensic Pathologist's Report



Chief Forensic Pathologist's Report



I am delighted to provide the introduction to this year's annual report. It gives me an opportunity to reflect on our achievements of the last year and to mark the fifth anniversary of the Ontario Forensic Pathology Service (OFPS). Due to the professionalism and shared commitment of our staff, we continue to achieve so much and to develop forensic pathology in Ontario to a world-class level. The OFPS team is connected by organizational values that respect diversity and inspire excellence.

The province's OFPS is complex and geographically-distributed. We seek the truth using the modern medicolegal autopsy as our tool of discovery to contribute

to knowledge, training and the benefit of the public. Pathologists and forensic pathologists of the OFPS play a unique role because:

- We are highly trained in forensic pathology and pathology, the recognized medical subspecialty at the core of death investigation.
- We are permitted by law to undertake medicolegal autopsies, making us vital participants in both health care and the legal system.
- We directly observe the final effects of disease and injury in society, which gives us special insight into factors that contribute to health and disease.

Our closest partners are the Office of the Chief Coroner and the Faculties of Medicine across Ontario. We have a special relationship with the University of Toronto in forensic pathology education for residents, fellows and continuing professional development. We place particular emphasis on competency and educational qualifications to ensure that we are worthy of the trust and confidence of the public and our stakeholders.

During this, our fifth year, the OFPS has undertaken and successfully implemented a variety of ongoing and new initiatives:

- We have made progress in implementing the ministry's directive that forensic pathologists become coroners for homicides and criminally suspicious cases. This is an important step in the development of forensic pathology beyond the autopsy and toward a more comprehensive role in death investigation. The public will benefit from our expertise as we add new capacity to the coroner's system.

- We continue to responsibly and accountably manage historically retained organs by commencing centralized storage at the Forensic Services and Coroner's Complex (FSCC).
- We are incorporating innovative approaches in our medicolegal autopsy practice by utilizing CT and MR imaging. We also continue to use molecular autopsy in cases of sudden death in the young.
- We continue to contribute to the criminal justice system as expert witnesses. In 2014, Dr. Jeffrey Tanguay, Dr. Christopher Milroy and Dr. Kristopher Cunningham all testified in the Ontario Superior Court of Justice in the same trial, but in different roles. This demonstrates the OFPS's unbiased and impartial support of the criminal justice system by forensic pathology testimony.
- At this five year mark, we have updated our guidelines and looked closely at our workforce to ensure consistent and high quality practices across Ontario.

In 2009, the OFPS initiated a five year plan to improve forensic pathology in Ontario following the Goudge Inquiry. We have successfully achieved our initial goals and now look forward to a new strategic plan, developed in partnership with the OCC, which will inform our shared future.

During the past year, I have been fortunate to engage in international forensic pathology activities, including a forensic mission to the Medicolegal Institute in Baghdad, Iraq. More recently, I was honoured to be elected the President of the International Association of Forensic Sciences (IAFS). As President, I am thrilled to work with a team from the ministry and internationally to host the 21st Triennial IAFS Meeting in Toronto, August 21 - 25, 2017.

We have had a great year and a remarkable five years, due to our staff and the strength of our collaborative relationships with coroners and police. There is more to come - our exciting journey continues!



Michael S. Pollanen MD PhD FRCPath DMJ (Path) FRCPC
 Founder, forensic pathology
 Chief Forensic Pathologist 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



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 investigation 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 diseases 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 auspices of 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.

Our Vision

A seamless forensic pathology system that fully integrates public service, education and research.

Our Mission

To provide the highest quality forensic pathology service aimed at contributing to the administration of justice, preventing premature death and protecting public safety.

Our Values

The OFPS and the OCC share core values that speak to our commitment to public service:

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 towards best practice and best quality.

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

Diversity: We respect a diverse team with different backgrounds, professional training and skills.

The OFPS encourages the practical application of these core values. This is achieved by embracing an independent and evidence-based approach that emphasizes the importance of thinking objectively in pursuit of the truth.

Our Legislation Our Governance



Our Legislation

The Coroners Act defines the roles and responsibilities of pathologists and coroners in death investigation 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 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, Mr. Matthew Torigian, provides direction on administrative matters.

The Death Investigation Oversight Council 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 supports quality. The current Chair is The Honourable Joseph C.M. James.

Our Structure

Our Partners and Working Relationships



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:

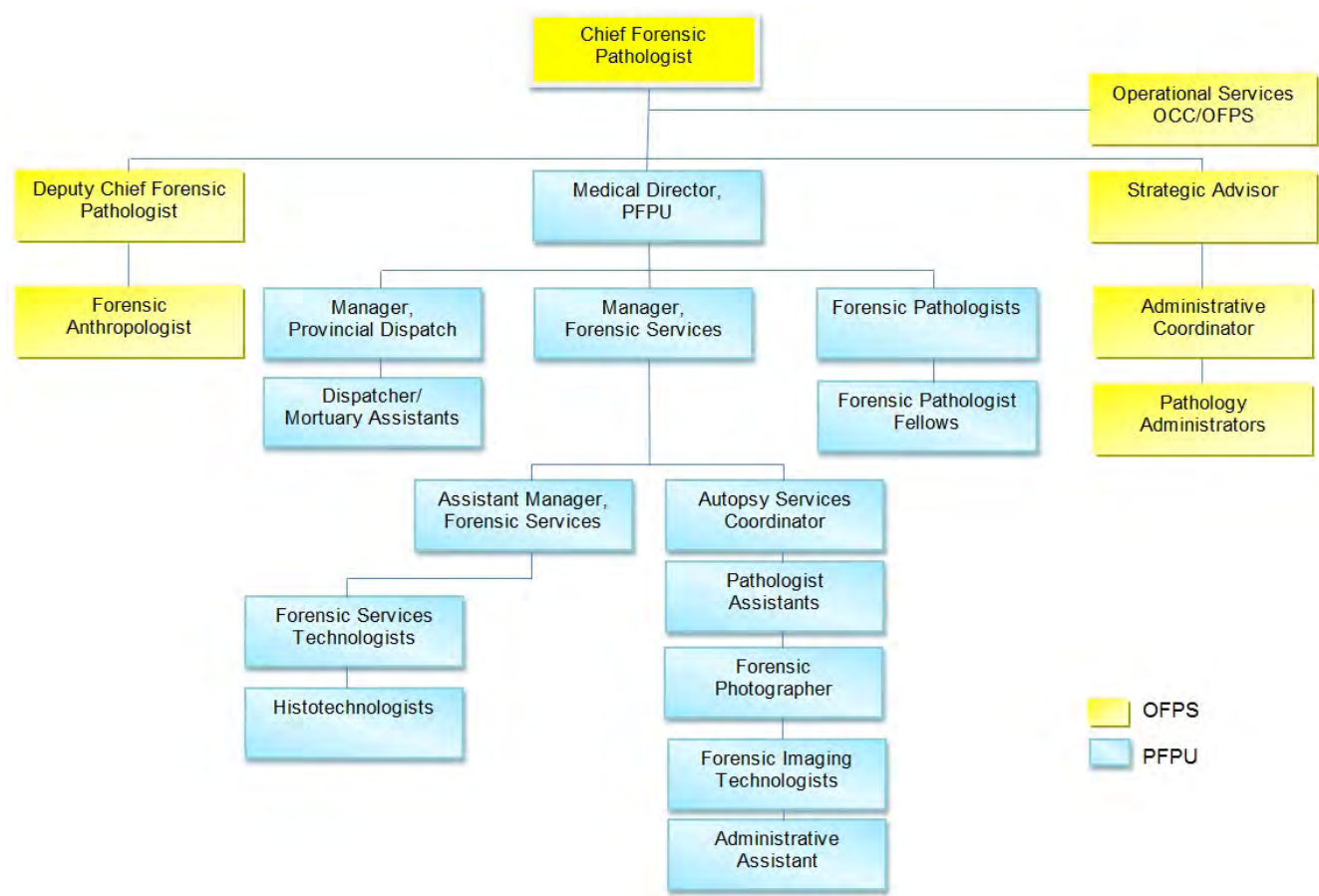
- supervises and directs pathologists in the provision of services
- conducts programs for the instruction of pathologists
- prepares, publishes and distributes a code of ethics
- maintains a register of pathologists authorized to provide services

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.

In 2013, the head office of the OFPS relocated to the Forensic Sciences and Coroner’s Complex (FSCC) in northwestern Toronto. The OFPS is alongside 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, led by a Director who oversees quality and information management, business planning, financial control and communications.

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



Provincial Forensic Pathology Unit (PFPU)

The forensic pathologists of the Provincial Forensic Pathology Unit (PFPU) perform approximately 2,200 autopsies per year, mainly originating in 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 and Sudbury. These units provide expertise in forensic pathology for approximately 2,300 routine and complex autopsies annually, including homicides and pediatric cases. The Ministry of Community Safety and Correctional Services (MCSCS), through the OFPS, provides transfer payment funding to these units.

Complex forensic autopsies are performed by qualified forensic pathologists, most of whom work at one of the Forensic Pathology Units 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 20 community hospitals contribute to the OFPS by conducting routine medicolegal autopsies in their facilities on a 'fee-for-service' basis.

Our Partners and Working Relationships

Our major partners include the OCC, municipal and provincial police agencies, the OFMEM, the Special Investigations Unit (SIU), the CFS, the criminal justice system and Ontario families.

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.

Our Services



Our Services

The OFPS provides a range of services in support of the death investigation and justice 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. Since August 2014, forensic pathologists at the PFPU have been appointed as Coroners. These Forensic Pathologist-Coroners perform coroner's duties for suspicious deaths and homicides in Toronto, including scene visits as well as certification of cause and manner of deaths.

In some cases, photographs, video recordings and other imaging techniques replace the scene visit.

3. Autopsies

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

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

4. Forensic pathology consultations and expert opinions

Forensic pathologists:

- participate in case conferences with other death investigation partners
- provide consultations and expert opinions on complicated and "cold" cases from Ontario and other jurisdictions. These requests may come from police agencies, crown prosecutors or defence attorneys
- provide occasional consultations and expert opinions on injuries on living individuals to assist with investigations

5. Testimony in trials and other hearings

Forensic pathologists 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



Our Activities (July 27, 2013 – July 26, 2014)

Administration and Operation of the OFPS

Start-up plan for the OFPS

In 2009, a five year plan for the OFPS (Our Plan 2010-2015) was released with two overarching strategic goals: to modernize forensic pathology services, and to focus on quality assurance, service sustainability and innovation. The OFPS aspires to maintain a leadership role in forensic pathology and advance service provision, education and research.

The ten strategic priorities that were identified in the start-up plan have been implemented or are well underway:

1. Pathologist Register
2. Pathology Information Management System
3. Quality management processes
4. Strengthening Forensic Pathology Units
5. Redeveloping services in geographic areas that are minimally served by pathologists
6. Health and safety
7. Contracts or other agreements with major OFPS clients
8. Technical support services
9. Molecular autopsy as a core service
10. Training of future generations of Canadian forensic pathologists

The progress made in these areas is documented in this report.

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:

- Forensic Pathologist-Coroner implementation
- revisions to practice guidelines and Pathologist Toolkit
- five-year Register renewal process
- centralized storage of historically retained organs

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 issues that advance the quality and independence of medicolegal autopsies.

During the reporting period, the committee did not meet.

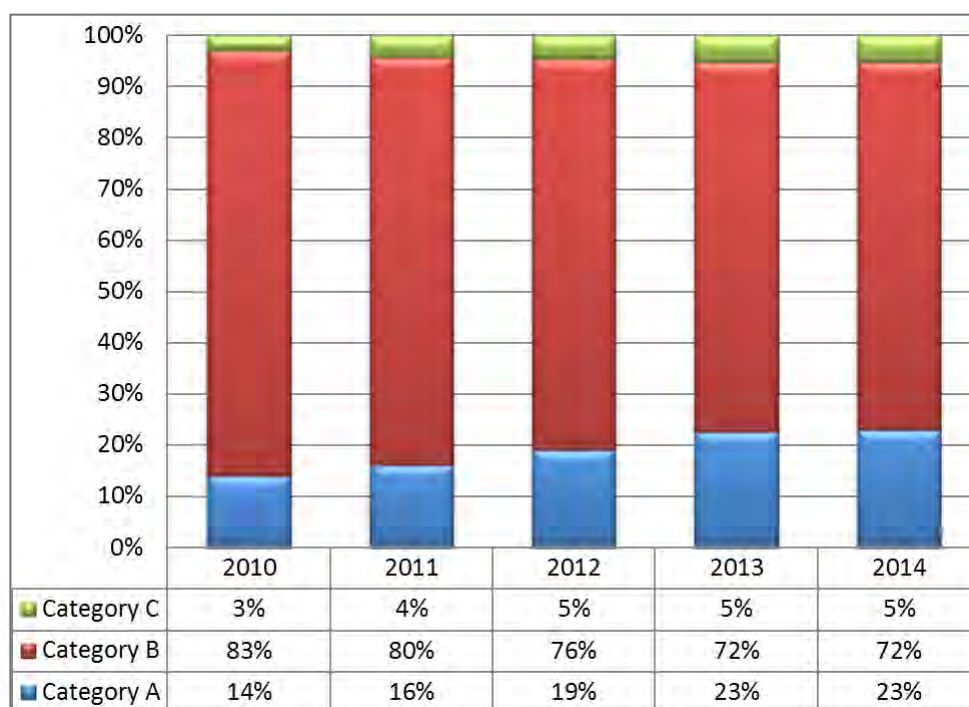
Register of Pathologists

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), or
- non-suspicious pediatric cases (Category C)

As of July 26, 2014, a total of 135 registered pathologists were active, including 31 Category A pathologists permitted to conduct all types of autopsies. These 31 pathologists are recognized as having additional experience, training and/or certification in forensic pathology.

Register Composition by Pathologist Category



The total number of registered pathologists has decreased over the past five years. However, the relative percentage of Category A pathologists has increased steadily, reflecting retention by the OFPS of newly trained forensic pathologists from the University of Toronto's forensic pathology residency program.

Number of Registered Pathologists

Category	2010	2011	2012	2013	2014
A	24	27	29	31	31
B	142	132	115	99	97
C	5	7	7	7	7
Total	171	166	151	137	135

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
- complaints, incident reports and critical incidents
- peer review history
- remediation by Chief Forensic Pathologist and by College of Physicians and Surgeons of Ontario (CPSO)

In September 2014, the appointments of the 99 pathologists registered in 2009 came up for renewal in the first review cycle. The Chief Forensic Pathologist requested that the review be expanded to include all pathologists on the register. At the conclusion of the process:

- 77 pathologists were offered renewal
- "Sunset" letters were sent to 19 pathologists due to low workload
- Eight pathologists voluntarily resigned from Register

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

To ensure that it is consistent and fair, the OFPS continues to review its approach to performance management of pathologists from medical and legal perspectives, including the reporting threshold to the College.

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, newly updated in 2014.

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

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 pathologist to ensure that autopsies have followed the 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. Most 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. Only routine autopsies are conducted in community hospitals. Seventy-nine percent (79%) of all autopsies were performed in Forensic Pathology Units and 21% in community hospitals. **Chart 1** shows the distribution of autopsies captured in the system by OCC investigative regions.

Note: the OCC underwent a realignment of regional responsibilities in late 2013 resulting in several regional title changes. Brampton Region is now Central East, Guelph is now Central West. After the closure of the Peterborough OCC office, the majority of that area was transferred to the newly-established Ottawa office.

Chart 1: Number of Autopsies by OCC Region

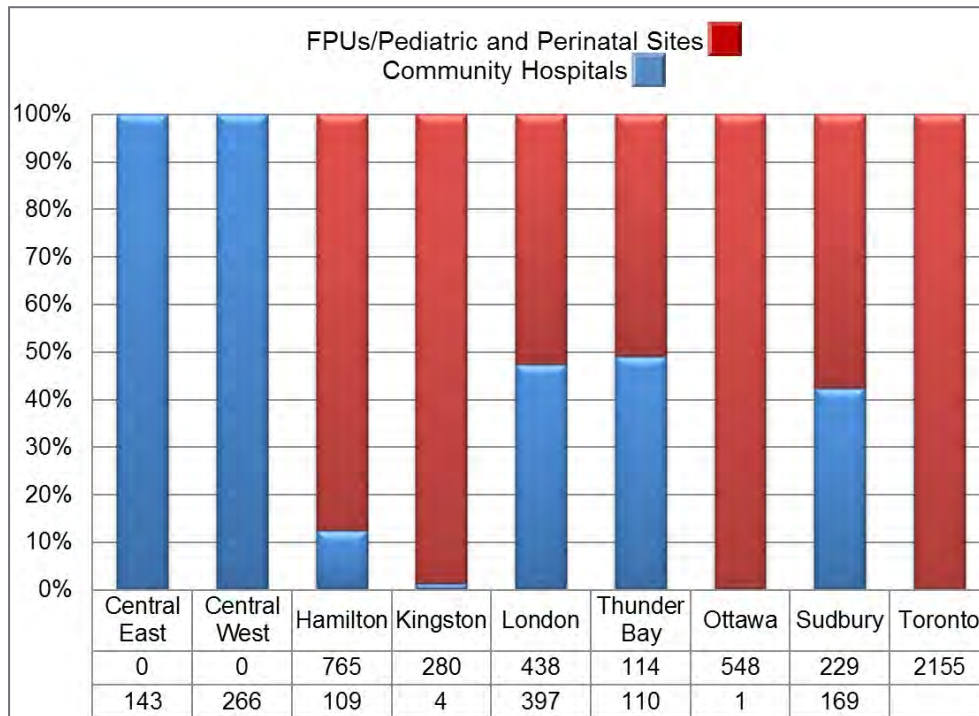
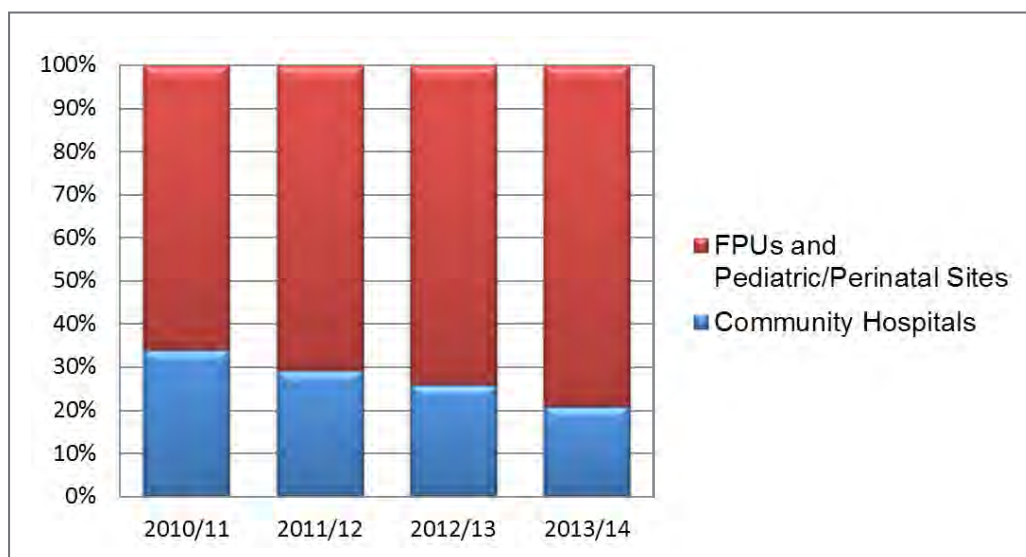
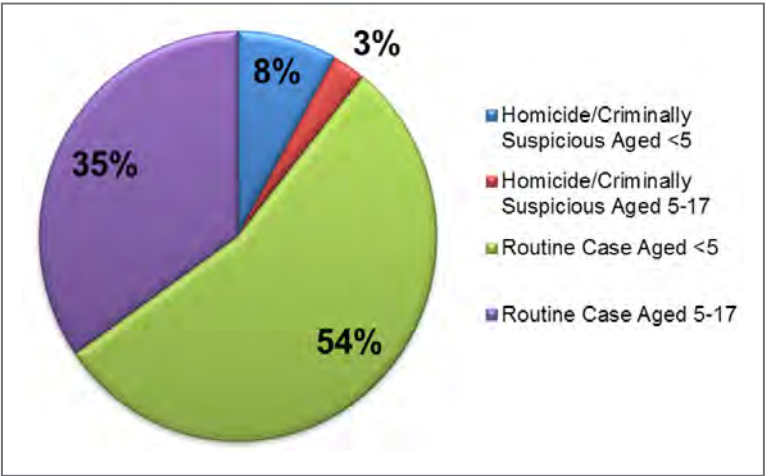


Chart 2: Distribution of Autopsies by Site Type



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

Chart 3: Pediatric Cases by Type and Age



Pediatric autopsies (deaths in children at/or under 17 years of age) 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. The distribution of pediatric autopsies by type and OCC region is shown in **Chart 4**.

Chart 4: Distribution of Pediatric Cases by Type and OCC region

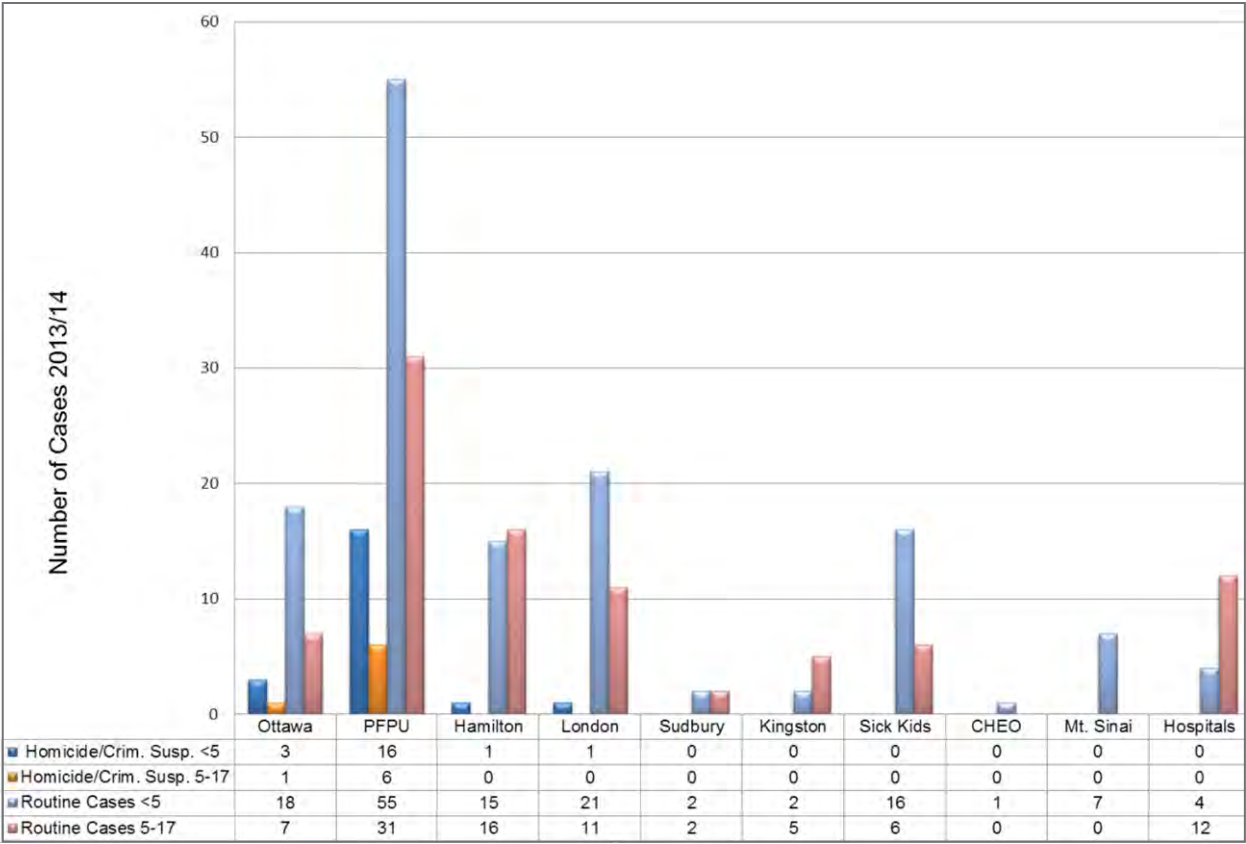
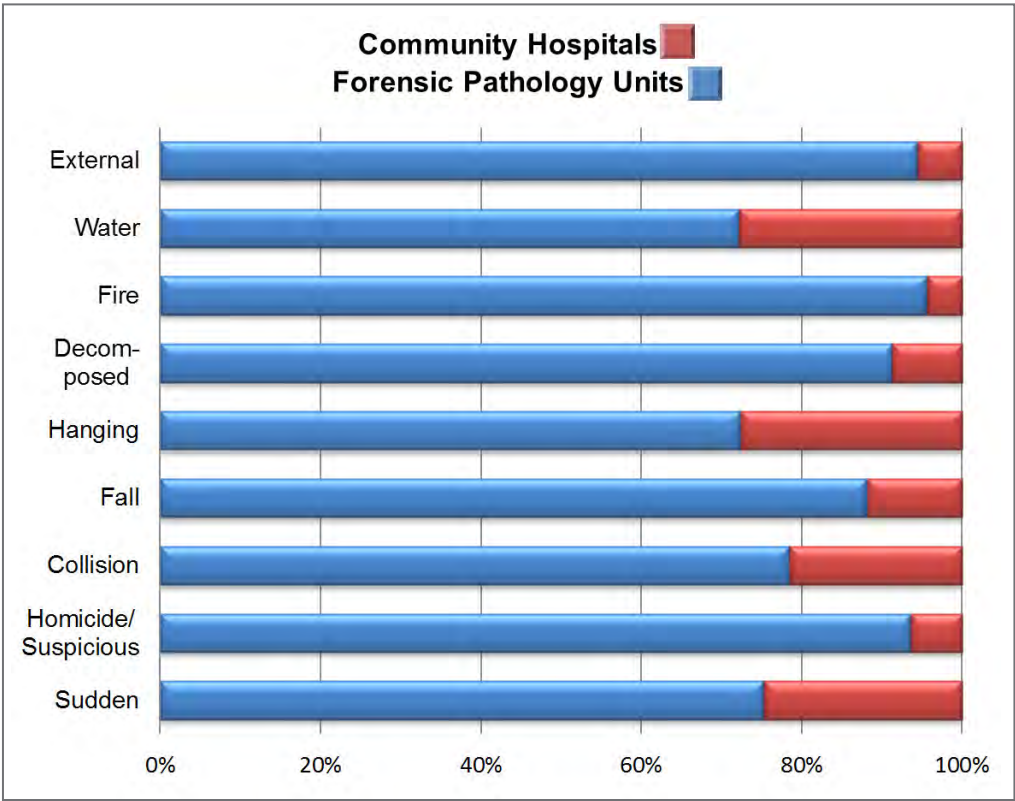


Chart 5 provides a breakdown of autopsies by case type as entered in PIMS. The category ‘sudden’ includes non-homicidal gunshot wounds, drug overdoses and others not specified in the available categories.

Chart 5: Distribution of Autopsies by PIMS Case Type



In some cases, after discussion between a forensic pathologist and a Regional Supervising Coroner and where sufficient information can be obtained from a limited examination, the decision is made to limit an autopsy to an external examination. There were 155 such cases performed in Forensic Pathology Units and nine in community hospitals.

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
- 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

182 autopsy reports were peer reviewed. These averaged about six reviews completed by each reviewing forensic pathologist. The average turnaround time for peer review was six 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. Directors of Forensic Pathology Units review reports of routine cases performed in their 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.

Significant quality issues include substantial errors, omissions and other deficiencies. A critical incident is a significant quality issue that contributes to a serious error in death investigation. All critical incidents are analyzed to determine root cause and corrective action. The turnaround times for post-mortem examination reports showed improvement for all case types.

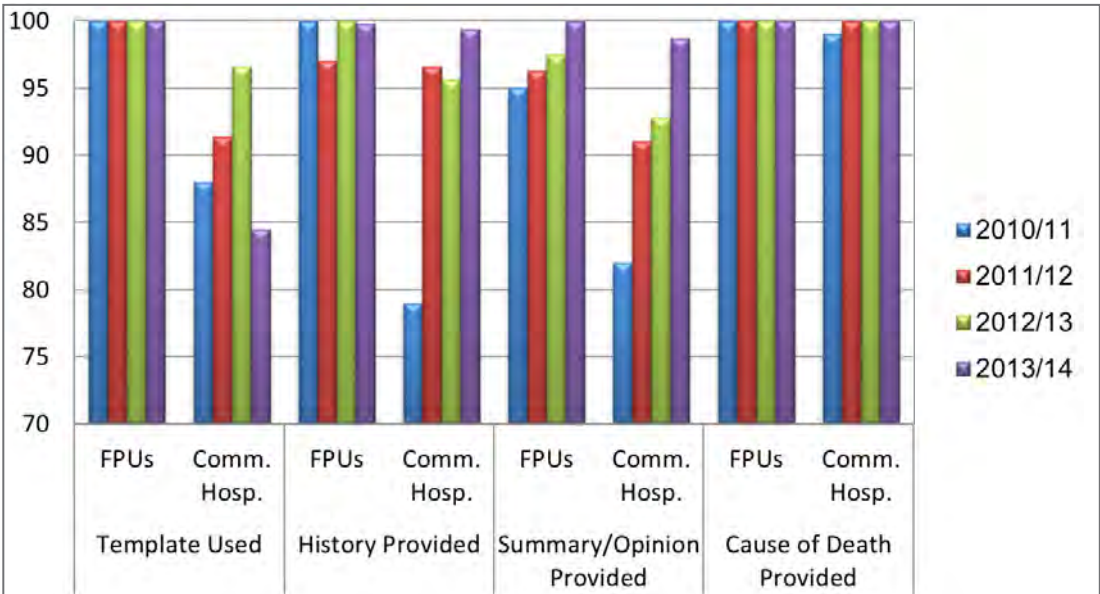
Table 1: Key Performance Indicators for Autopsy Reports

Key Performance Indicators or Autopsy Reports	Target	Results
Submission Compliance (PIMS)	100%	90% 
Completeness	95%	98% 
Consistency	95%	99% 
Turnaround Time (Routine)	90 days	Average=91 days 
Turnaround Time (Suspicious/Homicide)	90 days	*Average=135 days 
Reports with Significant Issues (Forensic Pathology Units)	< 2%	1.2% 
Reports with Significant Issues (Community Hospitals)	< 2%	5.9% 
Critical Incidents	0	0 

Green: good compliance Yellow: approaching compliance Red: poor compliance
*Turnaround time may be influenced by the case complexity and the availability of ancillary testing

Chart 6 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.

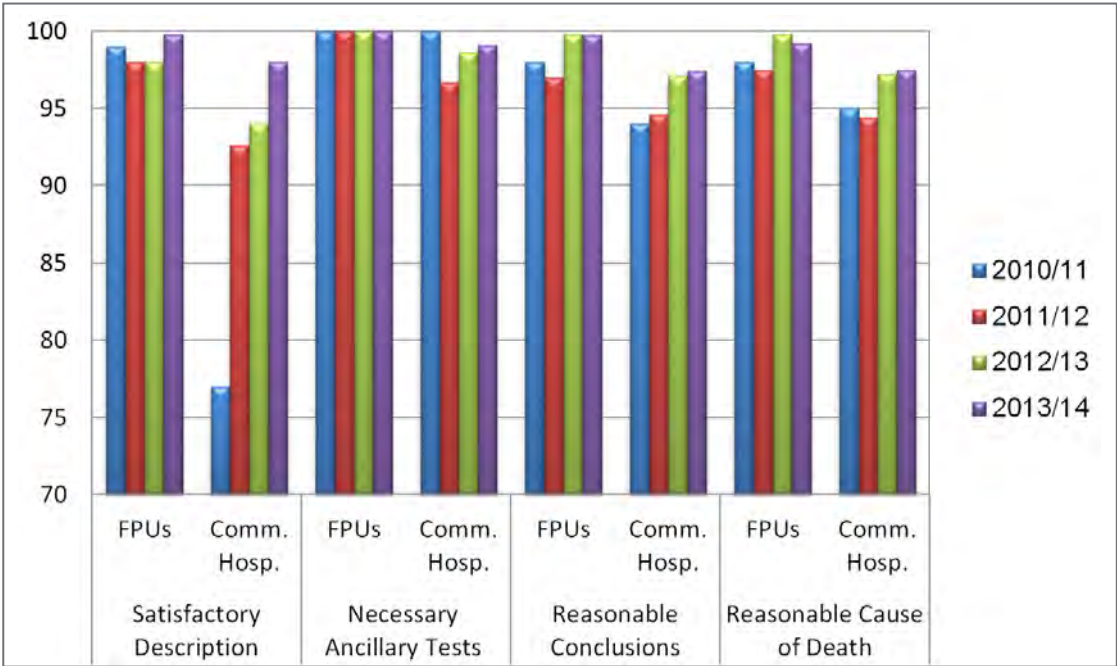
Chart 6: Completeness Measures as shown by Administrative Audit (%)



Over the past four years, the completeness of autopsy reports has continually improved. Pathologists in community hospitals are encouraged to follow the best practices set out in the Practice Manual. All pathologists are provided feedback from routine audits with the goal of improving report quality. *Note: community hospitals may use their own institutions' report templates, as long as they include the required template fields.*

Chart 7 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.

Chart 7: Consistency Measures as shown by Technical Audit (%)



Report consistency also has steadily increased in quality over the past four years.

Significant Issues

If the reviewing forensic pathologist detects a significant issue during the technical review, feedback is provided to the case pathologist. In 2013, the percentage of significant issues detected in routine case reports from Forensic Pathology Unit pathologists was 1.2% and community hospital pathologists was 5.9%.

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 changes to the report. The continual improvement of autopsy practice and report writing has been 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

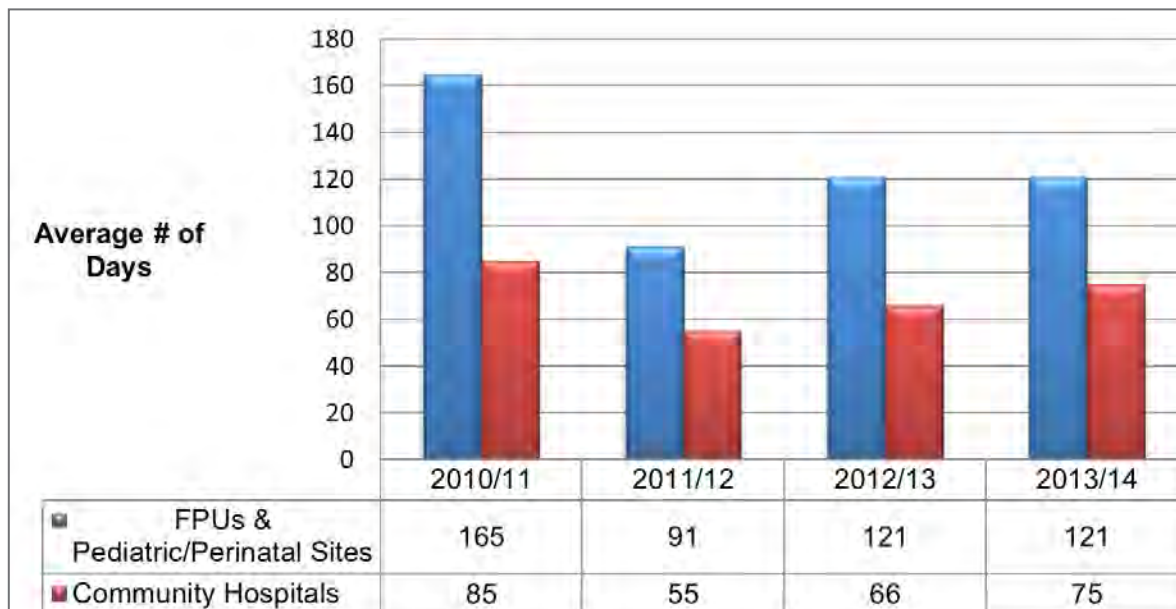
Turnaround Time

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 cases 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 8 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 8: Historic Average Turnaround Time (Autopsy Date to Report Sign-out)



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. In the past year, PFPU forensic pathologists have consulted on a number of cases through a review of 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. Forensic anthropology consultation was required in 24 cases during the reporting period. Forensic anthropologists also contributed to:

- missing persons investigations by working with partners to add information to databases and by building profiles of unidentified remains
- planning for multiple fatality events
- identification of found remains as non-human, including bones, by examining digital photographs or the remains themselves

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

Other Professional Consultants

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



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 through laboratories at community hospitals and on-site at the Forensic Pathology Units. At the Provincial Forensic Pathology Unit, two full-time histotechnologists are employed to process approximately 1,600 tissue specimens each month.

Toxicology

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

Collaborative meetings between a toxicologist, a regional supervising coroner and a forensic pathologist are held weekly to decide whether toxicology testing requested by pathologists across the province is required in specific cases.

During the reporting period, toxicological analysis was requested in approximately 3170 medicolegal investigations. The average time to issuance of a toxicology report by the CFS was 44 days. In cases where toxicology was required, the average time from issuance of the toxicology report to issuance of the Report of Post-mortem Examination was 53 days.

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 in an attempt to spare them further grief. Now, 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 have 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. In 2014, the OFPS initiated centralized storage of historically retained organs at the Forensic Services and Coroner's Complex (FSCC). By early 2015, all organs that were historically retained in forensic pathology units and community hospitals around the province will have been transported for storage at the FSCC.

Molecular Forensic Pathology

Forensic pathologists sometimes encounter cases of sudden death in young people with evidence of structural heart disease (cardiomyopathies) or structurally normal hearts (channelopathies). Advances in clinical genetics have shown that certain gene mutations may be associated with these disorders. Detection of these mutations allows for screening, diagnosis and possibly life-saving intervention for surviving family members when considered in the setting of a careful clinical assessment of those family members, such as siblings or children, who may share the genetic mutation. In addition, acute vascular disorders, coagulation disorders as well as other conditions contributing to death may also possess underlying genetic anomalies that can be heritable. In all such conditions, a sample of tissue or blood should be obtained to purify and store DNA for future genetic studies.

Genetic disease may also contribute to sudden death in the setting of criminally suspicious deaths and deaths investigated by the Special Investigations Unit. Molecular genetic testing in selected cases may further our understanding of these complex deaths and contribute to the criminal justice system and coroners' inquests.

Molecular autopsy laboratories at the Kingston General Hospital and the Provincial Forensic Pathology Unit in Toronto help coordinate the diagnosis of these genetic conditions with a goal of preventing premature deaths in surviving family members. Currently, the Molecular Autopsy Laboratory in Toronto receives tissue from cases of sudden death due to a possible underlying genetic disease and isolates DNA, which can then be used for genetic screening. DNA samples are stored to be made available to families who require genetic testing in the future.



Forensic Imaging

The design of the new Forensic Services and Coroner's Complex (FSCC) incorporated facilities for X-ray, computed tomography (CT) and magnetic resonance (MR) imaging. These imaging modalities are being used as an adjunct to the traditional autopsy. CT scans are performed on all cases before examination of the body by a pathologist. MR scans are performed on selected cases. Expertise in diagnostic interpretation is being developed in-house with assistance from a forensic radiologist, Dr. D'Arcy Little, Chief, Diagnostic Imaging, Orillia Soldiers' Memorial Hospital. Plans are in place for a forensic pathologist to visit the Victorian Institute of Forensic Medicine (VIFM) in Melbourne, Australia, to learn from their extensive experience in post-mortem imaging.

Post-mortem images from pediatric cases continue to be sent to SickKids for formal interpretation and reporting.

Starting in 2014, senior residents from University of Toronto's Diagnostic Radiology Residency Program spend one month at PFPU during their final year of training. They learn about the appearance of pathological lesions, while helping the forensic pathology staff to interpret diagnostic images.

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). In its design, the FSCC included a dedicated Tissue Recovery Suite to be 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.

OFPS-Based Education

Annual Education Course for Coroners and Pathologists

This two-and-a-half day course is conducted 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 2014 course was held from November 20 – 22 and was attended by 41 registered pathologists.

The topics covered included:

- pathology of drug abuse
- complex and difficult manners of death
- autopsy demonstration
- molecular genetics
- clinical-pathological correlation and cause of death

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

The CFSM at the University of Toronto 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 provide the 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, legal professionals and law enforcement practitioners. In 2014, the following courses were offered:

Advancements in International and Humanitarian Forensic Sciences (March)

An international faculty discussed elements of humanitarian forensic medicine, including victim identification and demographics, international response and building forensic capacity in undeveloped regions.



Practical Course for Death Investigators (April and October)

Developed in partnership with the Ontario Police College, this course enhanced police officers' death investigation capabilities through sessions in forensic autopsy, dilemmas in determining cause and manner of death, and legal issues of scene management and death investigation.



***Responsible Expert Medical Testimony Workshop
(September)***

This workshop considered consensus guidelines on ethical and reliable expert witness testimony in the justice system.

***Improved Detection and Surveillance Assays for Bio-threat Agents, Dr. David Hodge, U.S. Homeland Security
(September)***

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.

In October 2013, Professor Duarte Numo Vieira, President, national Institute of Forensic Medicine, in Portugal, spoke on “*Forensic Medicine and Human Rights: Investigating and Documenting Torture and Ill-Treatment*”.

This year’s lecture on October 6, 2014 was given by Douglas Lucas, former Director of the Centre of Forensic Sciences, on the topic “*Highlights in the Odyssey of Forensic Science: The First Ten Thousand Years*”.



Professor Richard Hegele, Mr. Douglas Lucas and Dr. Michael Pollanen with members of the Jaffe family.



Dr. Toby Rose and Professor Richard Hegele with Dr. Thomas Noguchi and his wife, Mrs. Hisako Noguchi.



Visit by Dr. Thomas Noguchi, Professor Emeritus of Forensic Pathology at the University of Southern California Keck School of Medicine

In May, the Provincial Forensic Pathology Unit was honoured by a visit from Dr. Thomas Noguchi. Certified by the American Board of Pathology in Anatomical Pathology, Clinical Pathology and Forensic Pathology, he has been Chief Medical Examiner – Coroner for the Los Angeles County. Additionally, his career path has led him to positions with the Los Angeles County and USC Medical Centre, World Association of Medical Law, National Association of Medical Examiners, the American Academy of Forensic Sciences and other organizations. He was accompanied by his wife, Hisako Nishihara Noguchi, PhD, a biochemist and electron microscopist. Sadly, Mrs. Noguchi passed away in August 2014.

Dr. Noguchi has published many peer reviewed articles and chapters in forensic textbooks. He has also published five popular books, both non-fiction and fiction, related to forensic pathology and coroner's work.

Dr. Noguchi offered reflections on his long career in forensic pathology during a lunch-hour lecture, sponsored by the CFSM.

CFSM External Review

In April, the CFSM underwent a five-year external review of its programs.

International Association of Forensic Sciences (IAFS)

At the recent 20th World Congress of the International Association of Forensic Sciences (IAFS), in Seoul, South Korea, Dr. Pollanen was elected President of the IAFS for 2014 to 2017. His main mandate is to host the 21st Triennial Meeting of the IAFS in Toronto from August 21 - 25, 2017. The Ministry of Community Safety and Correctional Services' bid to host the conference was led by the OFPS in partnership with U of T's Department of Laboratory Medicine and Pathobiology (LMP), and Tourism Toronto.

The IAFS is the only worldwide association of academics and practicing professionals from various disciplines in forensic science, including:

- forensic pathologists
- professionals working in police, government or private forensic laboratories dealing with fingerprints, DNA, drug analysis, toxicology, firearms, documents, trace evidence, accident reconstruction, etc.
- other branches of forensic science, such as forensic psychiatry, physical anthropology, medical law and bioethics, forensic odontology, forensic scientific research, etc.

The objectives of the IAFS are to:

- develop forensic sciences
- assist forensic scientists and others to exchange scientific and technical information
- organize triennial meetings

Among 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.



Inter-Professional Collaboration in
AUGUST 21-25, 2017 ▶ TORONTO



In planning the conference, Dr. Pollanen will continue to work with LMP, Ministry partners including the CFS and Ontario Police College, and other organizations. The developing governance structure will include Vice Presidents of Forensic Medicine (Dr. Christopher Milroy), Forensic Science (Mr. Tony Tessarolo) and Planning (Dr. Toby Rose). It is anticipated that 1500 delegates from as many as 80 countries will visit Toronto to attend the conference.

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

Save the Date: August 21–25, 2017

S 2017

21ST TRIENNIAL MEETING OF THE
INTERNATIONAL ASSOCIATION OF FORENSIC SCIENCES 2017

AUGUST 21–25, 2017 ► TORONTO, ONTARIO, CANADA

Forensic Science
TORONTO, ONTARIO, CANADA



Training New Forensic Pathologists

The OFPS, 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, 11 pathologists have completed training, nine of whom are now working within the OFPS.

In July 2014, two new residents began their training in forensic pathology in the U of T program:



Kona Williams MD 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 and passed the RCPSC examination in Anatomical Pathology in 2014.



Rebekah Jacques MD 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 in June 2014 and passed the RCPSC examination in Anatomical Pathology in 2014.

Supporting the growth of forensic medicine in developing regions is a priority for the OFPS and CFSM. Since 2007, seven international fellows have trained in forensic pathology at the PFPU, representing Sri Lanka, Jamaica and Chile.

The PFPU has hosted a number of trainee pathologists from the international community for observerships in 2014:

- Dr. Trudy-Ann Brown, University of the West Indies
- Dr. Natasha Richards, University of the West Indies
- Dr. Heather Emmanuel, University of the West Indies
- Dr. Daniel Dias, Instituto Nacional de Medicina Legal e Ciências Forenses, Portugal
- Dr. Takahisa Okuda, Japan and State of Maryland Office of the Chief Medical Examiner

Recruitment of Forensic Pathologists

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



Maggie Bellis MD, FRCPC joined the Provincial Forensic Pathology Unit (PFPU) in July 2014 as a Forensic Pathologist, following residency training in forensic pathology at the PFPU/University of Toronto program. Maggie graduated in medicine from the National University of Ireland, Cork, in 2006. Dr. Bellis, who completed her residency training in Anatomical Pathology at the U of T and received her FRCPC in 2013, passed the RCPSC examination in Forensic Pathology in 2014.



Kristopher Cunningham MD PhD FRCPC returned to the PFPU as a Forensic and Cardiovascular Pathologist from the Kingston Forensic Pathology Unit. Dr. Cunningham received a PhD in biochemistry at Ohio State University (2000) and his medical degree from the University of Ottawa (2004). Dr. Cunningham did his residency training at U of T in Anatomical Pathology, with additional training in cardiovascular and pulmonary pathology at U of T and the Ottawa Heart Institute. Dr. Cunningham will continue to lead the Molecular Autopsy Program for the OFPS.

Update on Forensic Pathology Units

Eastern Ontario Regional Forensic Pathology Unit (Ottawa)

The Eastern Ontario Forensic Pathology Unit has four full-time forensic pathologists who perform approximately 550 medicolegal autopsies for the OFPS annually, as well as autopsies for the Coroner for Nunavut. Forensic pathologists in Ottawa are also consulted on Canadian and international medicolegal cases.

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.

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 International Association of Forensic Sciences (IAFS)

- other academic and professional activities, including:
 - participation in the Ontario Association of Pathologists
 - Deaths Under Five Committee of the Office of the Chief Coroner (Dr. Kepron)
 - Board of Directors of NAME (Dr. Milroy)
 - teaching at the University of West Indies in Jamaica (Dr. Walker)
 - Dr. Milroy serves as Chair of the RCPSC Examiners Committee in Forensic Pathology and Dr. Parai as a bilingual examiner
- Dr Milroy was guest editor of Academic Forensic Pathology, the official journal of NAME, volume 4, issue 2, 2014, and is now associate editor of the Journal of Forensic and Legal Medicine



Dr. Christopher Milroy



Dr. Jacqueline Parai



Dr. Chitra Rao and Dr. John Fernandes with the staff of Hamilton Forensic Pathology Unit

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.

In 2013, approximately 770 medicolegal autopsies were performed by four forensic pathologists and one pathologist.

Other activities of Hamilton forensic pathologists include:

- teaching to external partners, including the Hamilton Society of Pathology, Ontario Police College, York Regional and Hamilton Police Services (Dr. Fernandes)
- presenting at international meetings, including CME at Sea in the Caribbean and Doctors on Tour in Vietnam (Dr. Rao)
- other academic and professional activities, including:
 - Dr. Fernandes completed his term as examiner for the RCPSC in Anatomical Pathology
 - Dr. Fernandes attended courses on leadership in the delivery of cost-effective health care at the Rotman School of Management and professionalism at McMaster
 - Presentation at University of Toronto's Forensic Sciences Day, Mazurek A., Bulakhtina E., Fernandes J. Review of Workplace-Related Fatalities in the Hamilton Area, 2003-2013
 - Presentation at NAME, Daniels J., Fernandes J. Benford's Law and its application as a tool for quality assurance in manner of death determination: A pilot study

Kingston Forensic Pathology Unit

The Kingston Forensic Pathology Unit at Kingston General Hospital is affiliated with Queen's University. In 2013, about 280 medicolegal autopsies were performed.

In the summer of 2014, the leadership of the unit underwent a major change with the departure of Dr. Kristopher Cunningham, Medical Director and forensic pathologist, who returned to the Provincial Forensic Pathology Unit in Toronto. As well, the head of Department of Pathology, Dr. Victor Tron, left to become the department

head of St. Michael's Hospital in Toronto. Dr. David Hurlbut assumed the role of Medical Director.

With Dr. Cunningham's move, autopsies of homicides and suspicious deaths are no longer being performed at the Kingston Unit. Dr. Cunningham continues to participate in monthly medicolegal work rounds, teaching sessions of Anatomical Pathology residents, and as a consultant for both cardiovascular surgical and autopsy pathology and medicolegal autopsy issues.



Dr. Kristopher Cunningham and Dr. David Hurlbut with the staff of Kingston Forensic Pathology Unit

London Forensic Pathology Unit

The London Forensic Pathology Unit is based in the Department of Pathology and Laboratory Medicine at London Health Sciences Centre (University Hospital). In 2013, the Unit performed 425 coroners' autopsies, a three per cent decrease from 2012.

Dr. E. Tweedie coordinated the forensic course offered to fourth year medical and Bachelor of Medical Science students at Western University.

Dr. E. Tugaleva was the Medical Director of the M.Cl.Sc. Pathologists' Assistant program. Enrolment in this two year program has increased from two students to four. The program is now affiliated with the University of Toronto

with rotations in the Provincial Forensic Pathology Unit and local hospitals in Toronto started in 2014.

Dr. D. Ramsay, neuropathologist, gave an invited lecture in June 2014 on "Traumatismos craneoencefálicos: Características microscópicas de las lesiones recientes y evolución temporal de las mismas" at Curso Histopatología Forense, Facultad de Medicina de Salamanca, Spain.

Dr. M. Shkrum completed his seven year term as the Royal College Specialty Committee Chair for Forensic Pathology. He was assisted by a dedicated committee that made great strides in growing the specialty in Canada.



Dr. Ted Tweedie



Dr. Mike Shkrum

Northeastern Regional Forensic Pathology Unit (Sudbury)

The Northeastern Regional Forensic Pathology Unit of Health Sciences North in Sudbury is affiliated with Laurentian University and the Northern Ontario School of Medicine. In 2013, about 230 medicolegal autopsies were performed. In 2014, Dr. David Chiasson, former Chief Forensic Pathologist for Ontario, currently based at SickKids, began performing autopsies in Sudbury, one week per month.

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



Dr. Martin Queen with the staff of Northeastern Regional Forensic Pathology Unit



Dr. Dirk Huyer, The Honourable Joseph James and Dr. Michael Pollanen with some of the newly-appointed Forensic Pathologist-Coroners at the PPFU

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 dispatch service, located at the Forensic Services and Coroner's Complex, ensures that the right coroner is assigned to investigate each death while creating a digital record that captures case information in real time. The team of 12 dispatchers receives approximately 300 phone calls each day, resulting in coroners being dispatched to over 16,000 cases per year.

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 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 peer reviewed by VIFM forensic pathologists.

In 2014, the VIFM and the OFPS worked together to draft guidelines for the management of fatal cases of Ebola virus disease. These guidelines were shared with the public health, funeral and emergency management sectors.

Forensic Pathologist-Coroners

In 2013, the Ontario Government directed that forensic pathologists 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, the post-mortem examination, the Report of the Post-mortem Examination, the Coroner's Investigation Statement and the Medical Certificate of Death.

A working group, involving representation from the OCC, OFPS, Ontario Coroner's Association, Ontario Association of Pathologists, Ontario Chiefs of Police Association and Ontario Homicide Investigators' Association, was struck to develop the principles of the FP-coroner's role in death investigation.

Implementation began on July 14, 2014, with forensic pathologists working at the Provincial Forensic Pathology Unit in Toronto being appointed as coroners. The first phase involves criminally suspicious and homicide cases investigated by the Toronto Police Service (TPS). This will allow for the establishment of best operational practices and enable a seamless transition before expanding to additional police services and Forensic Pathology Units.

The model promotes collaboration among all coroners, including attending scenes together and sharing ideas and perspectives to support professional development.

Strategic Planning

In 2014, the OFPS and OCC embarked on a joint strategic planning process to inform the future of the death investigation system. The consulting firm KPMG was engaged to facilitate finding a common vision and setting strategic priorities through the identification of current strengths and areas for improvement. Broad consultation was conducted with internal and external partners and clients.

Based on the feedback, strategic objectives for the OFPS and OCC are being developed along four priorities:

- a sustainable and effectively resourced system
- effective, relevant and reliable services
- leverage data, build knowledge and provide education
- improve the health and safety of Ontarians

The plan will be finalized in early 2015.

International Assistance

Ontario has a history of providing leadership and support to international Disaster Victim Identification missions. These missions are assembled following natural or human-caused disasters where help is needed in identifying victims. The OFPS has participated internationally with Interpol, the International Committee of the Red Cross, 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 such areas as the Middle East, South Asia, Africa and the Caribbean. Some of this work has involved United Nations agencies. In 2014, Dr. Pollanen travelled to both Egypt and Iraq as a consulting forensic pathologist and visiting professor.

Dr. Pollanen hopes to use his new position of President of the International Association of Forensic Sciences as a platform to advance this important international work.

Professional Activities and Outreach

Registered pathologists in the OFPS 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, American Academy of Forensic Sciences and the International Association of Forensic Sciences.

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, the Department of Defence 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 have teaching responsibilities for undergraduate and graduate forensic science students, medical students, dentists, medical artists, law students, medical imaging residents, and pathology and forensic pathology residents. The Provincial Forensic Pathology Unit (PFPU) also hosts many medical students and pathology residents from the University of Toronto and other universities in Canada and the United States.

In 2014, the PFPU embarked on a new collaboration with the Masters of Pathology Assistant Program, Western University. The Western University School of Graduate and Postdoctoral Studies in London offers the only Masters of Clinical Sciences for Pathologist's Assistants in Ontario. The formal curriculum includes a practical rotation at the PFPU. Dr. Michael Pickup, forensic pathologist, is the local Medical Director for the Western University PA program. Each term, two students complete an eight week placement at the PFPU.

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, Schulich School of Medicine, Western University, funded by Transport Canada
- Co-Principal Investigator with Dr. A. Howard and MSc candidate S. Shekari, Fatal Child Injuries in Real World Crashes. Network Centres of Excellence, Automobile of the 21st Century (AUTO21)
- Co-Principal Investigator with Dr. D. Fraser, A multidisciplinary team approach to prevent motor vehicle crash-related injuries in southwestern Ontario. AMOSO (Academic Medical Organization of Southwestern Ontario) grant

- Supervisor of BMSc candidate J. Roos, Schulich School of Medicine, Western University course 4980E, "Trauma in Adult Pedestrians due to Frontal Motor Vehicle Collisions"

Dr. Elena Tugaleva and Dr. Mike Shkrum are co-supervisors of MSc candidate A. Evetts, Department of Pathology, Schulich School of Medicine, Western University, 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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Rajapaksha WRAS, Cunningham KS, Rose TH. A fatal case of atrio-esophageal fistula following radiofrequency ablation of left atrium and pulmonary veins for atrial fibrillation. *J Cardiovasc Pathol* 2014;23(4):238-40.

Shkrum M. Forensic pathology in Canada: A “new” subspecialty. *Acad Forensic Pathol* 2014;4:85-89.

Book Chapters

Nair V. Endocarditis, Native valve. *Diagnostic Pathology Cardiovascular*, 1st edition. Ed. Miller D, Ed. Revelo MP. Amirsys Publishing Inc, 2014. Section 4, p 30-33.

Nair V. Hypertrophic Cardiomyopathy. *Diagnostic Pathology Cardiovascular*, 1st edition. Ed. Miller D, Ed. Revelo MP. Amirsys Publishing Inc, 2014. Section 2, p 2-5.

Nair V. Ischemic Heart Disease. *Diagnostic Pathology Cardiovascular*, 1st edition. Ed. Miller D, Ed. Revelo MP. Amirsys Publishing Inc, 2014. Section 2, p 10-13.

Nair V. Non Bacterial Thrombotic Endocarditis. *Diagnostic Pathology Cardiovascular*, 1st edition. Ed. Miller D, Ed. Revelo MP. Amirsys Publishing Inc, 2014. Section 4, p 34-38.

Nair V. Kawasaki Disease. *Diagnostic Pathology Cardiovascular*, 1st edition. Ed. Miller D, Ed. Revelo MP. Amirsys Publishing Inc, 2014. Section 7, p 56-57.

Goals for Next Year

The OFPS plans to:

- Continue implementation of forensic pathologist-coroners in cases of homicides and criminally suspicious deaths
- Finalize and implement the strategic plan for Ontario's death investigation system
- Begin planning for the 21st Triennial Meeting of the International Association of Forensic Sciences in Toronto in August 2017

Our People





Ontario Forensic Pathology Service



Group Photo 2014

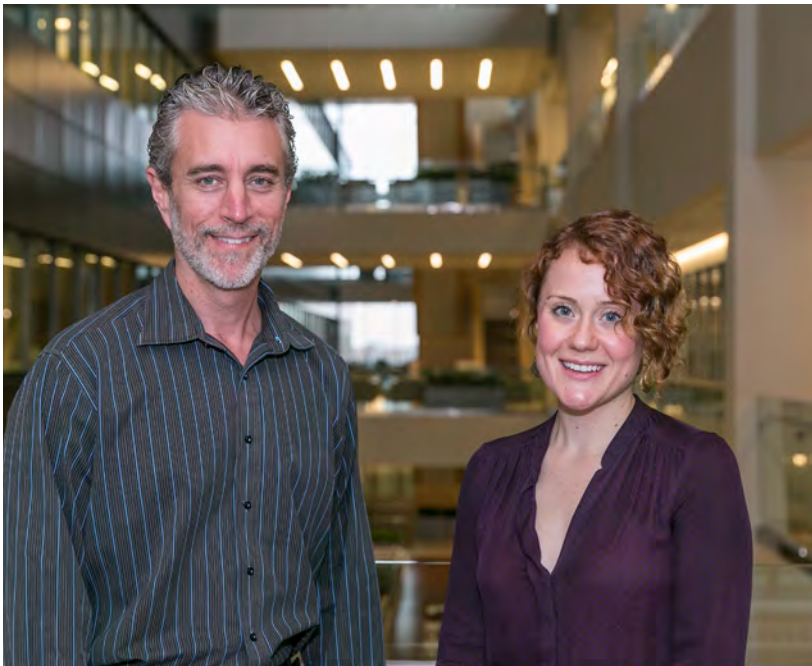
Our People (as of February 2015)

OFPS Directorate

Michael POLLANEN	Chief Forensic Pathologist
Toby ROSE	Deputy Chief Forensic Pathologist
Effie WALDIE	Strategic Advisor
James PARRY	Administrative Coordinator
Rose PERRI	Medical Transcriptionist
Lori BRADSHAW	Medical Transcriptionist
Cathy ARABANIAN	Medical Transcriptionist
Judith DE SOUZA	Medical Transcriptionist

Operational Services

Melanie FRASER	Director, Operational Services
Saira SEQUEIRA	Executive Assistant to the Director
Ming WANG	Manager, Quality and Information Management
Cathy DOEHLER	Quality Management Lead
Bonita ANDERS	Quality Analyst
Lisa PERRI	Quality and Information Management Analyst
Ramona BHAGWANDIN	Program Assistant
Nadia UDDIN	DIST Project Manager
Andrew STEPHEN	Information Management Lead
Scott PIMENTEL	Systems Officer
Yasmin NOWSHERWANJI	Quality and Information Management Administrative Assistant



Jeff Arnold and Kendra Moffatt



James Parry



Rayo Sattha



Liz Siydock

Charanjit BAMRAH	Quality and Information Management Administrative Assistant
Rayomond SATTHA	Manager, Business Services
Liz SIYDOCK	Family Liaison Coordinator
Vicki STAMML	Administrative Services Coordinator
Laura DONALDSON	Manager, Business Planning and Controllershship
Mateen KHAN	Manager, Business Planning and Controllershship
Anna TORRIANO	Financial Officer
Cheryl MAHYR	Issues Manager
Maxine COOMBS	Office Services Coordinator
Bhavika KOTAK	Junior Financial Business Analyst Intern
Diane SAMUEL	Financial Analyst

Provincial Forensic Pathology Unit

Jayantha HERATH	Medical Director and Forensic Pathologist
Kristopher CUNNINGHAM	Forensic Pathologist
Noel MCAULIFFE	Forensic Pathologist
Michael PICKUP	Forensic Pathologist
Ashwyn RAJAGOPALAN	Forensic Pathologist
Angela GUENTHER	Forensic Pathologist
Anita LAL	Forensic Pathologist
Maggie BELLIS	Forensic Pathologist
Kona WILLIAMS	Forensic Pathology Fellow
Rebekah JACQUES	Forensic Pathology Fellow
Jeffrey ARNOLD	Manager, Forensic Services
Joanne WHITNEY	Manager, Provincial Dispatch
Amber MANOCCHIO	Assistant Manager, Forensic Services



Kathy GRUSPIER	Forensic Anthropologist
Renee KOSALKA	Forensic Anthropologist
Greg OLSON	Forensic Anthropologist
Bob WOOD	Forensic Odontologist
Murray PEARSON	Forensic Odontologist
D'Arcy LITTLE	Forensic Radiologist
Sherah VANLAERHOVEN	Forensic Entomologist
Miguel ARIAS	Autopsy Services Coordinator
Maureen CURRIE	Pathologist Assistant
Jessie COTTON	Pathologist Assistant
Yolanda NERKOWSKI	Pathologist Assistant
Tiffany MONK	Pathologist Assistant
Taylor GARDNER	Pathologist Assistant
Terry IRVINE	Pathologist Assistant
Solange MALHOTRA	Pathologist Assistant
Stephanie SANTANGELO	Pathologist Assistant
Irina SHIPILOVA	Pathologist Assistant
Sonia SANT	Pathologist Assistant
David LARRAGUIBEL	Forensic Photography Technologist
Amanda ANTENUCCI	Forensic Services Technologist
Michelle WATSON	Forensic Services Technologist
Neil ROSEN	Forensic Services Technologist
Sonja STADLER	Forensic Services Technologist
Alicia BUETTER	Forensic Services Technologist
Amber DRAKE	Project and Research Analyst

Jennifer CLEMENT	Imaging Technologist
Dawn THORPE	Imaging Technologist
Monique BARBEAU	Imaging Technologist
Christiane GUILLEMETTE	Histotechnologist
Amanda FONG	Histotechnologist
Lucy COSTA	Administrative Assistant
Renato TANEL	Dispatcher/Morgue Attendant
Jason CAMPITELLI	Dispatcher/Morgue Attendant
Debra WELLS	Dispatcher/Morgue Attendant
Tanya HATTON	Dispatcher/Morgue Attendant
David TODD	Dispatcher/Morgue Attendant
Stephanie SKIRROW	Dispatcher/Morgue Attendant
Noelle KELLY	Dispatcher/Morgue Attendant
Lesley-Anne WESTBY	Dispatcher/Morgue Attendant
Dan FRANEY	Dispatcher/Morgue Attendant
Julie CROWE	Dispatcher/Morgue Attendant
Ron LITTLEJOHN	Dispatcher/Morgue Attendant
Tara DADGOSTARI	Dispatcher/Morgue Attendant
Jessica NAUMOVSKI	Dispatcher/Morgue Attendant

Hamilton Forensic Pathology Unit

John FERNANDES	Medical Director and Forensic Pathologist
Chitra RAO	Forensic Pathologist
Elena BULAKHTINA	Forensic Pathologist
Allison EDGECOMBE	Forensic Pathologist
Vidhya NAIR	Cardiovascular Pathologist





John PROVIAS
Boleslaw LACH
Tracy ROGERS
Ross BARLOW
Danny POGODA
Murray PEARSON
John THOMPSON

Neuropathologist
Neuropathologist
Forensic Anthropologist
Forensic Odontologist
Forensic Odontologist
Forensic Odontologist
Forensic Odontologist

London Forensic Pathology Unit

Michael SHKRUM
Edward TWEEDIE
Elena TUGALEVA
Bertha GARCIA
Nancy CHAN
Manal GABRIL
Aaron HAIG
Christopher ARMSTRONG
Christopher HOWLETT

Medical Director and Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Pathologist
Pathologist
Pathologist
Pathologist
Pathologist
Pathologist

Jeremy PARFITT
Joanna WALSH
David RAMSAY
Robert HAMMOND
Lee-Cyn ANG
Mike SPENCE
Stanley KOGON
Mark DARLING
Thomas MARA

Pathologist
Pathologist
Neuropathologist
Neuropathologist
Neuropathologist
Forensic Anthropologist
Forensic Odontologist
Forensic Odontologist
Forensic Odontologist

Eastern Ontario Forensic Pathology Unit

Christopher MILROY
Jacqueline PARAI
Alfredo WALKER
Charis KEPRON
John VEINOT
Eric BELANGER
Bruce JAMISON
Chi LAI
John WOULFE
Gerard JANSEN
David CAMELLATO

Medical Director and Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Forensic Pathologist
Cardiovascular Pathologist
Cardiovascular Pathologist
Cardiovascular Pathologist
Cardiovascular Pathologist
Neuropathologist
Neuropathologist
Forensic Odontologist



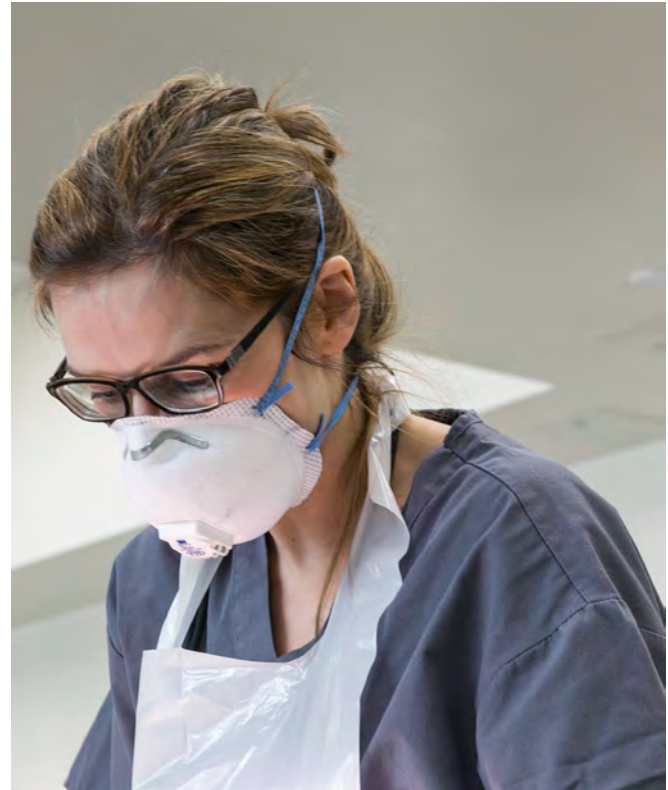
Ottawa Children’s Hospital of Eastern Ontario

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

Kingston Forensic Pathology Unit

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





Hospital for Sick Children

Glenn TAYLOR	Head of Pathology, Pathologist
David CHIASSON	Medical Director and Forensic Pathologist
Gregory WILSON	Pathologist
William HALLIDAY	Neuropathologist
Cynthia HAWKINS	Neuropathologist

Northeastern Regional Forensic Pathology Unit

Martin QUEEN	Medical Director and Forensic Pathologist
Silvia GAYTAN-GRAHAM	Neuropathologist
Scott FAIRGRIEVE	Forensic Anthropologist
Scott KEENAN	Forensic Odontologist

Mount Sinai

Patrick SHANNON	Perinatal Pathologist
Sarah KEATING	Perinatal Pathologist

Community Pathologists

Chhaya ACHARYA	Bluewater Health-Mitton Site
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
Alexander BOAG	Queen's University
Tim CHILDS	Queen's University
Brian CUMMINGS	Grand River Hospital Kitchener-Waterloo Centre
Michael D'AGOSTINO	Sault Area Hospital
Ardit DELIALLISI	Grey Bruce Health Services
Franco DENARDI	Niagara Health System-St. Catharines Site
Dimitrios DIVARIS	Grand River Hospital Kitchener-Waterloo Centre
Peter ENGBERS	Woodstock General Hospital
Nicholas ESCOTT	Thunder Bay Regional Health Sciences Centre
Ram GIDWANI	Bluewater Health-Mitton Site
Julien HART	Joseph Brant Memorial Hospital
Fauzia HASAN	Thunder Bay Regional Health Sciences Centre
Angela HAWORTH	Joseph Brant Memorial Hospital
Prashant JANI	Thunder Bay Regional Health Sciences Centre
Chaozhe (Bell) JIANG	Joseph Brant Memorial Hospital
Suhas JOSHI	Niagara Health System-St. Catharines Site
Shiv KAPUR	Royal Victoria Regional Health Centre
Dimitri KOUTSOGIANNIS	Niagara Health System-St. Catharines Site
Adriana KRIZOVA	St. Michael's Hospital
Annie KURIAN	Bluewater Health-Mitton Site
David LEBRUN	Queen's University
Charles LITTMAN	University of Manitoba-Health Sciences Centre
Dong LIU	Woodstock General Hospital
Rosemary LUBYNSKI	Bluewater Health-Mitton Site
Kelly MACDONALD	Lake of the Woods District Hospital
Kerry MACDONALD	Lake of the Woods District Hospital
Karen MACNEILL	Royal Victoria Regional Health Centre
Zbigniew MANOWSKI	The Trillium Health Centre-Mississauga Site
Paul MOZAROWSKI	Sault Area Hospital
Leena NARSINGHANI	Royal Victoria Regional Health Centre
Ken NEWELL	Grey Bruce Health Services
John PENSWICK	Muskoka Algonquin Health Care
Susan PHILLIPS	University of Manitoba-Health Sciences Centre
Russell PRICE	Royal Victoria Regional Health Centre
Paul RA	Windsor Regional Hospital Metropolitan Campus
Roland RIECKENBERG	Orillia Soldier's Memorial Hospital
Sandip SENGUPTA	Queen's University
Sajid SHUKOOR Windsor	Regional Hospital-Ouellette Campus
Alexander STEELE	North Bay Regional Health Centre
Abdul SYED	Royal Victoria Regional Health Centre
Joseph WASIELEWSKI	Thunder Bay Regional Health Sciences Centre
Syed Fasahat WASTY	St Thomas-Elgin General Hospital
David WELBOURNE	Thunder Bay Regional Health Sciences Centre
Iain YOUNG	Queen's University
Zuoyu ZHENG	Niagara Health System-St. Catharines Site

Ontario Forensic Pathology Service

Forensic Services and Coroner's Complex

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