MESSAGE FROM OUR LEADERS
Dear friends,

It is with great pride that we are reporting on another highly successful year for the University of Ottawa Heart Institute, marked by significant milestones that will fuel the years to come as we prepare to officially take possession of our new, state-of-the-art expansion next Spring.

From the introduction of new, innovative technologies, such as the launch and success of myOttawaHeart, our new online patient portal, to the establishment of pioneering programs, such as the “prehab” program to get patients healthier before they undergo cardiac surgery, and the ongoing recruitment of truly talented health professionals and researchers providing outstanding patient care and inventive research, the last year has undoubtedly contributed to our growth both locally, and internationally.

This last year also marked the Institute’s 40th anniversary. Our team has built a unique and ingenious model that exists nowhere else. Our success story does not only lie in the integrated model of governance we have put in place, but also in the fully integrated relationship connecting care, research, and education. The cost-effectiveness and lean structure of our organization, the blend in new models of care such as our heart teams, the large number of patients interested in contributing to our accomplished research enterprise, and our capacity to cultivate philanthropy are hallmarks of our model. It is also motivated by the remarkable legacy we have built over time.

We hope that our 2016-17 annual report will make you proud to be part of the Heart Institute’s family, and that it will instigate in you the thirst to support us in our future endeavours. Together, we will achieve new heights and build a next generation Heart Institute.

Thank you,

Thierry Mesana, MD, PhD, FRCS(C)
President and CEO

Lawrence Soloway
Chair, Board of Directors
The Heart Institute governance structure is unique and provides solid ground to promote organizational development.

Its commitment to the measurement of outcomes and its steady engagement in our pursuit of excellence across all areas have helped us reach new heights.

**ELECTED MEMBERS**

- **Lawrence Soloway**
  Elected Director, Chairman of the Board

- **Paul LaBarge**
  Elected Director, Vice-Chair of the Board of Directors, Chair, Governance Committee

- **Donald Bayne**
  Elected Director

- **Latifa Belmahdi**
  Elected Director, Chair, French Language Committee

- **Graham Bird**
  Elected Director
  Chair, Redevelopment Committee

- **Sylvain Chalut**
  Elected Director, Chair, Information Technology Committee

- **Robert Cushman**
  Elected Director

- **Jacques Emond**
  Elected Director

- **Richard L’Abbé**
  Elected Director

- **Tom Manley**
  Elected Director

- **Dalton McGuinty**
  Elected Director

- **Lori O’Neill**
  Elected Director, Chair, Joint Finance & Audit Committee

**EX-OFFICIO MEMBERS**

- **Katherine Cotton**
  Vice-Chair
  The Ottawa Hospital Board of Governors

- **Robert Giroux**
  Chair, Board of Governors
  University of Ottawa

- **Barbara Farber**
  Chair, UOHI Foundation Board of Directors

- **Coralie Lalonde**
  Chair, OHIRC Board of Directors
  Quality Committee

- **Thierry Mesana**
  President and CEO

- **Mona Nemer**
  Vice President, Research
  University of Ottawa

- **Heather Sherrard**
  Executive Vice President Clinical Operations
  Chief Nursing Officer

- **Jeffrey Turnbull**
  Chief of Medical Staff
  The Ottawa Hospital

**HONOURARY ASSOCIATE**

- **Donald S. Beanlands**
  Honourary Associate
WHO
WE ARE
VISION
To be a world-class, patient-centred Heart Institute in Canada.

MISSION
Inspired by a unique culture of excellence and innovation, we promote heart health and lead in patient care, research and education.

VALUES

PATIENTS COME FIRST
By relentlessly demonstrating a strong commitment to world-class care and health promotion, our team creates a unique environment for our patients and their families, exceeding their expectations and offering the best care through integrated clinical practice, education and research in a bilingual setting.

TEAM WORK
We build and foster interdisciplinary teams with blended skills that work well together, and improve outcomes and efficiency, while recognizing the contributions of all.

EXCELLENCE
We are committed to uncompromised excellence, which means believing in the power of innovation, achieving the highest standards by continually measuring quality, seeing change as opportunity, and being a resource to influence health care, education and research beyond our borders.

INTEGRITY
We are committed to transparency, adhering to the highest moral principles and standards of professionalism, making our institution accountable and worthy of trust.

PARTNERING
Guided by openness and good communication, we build solid collaborations with other health care facilities, research institutions, universities, regional stakeholders, industry and government in Canada and abroad.

OUR INSTITUTE
BY THE NUMBERS *

1,348 staff

220,807 patient visits

55,634 diagnostic tests

1,738 complex cardiac surgical interventions

11,714 non-surgical interventions

1,249 pacemaker and defibrillator implantations

$13.8 million awarded in peer reviewed grants

* For a full breakdown of our procedure and diagnostic test volumes, see page 20.
OUR IMPACT ACROSS CANADA

PATIENTS FROM BAFFIN | IQALUIT
- Procedures at UOHI: 240
- Seen in clinic and via telemonitoring in Iqaluit: 650

ROYAL OTTAWA PET-MRI
- The Royal Institute of Mental Health Research contracted UOHI to design, develop protocols for and operationalize their PET-MRI brain imaging facility.

PATIENT EDUCATION MATERIALS
- Hospitals in Manitoba, New Brunswick and Ontario obtained permission to use our patient education materials.

CLINICAL RESEARCH
The Heart Institute is leading national networks and multi-centre clinical studies to impact a range of cardiovascular issues, including:
- Early detection of heart failure (Cardiovascular Biomarker Translation Program)
- Arrhythmia treatment (CANet)
- Vascular health (Canadian Vascular Network)
- Stroke prevention in atrial fibrillation (OCEAN)

CANADIAN WOMEN’S HEART HEALTH CENTRE
- Launched the Virtual Care Program

WORLD-RENOWNED VISITING PROFESSORS
This year again we had the pleasure to welcome professors and researchers that have made significant impact to their fields of expertise.

11 lecturers from the United States including Dr. Eduardo Marban, MD, PhD, director of the Cedars-Sinai Heart Institute in California, and professor Joseph Hill, MD, PhD, from UT Southwestern Medical Center in Texas

2 lecturers from Europe (United Kingdom): professor Michael Frenneaux, DFM, from Norwich Medical School and professor Gregory Lip, MD, DFM, from the University of Birmingham Centre for Cardiovascular Sciences
This year, we had the pleasure of welcoming a new division head. Dr. Stéphane Lambert was appointed as the new Head of the Cardiac Anesthesiology Division.

Appointed for a five-year mandate, Dr. Lambert succeeded Dr. Jean-Yves Dupuis.

OUR NEW PHYSICIANS AND RESEARCHERS

**Dr. Juan B. Grau** | Division of Cardiac Surgery
Dr. Grau joined the Institute from the Columbia University College of Physicians and Surgeons and the University of Pennsylvania School of Medicine.

**Dr. Ryan Mahaffey** | Division of Cardiac Anesthesiology
Dr. Mahaffey joined the Institute from Queen’s University in Kingston.

**Dr. Mireille Ouimet** | Director of the Cardiovascular Metabolism and Cell Biology Laboratory
Dr. Ouimet returned to the Heart Institute after completing her training at New York University.

**Dr. Benjamin Rotstein** | Director of the Molecular Imaging Probes and Radiochemistry Laboratory
Dr. Rotstein came to the Heart Institute from Harvard Medical School and Massachusetts General Hospital.

**Dr. Gary Small** | Division of Cardiology
Dr. Small joined the Heart Institute from the Northern Ontario School of Medicine and the Thunder Bay Regional Hospital.

NEW LEADER

This year, we had the pleasure of welcoming a new division head. Dr. Stéphane Lambert was appointed as the new Head of the Cardiac Anesthesiology Division.

Appointed for a five-year mandate, Dr. Lambert succeeded Dr. Jean-Yves Dupuis.
The date was May 11, 1976. The Heart Institute officially opened its doors. Over the following four decades, we have become a heart health leader, providing outstanding care to patients from across Canada and impacting the well-being of people around the world through groundbreaking research and training the next generation of cardiovascular professionals. To highlight this special anniversary, we organized many activities.

FOUNDERS’ BREAKFAST
On the beautiful morning of May 11, 2016, the Heart Institute held the Founders’ Breakfast to celebrate its birthday. Local dignitaries joined Institute founders Drs. Wilbert Keon and Donald Beanlands along with current and former staff and patients, as well as the local community.

GALA
A gala donor recognition event in October again celebrated Dr. Keon’s legacy with an expert panel on the evolution of cardiac care, moderated by journalist and author Jeffery Simpson. Panelists included world-renowned surgeons Drs. Randolph Chitwood and Tirone David.

HEART TEAMS SYMPOSIUM
A symposium hosted by the Heart Institute at the Canadian Cardiovascular Congress in honour of the 40th anniversary looked at the role of heart teams in Canadian cardiovascular care.

FLASHBACK STORIES
The 40th Anniversary Flashback series was a popular addition to The Beat for 2016.
“We are committed to supporting world-class health research in Canada, including the important work being done at the University of Ottawa Heart Institute – one of our country’s top cardiac care and research facilities.”

- The Honourable Jane Philpott, Minister of Health
STRATEGIC PLAN 2015-19 YEAR 2
In 2016-17, we launched an additional Heart Team in Critical Care, further extending our multidisciplinary approach to patient care.

Heart Teams ensure better and faster access to care and focus on what is best for each patient by integrating the combined expertise of highly skilled healthcare professionals from various specialties. By measuring immediate and long-term outcomes and looking at results beyond the hospital walls in order to optimize the patient experience, Heart Teams make decisions that are informed by their patients, delivering personalized, patient-centred medicine.

<table>
<thead>
<tr>
<th>Strategic Direction No. 1</th>
<th>COMPLEX ARRHYTHMIA HEART TEAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>REINVENTING CARDIAC CARE</td>
<td><strong>TRIAGE MODEL</strong> &lt;br&gt;An algorithm to triage patients with atrial fibrillation (AF) to the appropriate provider and to improve access to care and education for patients (in progress)</td>
</tr>
<tr>
<td></td>
<td><strong>HYBRID AF ABLATION MODEL</strong> &lt;br&gt;A collaborative model combining surgical and catheter ablation of AF (in progress)</td>
</tr>
<tr>
<td></td>
<td><strong>STOP AFIB PROGRAM</strong> &lt;br&gt;An AF preoperative prophylaxis protocol to reduce onset of post-op AF in surgery patients and a post-operative AF treatment algorithm to standardize care (in progress)</td>
</tr>
<tr>
<td></td>
<td><strong>STANDARDIZATION OF ANTI-COAGULATION</strong> &lt;br&gt;An AF anticoagulation algorithm to standardize care and identify novel ways to increase patient compliance (launched)</td>
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<tr>
<td></td>
<td><strong>EDUCATION</strong> &lt;br&gt;Regional AF Symposium (held April 2017) &lt;br&gt;AF 101 and AF Ablation patient classes (launched)</td>
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<tr>
<td></td>
<td><strong>RESEARCH</strong> &lt;br&gt;A study to improve outcomes from concomitant surgical MAZE (in progress). A study to improve outcomes from surgical stand-alone MAZE procedures (in progress). &lt;br&gt;A study to examine the utility of cardiac MRI to assess percutaneous and surgical ablation lesion sets (in progress)</td>
</tr>
<tr>
<td></td>
<td><strong>LONG-TERM OUTCOME FOLLOW-UP</strong> &lt;br&gt;A model to assess outcomes of all ablation patients (percutaneous and surgical), including quality of life (in progress)</td>
</tr>
<tr>
<td><strong>COMPLEX REVASCULARIZATION</strong></td>
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<tr>
<td><strong>HEART TEAM</strong></td>
<td></td>
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<tr>
<td>TRIAGE MODEL</td>
<td>A model in which a multi-disciplinary team triages patients to most appropriate patient-centred care (percutaneous, surgical, medical therapy) (in progress)</td>
</tr>
<tr>
<td>HYBRID CORONARY REVASCULARIZATION MODEL</td>
<td>A collaborative model which combines advances in cardiac surgery and interventional cardiology best approached in a hybrid OR (in progress)</td>
</tr>
<tr>
<td>EDUCATION</td>
<td>Education classes for patients with coronary artery disease: A structured patient self-care management discharge tool provided to coronary artery bypass graft (CABG) patients (launched)</td>
</tr>
<tr>
<td>RESEARCH</td>
<td>A feasibility study of coronary physiology and the effect of coronary revascularization in patients with diabetes mellitus and coronary artery disease (in progress)</td>
</tr>
<tr>
<td>LONG-TERM OUTCOME FOLLOW-UP</td>
<td>A model to assess outcomes of all coronary revascularization patients, including quality of life (in progress)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>WOMEN’S HEART</strong></th>
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<tbody>
<tr>
<td><strong>HEALTH TEAM</strong></td>
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<tr>
<td>WOMEN@HEART</td>
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<tr>
<td>CARDIOPREVENT</td>
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<tr>
<td>VIRTUAL CARE</td>
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<tr>
<td>RESEARCH ACCESS</td>
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<tr>
<td>RESEARCH RISK</td>
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## CRITICAL CARE HEART TEAM

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Patient-Centred Model</td>
<td>A multi-disciplinary team approach for patient rounds that emphasizes safety, efficiency and best practice care delivery (in progress)</td>
</tr>
<tr>
<td>Database</td>
<td>A critical care database to support research and quality improvement initiatives (in progress)</td>
</tr>
<tr>
<td>Process Alignment</td>
<td>Alignment of processes, policies and orders among all critical care units based on clinical and process best practices (in progress)</td>
</tr>
<tr>
<td>Regional Strategy</td>
<td>A regional strategy designed to improve referral and repatriation of patients from community hospitals (in progress)</td>
</tr>
</tbody>
</table>
Strategic Direction No. 2

BUILDING UP OUR INFRASTRUCTURE

The Life Support Capital Project continues to represent the most significant expansion in the life of the Heart Institute. With the support of the Ministry of Health and Long-Term Care (MOHLTC), Infrastructure Ontario and the community, more than 145,000 sq. ft. of new space will be added to our current facilities to ensure the continued provision of world-class specialized cardiac care in our region.

With the now completed superstructure for the new tower, construction is now focused on enclosing the building. Finishing of the interior spaces has also commenced and is moving along at an extremely fast pace, with the anticipated completion date being March 2018. In advance of this date, certain key rooms will be turned over earlier to the UOHI so that new state-of-the-art equipment can be installed to facilitate commencement of procedures in the tower by the beginning of April 2018.

Once the tower has been occupied, construction will move to the inside of the existing UOHI buildings where approximately 60,000 sq. ft. of existing space will be renovated to accommodate the relocation of the Cardiac Imaging Department and provide additional support space for both the cath/EP and surgical suites. In parallel, the Main Lobby will be fully renovated, including a brand new main entrance. The interior renovations will commence in April 2018.

NEW FEATURES

- More than 145,000 sq. ft. of new space
- Five operating rooms and one shelled-in operating room
- Nine catheterization/electrophysiology labs
- An additional surgical critical care unit for 27 beds
- A central registration area in the lobby
- Escalator access to upper and lower floors
- A shelled-in floor for future expansion
Strategic Direction No. 3
GROWING OUR INSTITUTE MODEL

The Heart Institute is a unique cardiac centre that integrates care (treatment, prevention and rehabilitation), research (clinical and laboratory) and education (medical and allied health) in a single facility.

Each of these activities informs the others, allowing us to continually improve our outstanding care, advance the standards of cardiac treatment, extend the knowledge base and understanding of heart disease and train the next generation of cardiovascular professionals.

PATIENT AND FAMILY ENGAGEMENT

Patient- and family-centred care is at the heart of everything we do. A key component of this is patient and family engagement and development of a culture of engagement among the hospital leadership, board, researchers, staff, patients and families. Robust patient engagement is a strategic priority that is integral to the quality of both clinical care and research.

To further our goal of becoming a world-class patient-centred heart institute in Canada, we have created a management framework and a committee structure to inform and manage engagement efforts, supporting the Institute’s research activities and contributing to the improved delivery of services to patients.* A senior management steering committee provides oversight and stewardship of two operational committees:

- The Patient Engagement in Research Advisory Council advises and develops strategies and activities to engage patients in all aspects of research at the Institute.
- The Patient Partnership Committee works to enhance the patient experience at all levels of clinical care.

Both operational committees are comprised of management, researchers and clinical staff, patients, family members and members of the Patient Alumni Association.

* Definition of patient in this context: patients, family members, relatives, friends and caregivers

AT THE HEART OF PATIENT CARE

930+ Clinical staff including:
- 500+ Nursing staff
- 160+ Health professionals
- 250+ Support staff

ACHIEVEMENTS THROUGH OUR MULTIDISCIPLINARY MODEL

- STEMI – Pioneering heart attack program in Canada
- ROSC – A standardized, multidisciplinary regional program for patients having out-of-hospital cardiac arrests
- Advanced transcatheter ablation of atrial fibrillation
- Heart transplantation and ventricular assist devices
- Complex valve repair – Leading program in Canada
- Canadian leader in advanced arterial conduit for surgical coronary revascularization
- Percutaneous valve replacement (TAVI) and repair (MitraClip)
- Percutaneous left atrial appendage closure to prevent stroke
- High risk percutaneous coronary intervention
- Multimodality cardiac imaging (MRI, PET, CT, 3D echo) for personalized medicine
- Canadian leader in prevention for smoking cessation and women’s heart health
MEASURING AND EVALUATING QUALITY AND OUTCOMES

The University of Ottawa Heart Institute prides itself on its quality of care and high levels of patient satisfaction. As we see more patients every year, our patient satisfaction ratings remain among the very best in Ontario.

PATIENT SATISFACTION

84%

*The Ministry of Health and Long-Term Care has modified its reporting of patient satisfaction. The result reflects this new mandated methodology.

EXPANDING OUR CLINICAL SERVICES

PROCEDURE AND DIAGNOSTIC TEST VOLUMES

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>2014-15</th>
<th>2015-16</th>
<th>2016-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary Artery Bypass Grafts (CABG) &amp; Other</td>
<td>792</td>
<td>833</td>
<td>1,019</td>
</tr>
<tr>
<td>Valve/CABG (combined)</td>
<td>227</td>
<td>223</td>
<td>215</td>
</tr>
<tr>
<td>Valve Surgery</td>
<td>543</td>
<td>516</td>
<td>466</td>
</tr>
<tr>
<td>Transplants</td>
<td>26</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Ventricular Assist Devices</td>
<td>15</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Surgical Procedures</strong></td>
<td><strong>1,603</strong></td>
<td><strong>1,613</strong></td>
<td><strong>1,738</strong></td>
</tr>
<tr>
<td>Catheterizations</td>
<td>6,030</td>
<td>6,415</td>
<td>6,607</td>
</tr>
<tr>
<td>PCI (Angioplasty)</td>
<td>2,541</td>
<td>2,518</td>
<td>2,591</td>
</tr>
<tr>
<td>Electrophysiology Studies</td>
<td>517</td>
<td>505</td>
<td>528</td>
</tr>
<tr>
<td>Ablations</td>
<td>585</td>
<td>578</td>
<td>608</td>
</tr>
<tr>
<td>Pacemakers</td>
<td>659</td>
<td>791</td>
<td>779</td>
</tr>
<tr>
<td>Defibrillators</td>
<td>430</td>
<td>460</td>
<td>470</td>
</tr>
<tr>
<td>TAVIs (Percutaneous valve replacement)</td>
<td>97</td>
<td>92</td>
<td>106</td>
</tr>
<tr>
<td>Miraclip (Unfunded procedure)</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total Non-Surgical Interventions</strong></td>
<td><strong>10,884</strong></td>
<td><strong>11,384</strong></td>
<td><strong>11,714</strong></td>
</tr>
<tr>
<td><strong>Total Diagnostic Tests</strong></td>
<td><strong>51,020</strong></td>
<td><strong>53,156</strong></td>
<td><strong>55,634</strong></td>
</tr>
</tbody>
</table>

CARING IN BOTH OFFICIAL LANGUAGES

As a public service agency designated by the Ministry of Health and Long-Term Care under the French Language Services Act, the Heart Institute must guarantee access to quality services in French for designated services on a permanent basis, including:

- Permanence and quality of services
- Guaranteed access to services
- Adequate representation of Francophones
- Responsibility for French language services (Accountability)

Every three years, designated agencies must show how they have maintained this level of service. In June 2016, the Heart Institute submitted a report to the Ministry, detailing how this was achieved. In addition, an annual report was submitted to local networks and internal committees.
PUTTING PATIENTS FIRST WITH MYOTTAWAHEART.CA

The myOttawaHeart patient portal was launched in 2016. The secure online information system enables patients to access their personal health information and educational resources to support self-care, as well as share information with caregivers and physicians. More than 1,700 patients are now registered.

PROCEDURE MANAGEMENT AND SUPPLY COST TRACKING WITH PICIS

This new management system for the catheterization labs, electrophysiology labs and operating rooms facilitates scheduling, wait list management, patient flow, charting and budgeting. In addition, PICIS is linked to the inventory system to better track supply usage and cost capture for each procedure performed.

VIRTUAL DESKTOPS WITH MYWORKSPACE

To support clinical staff whose must move about the Heart Institute and access information systems from the nearest available workstation, myWorkspace provides a virtual version of their desktop from any computer. With the swipe of a badge and a single password, staff have access to their software, data systems and files throughout the Institute. myWorkspace is being implemented in phases and will be complete in the summer of 2017.

INTEGRATED CLINICAL RESEARCH DATA WITH CARDIOCORE

Cardiocore is a new data integration platform that will span all clinical research activities. This effort will improve harmonization of data and allow for broader analyses across treatment areas. Heart Valve represents the first area to be integrated. Arrhythmia, Revascularization and Biobank are in process.

STS DATABASE

Developed in the United State, the Society of Thoracic Surgeons (STS) database is a powerful source of risk-adjusted outcomes, allowing surgeons and hospitals to measure their results, using accurate data, against an accepted standard that accounts for the varying risk of their patients.

Recognizing the importance of continuous quality improvement, in 2016 the Heart Institute in conjunction with the Cardiac Care Network (CCN) of Ontario began the process of implementing the STS database at the Institute. Participation will allow the Heart Institute to compare its surgery outcomes both provincially and internationally, will provide numerous quality performance measures and will be an excellent resource for quality improvement and patient safety.
Strategic Direction No. 4

ENHANCING OUR GLOBAL RESEARCH IMPACT

Successes in 2016-17 included an excellent grant success rate, the installation of new multi-million dollar research equipment and the recruitment of new scientists and clinician scientists. To ensure that we maintain momentum, we undertook an international review of our research enterprise. The panel was chaired by Dr. Joseph Wu, MD, PhD, Director, Stanford Cardiovascular Institute. The panel commended the major strides that have been made in regional collaboration and recruitment of promising early career investigators, as well as recent grant successes. We are now consulting broadly in developing ORACLE 2.0 (2017-21).

FEATURED PUBLICATIONS

JOURNAL: SCIENCE ADVANCES
Dr. Katey Rayner, PhD, and her team in the Cardiovascular microRNA Laboratory uncovered a major role for inflammatory cell death in driving the potential for atherosclerotic plaques to rupture. When excessive cholesterol accumulates in macrophages in the vessel wall, a process called necroptosis is activated, which causes cells to explode and promote inflammation. In coronary arteries from humans with very large and advanced disease, necroptosis was activated and, in mice, necroptosis inhibitors reduced progression of disease. This work has formed the basis of the commercial development of necroptosis tracers for non-invasive imaging.

JOURNAL: JACC CARDIOVASCULAR INTERVENTIONS
Dr. Michel Le May, MD, and colleagues published a study investigating the safety and efficacy of a pharmacoinvasive strategy, compared with a primary percutaneous coronary intervention (PCI) strategy for STEMI heart attacks. It was found that the efficacy of a pharmacoinvasive strategy is similar to that of the preferred primary PCI strategy, but there was a tendency for more bleeding with a pharmacoinvasive strategy. The study demonstrates that the use of a regional STEMI program (such as that at UOHI) that uses both primary PCI and pharmacoinvasive strategies, based on geographical proximity to the PCI centre, is safe and effective. These results are encouraging for centres that do not have rapid access to PCI.
KEY HIGHLIGHTS OF THE YEAR

- **New Recruits:** Two new PhD scientists were recruited in partnership with the University of Ottawa, Faculty of Medicine: Dr. Benjamin Rotstein, Director of the Molecular Imaging Probes and Radiochemistry Laboratory, and Dr. Mireille Ouimet, Director of the Cardiovascular Metabolism and Cell Biology Laboratory. Both have already been successful in obtaining operating grants.

- **Stellar Success Rate at Granting Agencies:** The success rate of our researchers was once again above the national average in the open competitions at both the Canadian Institutes of Health Research (CIHR) (22-25% UOHI versus 13% National) and the Heart and Stroke Foundation of Canada (50% UOHI versus 20% National).

- **Minister of Health Visit:** The Honourable Jane Philpott, Minister of Health, visited in January to announce $2.9M in funding from the Canadian Institutes of Health Research to Institute researchers.

- **Globally Recognized Smoking Cessation Program:** The Ottawa Model for Smoking Cessation team was awarded $2.3M from the Ontario’s Ministry of Health and Long-Term Care for the continued implementation and evaluation of this world-renowned program.

- **Awards and Fellowships:** Six endowed graduate awards and research fellowships were awarded in a highly competitive process. These trainee awards assist the Institute in recruiting the best and brightest graduate students and fellows from all corners of the globe.

- **Hosting International Conferences:** A successful Ottawa Heart Research Conference, in collaboration with the Toronto Ottawa Heart Summit, was held in June 2016 on the topic of Atrial Fibrillation with the world leaders in afib research in attendance.

MAJOR AWARDEES

- Investigator of the Year: Dr. Darryl Davis, MD
- UOHI Global Achievement Award: Dr. David Birnie, MD
- Trainee of the Year: Dr. Denuja Karunakaran, PhD

RESEARCH BY THE NUMBERS

- **69** research faculty, including 24 scientists and clinician scientists
- **$13.8M** awarded in peer reviewed grants
- **272** published research articles
- **274** active clinical research studies
- Over **$7M** of grant-funded new research infrastructure installed, including a state-of-the-art confocal microscopy suite and preclinical MRI scanner
- Hosted **3** international conferences, including the Ottawa Heart Conference, Toronto Ottawa Heart Summit and the Ottawa Model for Smoking Cessation Conference
**CARDIAC ANESTHESIOLOGY**

Cardiac Anesthesiology is a multifaceted division dedicated to clinical care, education and research. Over the years, the Cardiac Anesthesiology team has developed a model of comprehensive perioperative care of cardiac surgical patients which is unique in Canada. Indeed, members of the Division are involved from the preoperative assessment and preparation of patients, through the safe conduct of intra-operative anesthesia and transesophageal echocardiography imaging, to the comprehensive post-surgical management in the intensive care unit. The Division is also responsible for all other respiratory care within the Institute.

**TEAM MEMBERS**
- 16 Anesthesiologists
- 3 full-time Cardiac Anesthesiology Fellows
- 4 Anesthesiology Residents rotating through our service at any given time

**PUBLICATIONS**
- 11 peer-reviewed publications
- 8 conference abstracts
- 1 book chapter

**EXTERNAL LEADERSHIP**
- McDonald, B. Member Champlain LHIN Critical Care Network
- McDonald, B. Member CanCare Board
- Lambert S. President Cardiovascular and Thoracic Section, Canadian Anesthesiologists' Society
- Chen, R. Executive Members, Cardiovascular and Thoracic Section, Canadian Anesthesiologists' Society
- Chen, R. Canadian Point Of Care Ultrasound (CPOCUS) Anesthesia Lead
- Mahaffey, R. Co-Chair, Lower and Upper Canada Anesthesia Symposium 2017

**CARDIAC SURGERY**

Over recent years, the Division of Cardiac Surgery has grown its clinical activity to more than 1,650 operations annually, while maintaining its renowned first-class clinical care and patient satisfaction. The Division boasts the lowest mortality rate nationally. We are a leader in minimally invasive techniques, we have the widest valve repair expertise and the highest rates of multi-arterial coronary bypass in Canada, our heart transplant program has grown to become the largest nationally, and we are widely regarded as an internationally leading institution.

**TEAM MEMBERS**
- 11 Cardiac Surgeons
- 3 Scientists
- 5 Associate Surgeons
- 4 Fellows

**PUBLICATIONS**
- 79, including many publications in *Circulation*, *JACC*, *Biomaterials*, and other leading journals

**AWARDS**
- Dr. Janet Ngu, MD: Finalist, Top Gun Suture Competition, Society of Throacic Surgery
- Dr. Donna May Kimmaliardjuk, MD: uOttawa Phoenix Award for Outstanding Commitment to Community Service
- Dr. Hadi Toeg, MD: Paul Cartier Award, Canadian Society of Cardiac Surgeons

**INTERNATIONAL COLLABORATIONS**
- 22, including collaborations with Belgium, China, Spain, Sweden and the United States
CARDIOLOGY

Cardiology at the Heart Institute is a model of excellence in all realms of cardiovascular medicine. Its clinical programs serve among the largest patient volumes in Canada in electrophysiology, interventional cardiology and heart attack management, cardiac critical care, advanced heart failure, and multimodality cardiac imaging. The cardiology residency program is the most sought-after training program in the country. Fellowship training programs attract fellows from six continents and across Canada. The Division conducts state-of-the-art research to understand disease and to develop the therapies of tomorrow.

TEAM MEMBERS

- 40 Cardiologists
- 14 Associate Cardiologists
- 11 Clinician Scientists
- 6 PhDs
- 25 Fellows and 12 Residents

PUBLICATIONS


AWARDS

- Dr. Ian Burwash, MD: 2016 Canadian Society of Echocardiography Annual Achievement Award
- Dr. Terry Ruddy, MD: 2016 Canadian Society of Cardiovascular Nuclear and CT Imaging Annual Achievement Award
- Dr. Kwan Chan, MD: 2016 Canadian Cardiovascular Society Distinguished Teacher Award

INTERNATIONAL COLLABORATIONS

- 15 investigators with collaborations with Germany, the United States, the United Kingdom, Australia, Brazil, Japan and China

PREVENTION AND REHABILITATION

The Division of Prevention and Rehabilitation provides state-of-the-art approaches to the prevention of cardiac disease: preventing patients from having additional cardiac events and helping patients return to their lives following cardiac events and procedures. Our programs are informed and enhanced by our ongoing research activities which address an array of issues pertinent to the prevention of heart disease. The Prevention & Wellness Centre provides a variety of resources and programs to our patients and their families. The Division of Prevention and Rehabilitation is home to the internationally renowned Ottawa Model for Smoking Cessation and the Canadian Women’s Heart Health Centre.

TEAM MEMBERS

- 6 Physicians and Fellows
- 89 Allied Health Care Professionals
- 5 Investigators, 2 Postdoctoral Fellows, 3 PhDs, 9 FT Research Staff and 11 PT Trainees/Volunteers

PUBLICATIONS

- 18 in the past year which have appeared in the Canadian Journal of Cardiology; Canadian Medical Association Journal; Tobacco Control; BMC Medicine; Cardiovascular Nursing and Health and Fitness Journal of Canada among others.

AWARDS

- The Ottawa Model for Smoking Cessation: The Heather Crowe Smoke-Free Ontario Award of the MOHLTC
- Dr. Jennifer Reed, PhD: CIHR New Investigator Clinical Rehabilitation, Heart and Stroke Foundation of Canada; Emerging Research Leaders’ Initiative

INTERNATIONAL COLLABORATIONS

- Numerous international affiliations, including collaborations with colleagues and programs in the United States, the United Kingdom, Netherlands, Romania, Uruguay, China, Greece and India.
OUR FOUNDATION

2016-17 was an exciting year for the Foundation. Thanks to the generous and continued support of our community and their participation in a number of initiatives throughout the year—including the Fuller Keon Golf Tournament, Hearts in Motion, the Jeanne Fuller Red Dress Golf Tournament, Capital Oktoberfest and Heart Month which raised an amazing $476,000—the Foundation was able to make significant contributions to a number of key initiatives. In addition to providing financial support for the construction and completion of the expansion, Foundation contributions included:

- **$427,000** TO SUPPORT THE WOMEN’S HEART HEALTH PROGRAM
- **$325,000** TO SUPPORT EDUCATIONAL PROGRAMS
- **$631,000** TO SUPPORT THE INSTITUTE’S EQUIPMENT NEEDS
- **$4,430,000** TO SUPPORT RESEARCH

Our focus in 2017-18, and beyond, will be not only on the completion of the new building and much-needed renovations to the existing building, but on purchasing the state-of-the-art equipment it will require to enhance our patient-centred standard of care.

“I realize people are asked to support so many things, and they have to pick and choose what is important to them. What I can tell you is that my life has changed and improved—even been saved—because of everything the Heart Institute does. I know that without donations and support from people in our community, people like me simply would not have access to the same level of treatment.”

- **Olivia Hiddema** | Grateful patient
UOHI AUXILIARY

The Heart Institute Auxiliary is pleased to be able to continue its strong tradition of support to the Heart Institute family. Our volunteers are available 12 hours a day, 365 days a year and provide a warm welcome to the Heart Institute to all patients, their families and visitors. Our over 150 volunteers ranging in age from 17 to 80+, function in six different areas of the Heart Institute and in 2016-17 contributed over 15,000 volunteer hours.

The Heart Institute Auxiliary also provides funding for equipment purchases through the operation of the Atrium Boutique, and we were pleased to be able to contribute another $25,000 last year to add to the over $1,000,000 already donated.

- **15,000** volunteer hours a year
- **6** work areas
- Raised more than **$1 million** for UOHI equipment and projects

PATIENT ALUMNI ASSOCIATION

While the Alumni moves forward with its new direction, where all patients are now automatic members of the Association, it continues to fund many projects aimed at improving patient comfort and support. As part of the New Alumni model, a comprehensive five-year agreement has been signed with UOHI and the Foundation, forming a strategic partnership to support a world-class patient-centred heart institute in Canada. As part of this process, the Alumni has developed and aligned its strategic plan to that of UOHI.

In its efforts to provide improved support to patients, family members, relatives, friends and caregivers, the Alumni has invested significant efforts and resources to further develop its communications tools. It has revamped and significantly improved its corporate website. In addition, it has developed an online patient engagement forum “community website” where patients and families can connect with each other to seek support and share stories. This new forum is an effective tool to connect patients with other patients and offer informal peer counseling recognized by Health Quality Ontario.

The Alumni has, and continues to be, heavily involved in the Heart Institute’s patient engagement initiatives. Its involvement is well described in the Growing Our Institute Model section.

In 2016, the Alumni celebrated its 30th anniversary as a legal entity, even though Dr. Keon conceptualized it almost 40 years ago. This celebration recognized Dr. Keon’s significant contribution and that of many others who have been involved in its continued efforts to support and comfort patients. The Alumni also noted its contributions to projects and services to UOHI in excess of $5 million.
GUIDING PRINCIPLES

We are held accountable for the use of public funds and our financial statements are audited yearly by PriceWaterhouse Coopers.

We are transparent to all stakeholders, including all Canadians.

We give taxpayers value for money by managing responsibly.