

ANNUAL REPORT 2017-18



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA



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A MESSAGE FROM OUR LEADERS



It has been a milestone year at the Heart Institute, marked by significant achievements in enhancing patient care and advancing research outcomes, and the most significant expansion in our history.

More than a decade ago, we imagined a state-of-the-art cardiovascular facility which would expand our operational capacity by more than 50 per cent. We envisioned an extraordinary new building within which we could leverage some of the most sophisticated equipment and technology known to medicine today. It would provide a work environment for our staff to deliver the best results and optimize comfort for our patients and their loved ones. And finally, we sought to develop a new framework within which the next generation of cardiovascular care, research and education could be shaped for years to come, influencing our peers around the world from right here in our own backyard.

The moment we dreamed of long ago has finally been realized! Thanks to the generous support from the Government of Ontario, our partners at The Ottawa Hospital and the University of Ottawa, and our community, we now have a state-of-the-art facility where we can, together, create new standards of performance and redefine the limits of human possibility. Now more than ever our patients understand when they visit the Heart Institute they can expect to receive the very best care from the best specialists in their fields, working with highly-specialized equipment in a healthcare setting second-to-none.

This annual report is more than just a summary of highlights and achievements from the past year. It is the conclusion of the first part of an ongoing project, started over 40 years ago, in which so many of us have been fortunate to play a part and to which so many others have contributed in one way or another. We thank each and every one of you who have shared the dream and helped it become a reality. With this state-of-the-art facility and your support, we are poised, together, to write the next chapter of this epic with the same energy and dedication that has brought us to where we are today. Please join us as we have the privilege of introducing to Ottawa and the world the next generation of cardiovascular care.



Dr. Thierry Mesana
President and CEO

Paul LaBarge
Chair, Board of Directors



PARTNERING IN THE
DELIVERY OF OUTSTANDING
CLINICAL SERVICES





OUR BOARD OF DIRECTORS

The Heart Institute’s governance structure 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 has helped us reach new heights.

ELECTED MEMBERS

Paul LaBarge
Chair, Board of Directors
Chair, French Language Services Committee

Donald Bayne
Vice-Chair, Board of Directors
Chair, Governance Committee

Graham Bird
Chair, Redevelopment Committee

Sylvain Chalut
Chair, Information Technology Committee

Zita Cobb

Jacques Emond

Richard L’Abbé
Chair, Quality of Care Committee

Tom Manley

Dalton McGuinty

Lori O’Neill
Chair, Joint Finance & Audit Committee

Robyn Osgood

Keira Torkko

EX-OFFICIO MEMBERS

Sylvain Charbonneau
Vice-President, Research, University of Ottawa

Katherine Cotton
Chair, Board of Governors, The Ottawa Hospital

Dr. Robert Cushman
Chair, Board of Directors, Ottawa Heart Institute Research Corporation

Barbara Farber
Chair, Board of Directors, Heart Institute Foundation

Kathryn Butler Malette
Chair, Board of Governors, University of Ottawa

Dr. Thierry Mesana
President and CEO, Heart Institute

Dr. Virginia Roth
Chief of Medical Staff, The Ottawa Hospital

Heather Sherrard
Executive Vice-President, Clinical Operations and Chief Nursing Officer, Heart Institute

HONOURARY ASSOCIATE

Dr. Donald S. Beanlands
Co-Founder, Heart Institute



PATIENT CARE



RESEARCH



EDUCATION

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



1,376
Staff



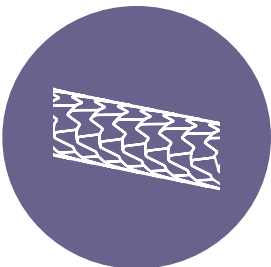
239,273
Patient Visits



56,069
Diagnostic Tests



1,657
Complex Cardiac Surgical Interventions



11,932
Non-Surgical Interventions



1,152
Pacemaker & Defibrillator Implantations



\$10.3M
Awarded in External Peer Reviewed Grants & Awards

For a breakdown of our procedure, intervention and clinical visit volumes, see page 21.

VISITING RESEARCHERS

Once again this year we had the pleasure to welcome professors and researchers who have made significant contributions to their fields of expertise.

11 LECTURERS FROM THE UNITED STATES, INCLUDING:

- Dr. Manesh Raman Patel
Chief, Division of Cardiology
Duke University, NC
- Dr. Yibin Wang
Chair, Cardiovascular Theme, UCLA, CA
- Dr. Catherine Hedrick
La Jolla Institute for Allergy and Immunology, CA

5 LECTURERS FROM EUROPE, INCLUDING:

- Dr. Michel Haissaguerre
Chief, Department of Cardiology, Bordeaux University Hospital, France
- Dr. Josef Penninger
Scientific Director, Institute of Molecular Biotechnology, Austria

JOINING OUR FAMILY



Dr. Talal Al-Atassi
Division of Cardiac Surgery



Dr. Adam Dryden
Division of Cardiac Anesthesiology



Dr. Jodi Edwards
Scientist and Director
Brain and Heart Nexus Research Program



Dr. Mehrdad Golian
Division of Cardiology



Dr. Alomgir Hossain
Epidemiology Scientist
Ottawa Heart Institute Research Corporation



Dr. Han Kim
Scientist and Director
Functional Genetics and Metabolism Laboratory



Dr. David Messika-Zeitoun
Division of Cardiology



Dr. Erin Mulvihill
Scientist and Director
Energy Substrate Metabolism Laboratory



Dr. Brock Wilson
Division of Cardiac Anesthesiology



A NEW DIVISION HEAD OF CARDIAC PREVENTION AND REHABILITATION

Earlier this year the Heart Institute appointed Dr. Thais Coutinho as the Division Head of Cardiac Prevention and Rehabilitation and Chair of the Women's Heart Health Centre.

Now serving a five-year mandate, Dr. Coutinho succeeds Dr. Andrew Pipe and is the first woman appointed as a Division Head in our history.



INTRODUCING THE NEXT GENERATION OF THE HEART INSTITUTE

More than a decade ago, the Heart Institute developed its master plan to expand its operational capacity with the addition of a state-of-the-art cardiac care facility. The expansion would accommodate some of the latest and most sophisticated technology and equipment in modern medicine, and enable the Heart Institute to continue providing world-class care to an aging patient population. In March 2018, this dream was finally realized and staff, patients and their families, and members of the community toured the expansion for the first time.

To introduce this brilliant superstructure to the world, an extensive marketing campaign was launched and inaugural events were held.

STAFF INAUGURATION

On March 20, current and former staff attended an exclusive sneak peak inside the expansion. Paul LaBarge and Dr. Thierry Mesana led the proceedings with keynote addresses. Staff toured the facility throughout this day-long event.

EXCLUSIVE MEDIA TOUR

On March 22, members of the media were guided on an exclusive tour of the facility, led by Dr. Thierry Mesana. This was a unique opportunity for media to learn about the Heart Institute's newest technologies and equipment one day ahead of the official inauguration ceremony and community open house.

The tour was successful in securing media coverage on local and national news networks, including on CBC, CTV, and Global National, and in print issues of the Ottawa Citizen and Le Droit, among others.

OFFICIAL INAUGURATION AND COMMUNITY OPEN HOUSE

On March 23, the Heart Institute held an official ceremony to inaugurate its new building. Joining us were Yasir Naqvi, Ontario's former Attorney General and MPP for Ottawa Centre, Bob Chiarelli, former Minister of Infrastructure and MPP for Ottawa West-Nepean, and Ottawa Mayor Jim Watson for introductory remarks. Heart Institute founders, Dr. Wilbert J. Keon and Dr. Donald S. Beanlands, former Prime Minister of Canada Jean Chrétien, and former Premier of Ontario Dalton McGuinty were among those in attendance.

Following the ceremony, guests and members of the community were invited to tour the facility. Visitors explored the catheterization and electrophysiology laboratories, hybrid operating room, and intensive care units, and were amazed by a live demonstration of the recently acquired *da Vinci* Surgical System. At the end of the tour, visitors commemorated their experience with an interactive photobooth activation.





NATIONAL PRAISES

“The expansion of the Ottawa Heart Institute is so much more than bricks and mortar. It is about building a province where together, we care. With the pressures people are facing today, government has to step up and make sure everyone in the Ottawa area can access the best care. That’s what our plan is doing. We are putting care first and we always will.”

The Hon. Kathleen Wynne
Former Premier of Ontario

“Research done today leads to better healthcare tomorrow. The opening of the new Ottawa Heart Institute Critical Care tower in Ottawa Centre will allow the world-class team of researchers, physicians, nurses, and support staff to continue to provide the best care for patients and their families while advancing important research in cardiovascular health.”

Catherine McKenna
Member of Parliament, Ottawa Centre

“The City of Ottawa is fortunate to be home to the University of Ottawa Heart Institute and to its new Critical Care Tower. This new state-of-the-art health facility will be instrumental in providing the highest quality healthcare to patients from Ottawa and across the country.”

His Worship, Jim Watson
Mayor, City of Ottawa

GOODBYE, INTENSIVE CARE UNIT • A FINAL FAREWELL VIDEO

On April 1, hospital staff turned off the lights to the lower-level Cardiac Surgical Intensive Care Unit for the last time. The Heart Institute transferred the last of its patients into the new facility over the Easter weekend after more than 40 years of providing care for patients and their families in the S-Level.

To watch a short video of this memorable moment in our history, visit: <https://goo.gl/ttz4d5>



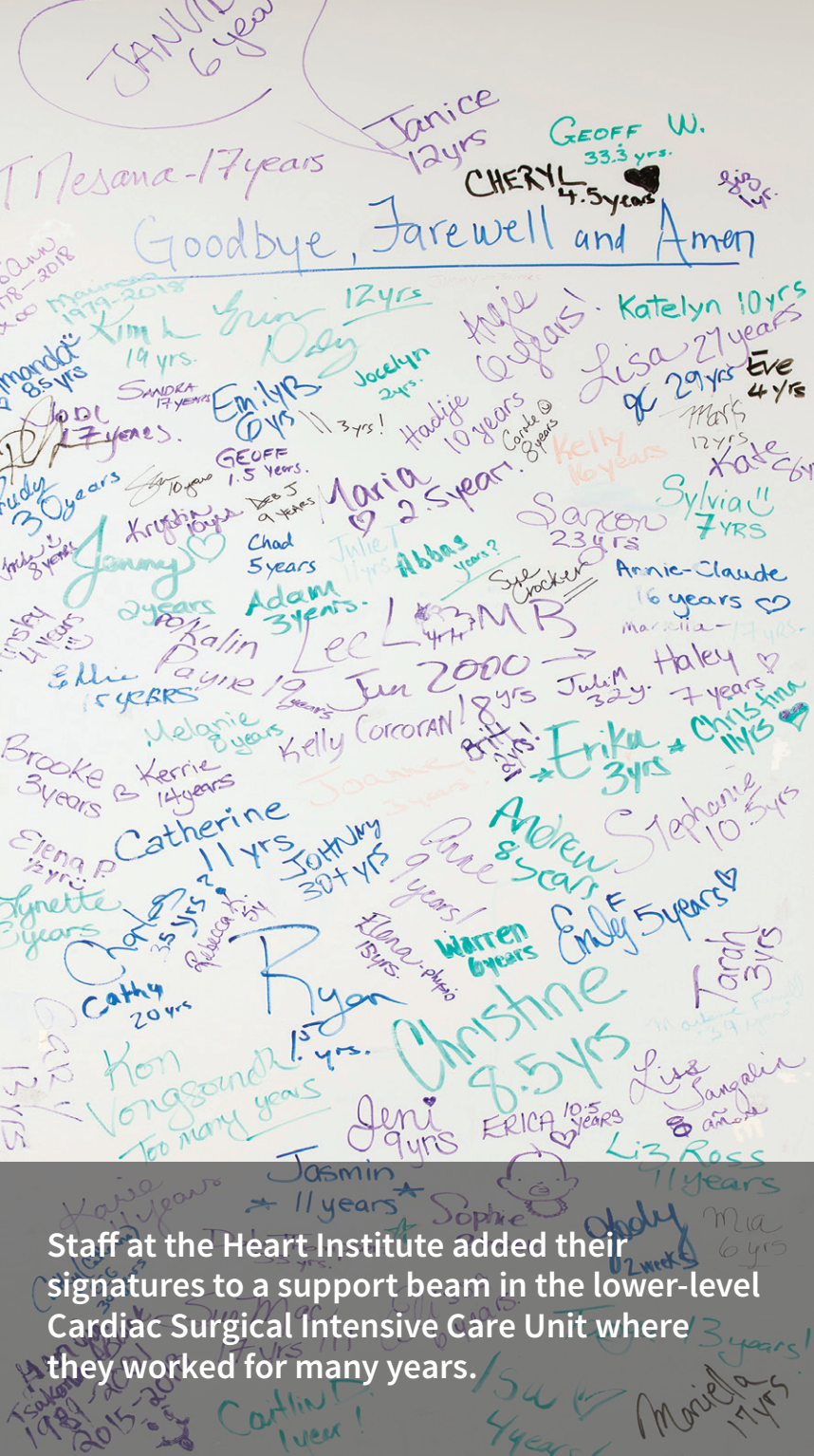
A WORD FROM OUR STAFF

“After 37 years at the Heart Institute I’m proud to see how it has flourished. This really is my second family.”

PAULINE MORAND, REGISTERED NURSE

“This facility will ensure our continued capacity to shape cardiovascular care, research and education for years to come.”

KATEY RAYNER, PhD, RESEARCHER



Staff at the Heart Institute added their signatures to a support beam in the lower-level Cardiac Surgical Intensive Care Unit where they worked for many years.

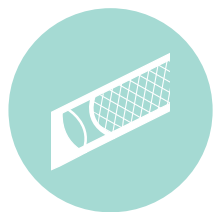
Strategic Plan 2015-19 YEAR THREE

STRATEGIC DIRECTION NO. 1: REINVENTING CARDIAC CARE

Heart Teams at Work

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, measuring immediate and long-term outcomes, and looking at results beyond the hospital walls to optimize the patient experience. Heart Teams make decisions which are informed by their patients to deliver personalized, patient-centered treatment.

FOUR DEDICATED HEART TEAMS



**Complex Coronary
Revascularization
Heart Team**



**Complex Arrhythmia
Heart Team**



**Complex Critical
Care Heart Team**



**Women's Heart
Health Team**

THE HEART TEAM CONCEPT

Findings of a national study conducted among 38 major centers were presented at the Canadian Cardiovascular Society Annual Meeting in 2016. *Heart Teams: A New Paradigm in Healthcare* was published in the Canadian Journal of Cardiology and authored by Dr. Thierry Mesana, Norvinda Rodger and Heather Sherrard.

The paper examines the Heart Team landscape in Canada, explains why dedicated centers with models of integrated cardiovascular care are well positioned to lead the way, and highlights the challenges facing Heart Teams and the opportunities they offer for improved patient-centered care.

COMPLEX CORONARY REVASCULARIZATION HEART TEAM

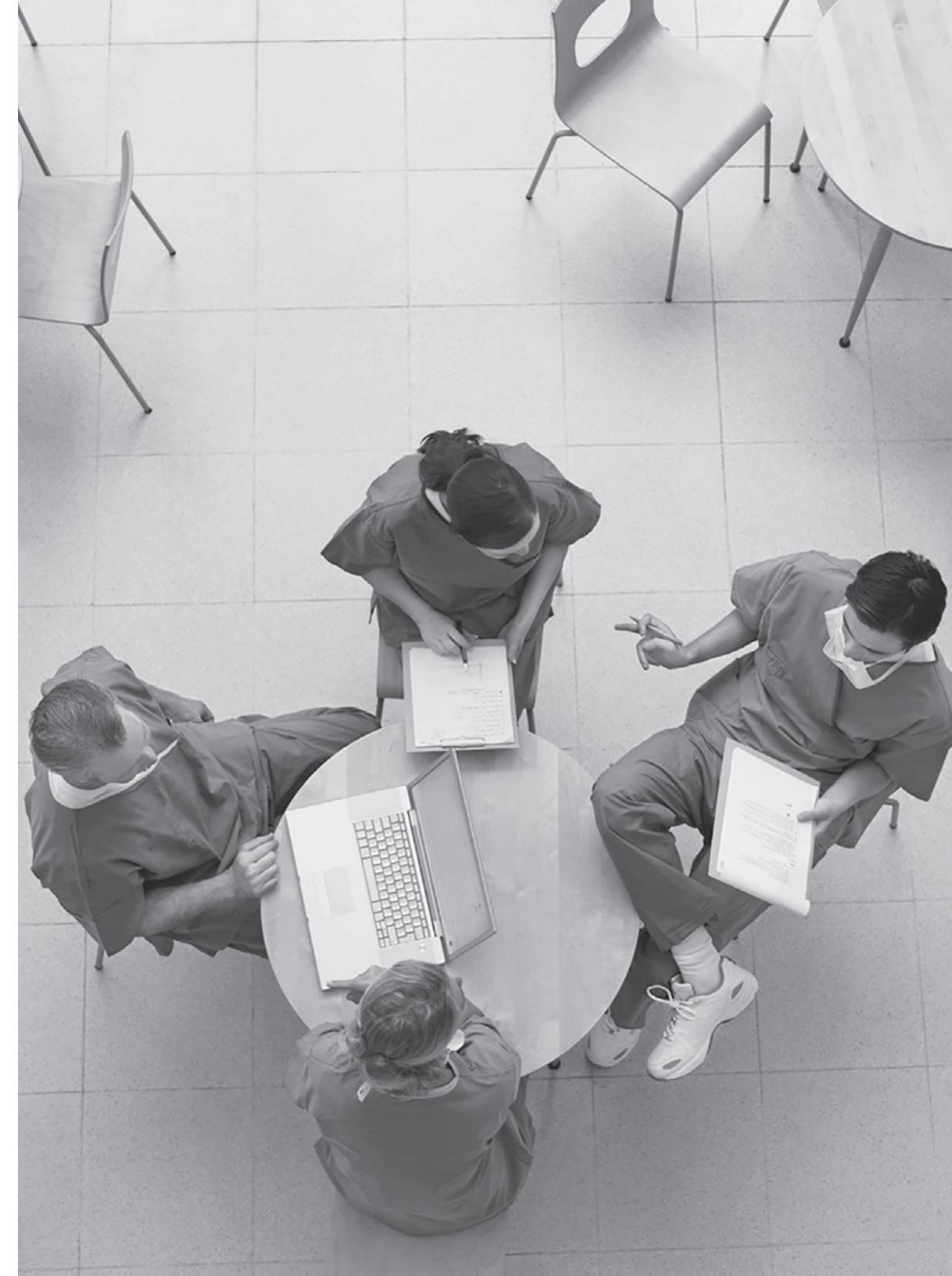
A great deal of collaboration between cardiologists and surgeons and other specialists is required to provide optimal care to patients presenting with varying degrees of coronary artery disease. With increasing patient comorbidities and complexity, the optimal form of revascularization is difficult to ascertain. For this reason, and by recommendation in national and international guidelines, a Complex Coronary Revascularization Heart Team has been formed at the Heart Institute. The team's main focus is to develop novel processes for identifying patients at risk of a complex multi-vessel disease and to deliver the best solutions for each patient in our care.

THE SYNTAX PROJECT

The Complex Coronary Revascularization Heart Team established a working group to oversee what is known as the Syntax Project. All physicians performing elective cardiac angiograms have been provided with a set of criteria to assist them in identifying patients who should be referred to the Heart Team for review. To help triage these patients to Percutaneous Coronary Intervention (PCI) or Coronary Artery Bypass Graft (CABG), a Syntax score is calculated which characterizes the extent of coronary artery disease, and a Euroscore which assesses the patient's risk of death during or shortly after heart surgery. Referred patients are reviewed by a multidisciplinary team consisting of a cardiac surgeon and an interventional cardiologist at a minimum. Other members include the referring physician, cardiac anesthetist, and a triage coordinator.

PROJECT OBJECTIVES

- Improve the quality of care for complex revascularization patients.
- Facilitate collaborative consultation between interventional cardiologists, cardiac surgeons and other key team members.
- Promote treatment recommendations made on best available evidence.
- Enhance educational opportunities for all team members.



COMPLEX ARRYTHMIA HEART TEAM

The Complex Arrhythmia Heart Team develops novel strategies and processes for patient screening, triaging to appropriate treatment, and implementation of optimal patient follow-up. This specialized Heart Team explores innovative approaches, opportunities for collaborative research, and possible hybrid approaches using trans-catheter technology along with minimally invasive surgery in a dedicated hybrid electrophysiology room. The team works to identify the right strategy for each patient, as decided by collaborating cardiologists, cardiac surgeons, heart failure specialists and others.

THE ATRIAL FIBRILLATION TRIAGE MODEL

To improve access to timely care, a working group was established to develop a novel pathway which assesses clinical risk factors to triage patients with atrial fibrillation (AF) to the most appropriate provider. Prior to their appointment, all patients are encouraged to attend an Atrial Fibrillation 101 class taught by an AF nurse specialist.

PROJECT OBJECTIVES

- Improve patient access to timely care.
- Triage patients to the most appropriate provider.
- Educate patients about their condition.

WOMEN’S HEART HEALTH TEAM

The Women’s Heart Health Team works across the fundamental pillars of research, clinical services, education and awareness with regard to cardiovascular health in women.

THE WOMEN@HEART IN-PATIENT SUPPORT PROGRAM

The Women@Heart In-Patient Support Program is a peer-to-peer support program for women hospitalized with heart disease. After a cardiovascular diagnosis, many women experience feelings of isolation and depression. Being able to talk to someone with similar experiences can make a difference in a patient’s emotional recovery. Through this program, women hospitalized at the Heart Institute connect one-on-one with a Women@Heart peer leader, who is also a woman living with heart disease and provides the needed social and emotional support at the bedside.

PROJECT OBJECTIVES

- Improve coping strategies and reduce the risk of isolation associated with heart disease in women.
- Empower women to take charge of their heart health and to better understand their condition.
- Create a caring environment for women to learn from each other by sharing their stories.

COMPLEX CRITICAL CARE HEART TEAM

The Complex Critical Care Heart Team provides care for the most critically-ill patients who require the most complex and prolonged stays in our intensive care units. The team has established an operational committee comprised of advanced heart failure and intensive care specialists, interventional cardiologists and cardiac surgeons, and others, to understand the standard operating procedures and specific care pathways in our Cardiology Intensive Care Unit (CICU) and Cardiac Surgical Intensive Care Unit (CSICU). In making regular rounds, the team evaluates the quality of care our critically-ill patients receive, ensuring a uniform, cross-functional model of critical care services only available at the Heart Institute.

THE SHOCK HEART PROJECT

Cardiogenic Shock is a common clinical syndrome with high in-hospital mortality. Timely and collaborative decision-making combined with advanced therapy and technology can improve a patient’s chances of survival.

PROJECT OBJECTIVES

- Promote early identification of Cardiogenic Shock (CS).
- Provide rapid medical optimization/intervention to patients experiencing CS.
- Assess indication, eligibility, timing and type of mechanical circulatory support.

STRATEGIC DIRECTION NO. 2: BUILDING UP OUR INFRASTRUCURE

Expanding the Potential of Cardiovascular Care, Research and Education

Thanks to the generous support of the Ministry of Health and Long-Term Care, Infrastructure Ontario and the community, the first phase of the Life Support Capital Project (otherwise known as our expansion project) is now complete. We worked tirelessly over the last year to enclose our new superstructure, finalize its interior, and install leading-edge technology and equipment to enable our trained specialists to continue delivering world-class cardiac care in ways we never thought possible.

As part of the extensive building expansion, we have added more than 145,000 square feet of new space, housing:

- six operating rooms, including one shelled-in for future development.
- nine catheterization/electrophysiology laboratories.
- an additional surgical critical care unit with room for 27 beds.
- an entire shelled-in level for future expansion in years ahead.

In the coming year, the Heart Institute will undergo more transformations. Most visibly, these will include:

- the renovation of approximately 59,000 square feet.
- the acquisition of state-of-the-art imaging equipment.
- the relocation of the Diagnostic Imaging Centre, Cardiac Prevention and Rehabilitation departments and the Canadian Women’s Heart Health Centre to the S-Level of the Heart Institute’s original building.

Much of this work is already underway. Soon, the original building’s front entrance and lobby will be completely remodeled, rendering it more attractive and spacious, warm, and inviting for all staff and visitors. This newly designed space will feature a centralized registration area for patients and their families. It will be complete with escalators leading to the sub- and first-levels.

This contemporary redesign is scheduled for completion in time for Spring 2019.



STRATEGIC DIRECTION NO. 3: GROWING OUR INSTITUTE MODEL

Cultivating a Culture For Continued Success

The Heart Institute is unique in that it provides excellence in patient care, research and education in a single facility. Our organizational model is unlike any other known in Canada.

THE HEART INSTITUTE’S MODEL

Our institutional model is rooted in a strong and powerful esprit de corps shared among a core group of trained professionals who work together across disciplines to achieve common goals.

It is backed by a solid foundation on which we can depend for the planning and implementation of our major fundraising initiatives, and for nurturing the enviable reputation we’ve established within our community, maintaining key relationships with our existing partners, and fostering new, mutually beneficial ones for years to come.

Our continued success is ensured by a well-structured and efficient leadership team and Board of Directors who continually seek out novel strategies for steering us toward a bigger and brighter future.

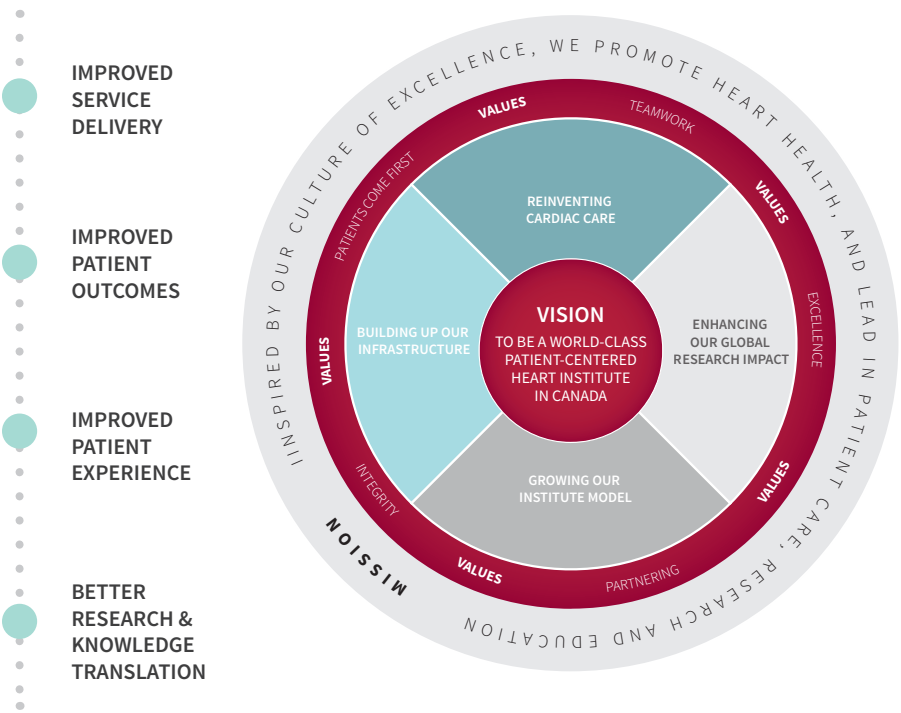
And finally, though certainly not last, our patient referrals and the number of complex cardiac procedures completed here are among the highest in Ontario. With the renovation of our facilities soon to be complete, these numbers are expected to rise.

PROGRAMS, TOOLS AND OPPORTUNITIES EMPOWERING PATIENTS AND FAMILIES

In partnership with the Patient Alumni Association, the Patient Partnership Council, and the Patient Engagement in Research Advisory Council, the Heart Institute is committed to encouraging the input of patients, family members, and caregivers by including and engaging them in the way we deliver care. The Heart Institute continues to cultivate a patient-centered approach to cardiac care and research.

This may include contributing to quality improvement and research projects by participating in surveys and group discussions, assisting with the development or revision of patient documents, and supporting patients with similar experiences and/or conditions. Patients and families may also take on more formal roles by becoming patient care partners or patient partners in research, working alongside clinical and research staff, and becoming an integral part of the process by improving service delivery.

THE DIMENSIONS OF PATIENT ENGAGEMENT AT THE HEART INSTITUTE



EMPOWERING PATIENTS WITH THE RESOURCES THEY NEED

Revitalized Patient Guides

Last winter, in collaboration with the Clinical Services team, the Communications Department undertook an exhaustive review of the Heart Institute’s patient guide series, which is made available to patients to help them prepare for and manage their disease following a heart procedure.

This significant exercise helped to refresh the patient guides, making them more accurate, modern-looking, and user-friendly.

Patients and their family members can access our new patient guides and other clinical resources at www.ottawaheart.ca/patientguides.

New Patient Resource Wall

To share important information with our patients, their families and friends, we created Patient Resource Walls. Brochure holders were installed on walls throughout the Heart Institute to give patients easy access to essential information and resources.

CARDIOCORE

The Heart Institute is harmonizing and integrating clinical research databases into a centralized platform known as Cardiocore. These efforts will eliminate duplication, streamline resources and facilitate interdisciplinary research.

Cardiocore will house a number of procedure-based modules including PCI, CABG, ablation, heart valve and heart transplant, in addition to critical care modules for both the CICU and the CSICU.

2017 ACCREDITATION • REACHING THE HIGHEST STANDARDS OF CARE

In May 2017, the Heart Institute achieved accreditation with exemplary standing, surpassing the fundamental requirements and standards of Accreditation Canada. Accreditation is an ongoing process of assessing health and social services organizations against standards of excellence to identify what is being done well and what needs to be improved.

Surveyors on-site were impressed by the innovation, care, and compassion they witnessed while at the Heart Institute. They experienced first-hand our unwavering commitment to patient flow as a priority.

Their report highlights how leadership within all units is fuelled by high-levels of enthusiasm, profound engagement, a demonstrated and outstanding level of commitment towards our patients, and exceptional respect for our staff.

In discussions with patients, Accreditation Canada surveyors were told how significant the inclusion and involvement of family members is throughout the continuum of care. Families describe feeling welcome, informed and part of the decision-making process.

As a result of the accreditation process, the Heart Institute is also recognized as a leading practice organization for two of its programs – the Patient Alumni Association for its commitment to patient engagement in research and clinical care, and the Cardiac Pre-Habilitation Program from the Division of Cardiac Prevention and Rehabilitation for helping patients waiting for cardiac surgery improve their overall health before a procedure.

The report echoes what Dr. Mesana has said time and time again – there is something special at the Heart Institute. It is this spirit and legacy that will enable us to stand the test of time and continue to make us stronger.

THE EPIC SYSTEM • CONNECTING PATIENTS AND HEALTH PROVIDERS

Over the next months we will be introducing a revolutionary new platform to enhance and streamline the patient experience.

The new Epic Health Information System (HIS) will allow the Heart Institute to access, organize, securely store, and share patient medical records. This platform will support workflows for patient care, including registration and scheduling, clinical systems for doctors, nurses, emergency personnel and other care providers, systems for lab technologists, pharmacists and radiologists, and billing systems for insurers.

Moreover, the MyChart function will allow patients to be more involved in their care. It connects patients to their healthcare providers, and ensures timely access to up-to-date medical records (such as diagnostic test results). With MyChart, patients have the option to message their doctors, access education material tailored to their condition, and more.

This project is being developed and powered by the Atlas Alliance, which consists of six healthcare organizations within the Champlain Local Health Integration Network (LHIN) who have united to form a regional hub for seamless, patient-centered healthcare. This digital network will facilitate real-time access to common medical information, allowing healthcare providers to make timely, informed decisions based on the most comprehensive data available.

THE ATLAS ALLIANCE:

- St. Francis Memorial Hospital
- Hawkesbury and District General Hospital
- The Ottawa Hospital
- The Ottawa Hospital Academic Family Health Team
- The University of Ottawa Heart Institute
- Renfrew Victoria Hospital

The new Epic system is planned to go live in June 2019 across all organizations.

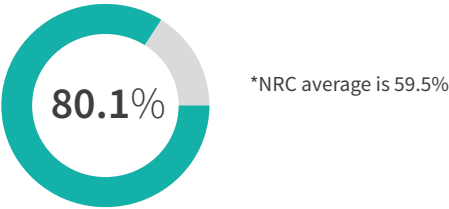


MEASURING AND EVALUATING QUALITY AND OUTCOMES

The Heart Institute prides itself on its quality of care and high-levels of patient satisfaction.

Year after year, our patient satisfaction ratings remain among the very best in Ontario.

PATIENT SATISFACTION



EXPANDING OUR CLINICAL SERVICES

PROCEDURE AND INTERVENTION VOLUMES

SURGICAL PROCEDURES	2017-18
Coronary Artery Bypass Grafts (CABG) & Other	896
Valve/CABG (combined)	188
Valve Surgery	627
Transplants	26
Ventricular Assist Devices	8
Total Surgical Procedures	1,500

NON SURGICAL INTERVENTIONS	2017-18
Catheterizations	6,384
PCI (Angioplasty)	2,650
Electrophysiology Studies	570
Ablations	650
Pacemakers	759
Defibrillators	393
TAVIs (Percutaneous valve replacement)	140
Mitraclip (Unfunded procedure)	36
Total Non-Surgical Interventions	11,488

CLINICAL VISITS

CLINIC VISITS	2017-18
Pacemaker/Defibrillator Clinic	9,080
Pre-Admission Unit	1,985
Cardiology Clinics	25,917
Cardiac Rehabilitation	3,189
Telehealth	527
Anti-Coagulation	1,805
Adult Congenital	5,664
Cardiac Surgery	4,680
Smoking Cessation	847
Rapid Intervention	102
Hypertension	1,703
Total Clinic Visits	61,417

UNPARALLELED CARE IN CANADA’S 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:

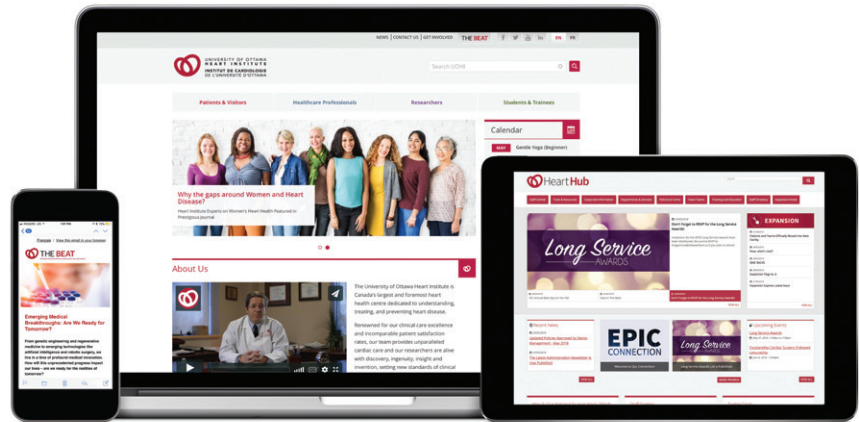
- permanence and quality of services,
- guaranteed access to services,
- adequate representation of Francophones,
- responsibility for French Language Services.

As such, the Heart Institute's French Language Services Office has developed several tools to foster a caring environment in which Franco-phones can easily understand and be understood by their caregivers, including:

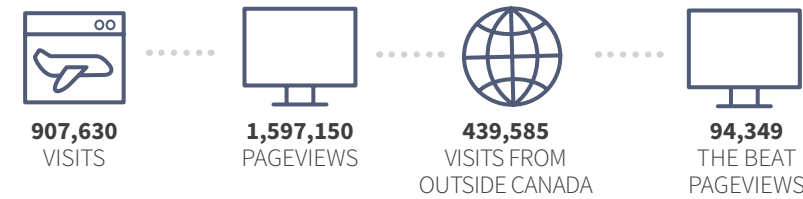
- the "Je parle français" button campaign which helps patients identify quickly who speaks French on their care team,
- the Language Skills Database which helps determine the French language capacity on every team and in each position across the Heart Institute,
- the French Language Learning Program which helps employees develop their French skills or learn basic French,
- and translation services which ensure all written material accessible to patients is available in both official languages.

Our external reach has increased by 34%

SHARING OUR STORY



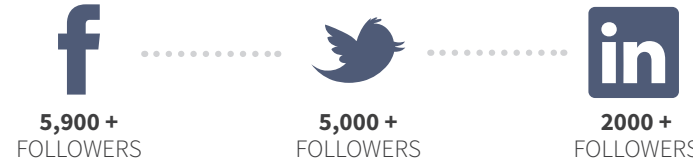
UOHI WEBSITE



HEARTHUB



SOCIAL MEDIA





IN THE MEDIA • CONNECTING WITH COMMUNITIES ACROSS CANADA



DR. DONNA MAY KIMMALIARDJUK, CANADA'S FIRST INUK HEART SURGEON

Dr. Donna May Kimmaliardjuk inspired us all when news of her winning an Indspire Award for 2017 spread like wildfire earlier this year. The 28-year-old from Chesterfield Inlet, Nunavut, is being celebrated as an influential role model for Indigenous and non-Indigenous Canadian youth – not to mention the country's first Inuk cardiac surgeon. As such, she has made countless headlines in print and online news publications, and has completed several interviews on radio and television. “Dr. K” is currently in the midst of completing her fourth year of residency training at the Heart Institute.



DR. JENNIFER REED'S CHAMPLAIN NURSES STUDY

Dr. Jennifer Reed *et al's* study into the physical activity levels of nurses in Ontario made big waves nationwide when news broke suggesting nurses may not be as healthy as we once believed. Despite working long hours in a physically and emotionally demanding job, a shocking number of nurses across the province are falling short of meeting the standard physical activity guidelines for maintaining a healthy lifestyle. Dr. Reed *et al's* work is published in the International Journal of Nursing Studies and has been profiled by local, regional and national news outlets.



DR. BENJAMIN HIBBERT'S CLINICAL iRADIAL STUDY

Dr. Benjamin Hibbert *et al's* CAPITAL iRADIAL study went viral this year after its findings proved a smartphone application produced more accurate results than traditional physical examination techniques to assess radial artery patency in patients undergoing angiography. Researchers believe these findings speak volumes about the potential of smartphone technology used in clinical decision-making at the patient bedside. Published in the Canadian Medical Association Journal in April, Dr. Hibbert *et al's* study has since been covered by news outlets and health, science and tech publications in Canada and around the world.



STRATEGIC DIRECTION NO. 4 : ENHANCING OUR GLOBAL RESEARCH IMPACT

Oracle 2.0

A BOLD NEW STRATEGY

This year, the Heart Institute widely consulted with our regional partners and examined the global trends in cardiovascular sciences to develop the 2018-2024 Ottawa Region for Advanced Cardiovascular Research Excellence (ORACLE) strategic plan. Led by Dr. Peter Liu, Chief Scientific Officer and Vice-President of Research, and Dr. Thierry Mesana, the ORACLE 2.0 strategy builds on a solid foundation following the implementation of the 2013-17 strategy. The new strategy will maximize regional and interdisciplinary research to solve major health problems in cardiovascular disease prevention and treatment to accelerate our global leadership in cardiovascular innovation.

FEATURED PUBLICATIONS

Title: PET Assessment of Epicardial Intimal Disease and Microvascular Dysfunction in Cardiac Allograft Vasculopathy

Journal: Journal of the American College of Cardiology

The study by Dr. Sharon Chih and team members described how a non-invasive and innovative imaging technique, Positron Emission Tomography (PET) with a novel radioisotope (Rubidium-82), can be utilized to assess a condition known as cardiac allograft vasculopathy. Cardiac allograft vasculopathy, which involves narrowing of vessels in the heart, is a leading cause of death following a transplant. Through this study, the team has opened an innovative avenue for the follow-up with our heart transplant patients.

Title: Electroconductive nanoengineered biomimetic hybrid fibers for cardiac tissue engineering

Journal: Journal of Materials Chemistry B

Dr. Alarcon *et al's* study looked at ways to improve the stability of nanosilver materials used in biomedical devices. Dr. Alarcon and his team, in partnership with researchers at the University of Talca in Chile and Kansas State University in the U.S., investigated the role of the chain length of small peptides in stabilizing silver nanostructures. Featured on the cover of the Journal of Materials Chemistry B, these findings have major implications for the future of engineering nanomaterials such as nanosilver for safe use in biomedical devices.

Read an article about the study published in The Beat.

FEATURED CLINICAL TRIAL

Dr. David Birnie and his team presented a late-breaking abstract at the American Heart Association Scientific Meeting on the BRUISE CONTROL-2 trial, “A randomized controlled trial of continued vs. interrupted novel anti-coagulant at the time of device surgery.”

The trial followed 662 patients with atrial fibrillation who were undergoing device surgery and taking novel anti-coagulants (dabigatran, rivaroxaban, or apixaban). Patients were assigned to either continued or interrupted anti-coagulant therapy.

The results confirmed either strategy may be appropriate depending on the clinical scenario. For example, continuing anti-coagulant therapy in patients with a high risk for stroke vs. discontinuing in patients with a lower risk to prevent bleeding (device pocket hematoma).

Read an article about this study in The Beat.

AWARD WINNING RESEARCHERS

EXTERNAL AWARDS:

- Dr. Vincent Chan, Cardiac Surgeon and Clinician Investigator, was selected as a Graham Surgical Investigator by the American Association for Thoracic Surgery (AATS) Graham Foundation.
- Dr. Peter Liu, Cardiologist and Clinician Scientist, received the Canadian Heart Failure Society’s Annual Achievement Award at the Canadian Cardiovascular Congress.
- Dr. Juan Russo, Fellow in Interventional Cardiology, received the American Heart Association Young Investigator Award.

HEART INSTITUTE AWARDS:

- UOHI Investigator of the Year: Katey Rayner, PhD.
- UOHI Global Achievement Awards: Katey Rayner, PhD and Munir Boodhwani, MD.
- UOHI Trainee of the Year: Dan Ramirez, MD (Cardiology Resident and MSc candidate).

KEY HIGHLIGHTS OF THE YEAR

NEW RECRUITS:

- Two new PhD scientists were recruited in partnership with the University of Ottawa’s Faculty of Medicine: Dr. Erin Mulvihill, Director of the Energy Substrate Metabolism Laboratory, and Dr. Han Kim, Director of the Functional Genetics and Metabolism Laboratory. Both have already been successful in obtaining infrastructure and operating grants.
- Two other PhD researcher appointments are in the area of epidemiology and big data science: Dr. Alomgir Hossain, Scientist, Cardiovascular Research Methods Centre, and Dr. Jodi Edwards, Director of the Brain and Heart Nexus Research Program.

HIGH-PROFILE GRANTS AND AWARDS IN 2017-18:

- The Heart Institute’s first Canada Research Chair awarded to Dr. Mireille Ouimet, Scientist and Assistant Professor at the University of Ottawa, Faculty of Medicine, who was named a Tier 2 Chair in Cardiovascular Metabolism and Cell Biology.
- Dr. Riina Kandolin was awarded the Banting Postdoctoral Fellowship for her project on neurohormonal adverse remodeling in chronic heart failure.
- Dr. Ruth McPherson was awarded a CIHR Foundation grant for her program about genetics and genomics of Coronary Artery Disease.
- Dr. Wenbin Liang was awarded the prestigious McDonald Scholarship from the Heart and Stroke Foundation for the highest-rated proposal in the National New Investigators Competition for his project on the role of Wnt signalling in cardiac arrhythmogenesis.

CLINICAL RESEARCH: THE ASK ME CAMPAIGN:

The Ask Me Campaign, in conjunction with resources from the Network of Networks (N2), was launched institution-wide. The goal of the campaign is to instill awareness of clinical research both in front-line clinical staff and in patients. The campaign also promotes becoming a patient partner in research, in alignment with the goals of our Patient Engagement in Research initiative.

MENTORSHIP FOR RESEARCHERS:

A formal research mentorship program has been launched under the direction of Clinician Scientist and Cardiologist Dr. Frans Leenen and Research Services. The goal of the program is to assist researchers, in particular early career scientists, to establish and grow their program and reach their full scientific potential.

ENDOWED FELLOWSHIPS:

The Heart Institute’s endowed fellowships and awards, supported by the Heart Institute Foundation, serve as tools for recruiting the best and brightest trainees from all corners of the globe. Seven endowed fellowships were awarded through a highly competitive peer review process in 2017-18. We also added to our suite of endowed fellowships through the addition of the Drs. Hyman & Sylvia (van Straten) Kaufman and Dr. Kwan-Leung Chan Fellowship for cardiac imaging trainees.

FUNDING TO SUPPORT EXCITING RESEARCH IDEAS:

Six grants to support excellent research projects were awarded to our research teams working as units known as Innovation Clusters. This followed a rigorous competition with only the best ideas funded, and with patients involved in the review of the applications. The projects are supported by donations to the Heart Institute Foundation.

HOSTED FOUR INTERNATIONAL MEETINGS

- International Ottawa Heart Conference on “Inflammation in Cardiometabolic Disease”
- Toronto-Ottawa Heart Summit on “Exciting Advances in Cardiovascular Medicine”
- Aortic Valve Repair Summit on “Advances in Valve Repair and Replacements”
- Ottawa Conference on “State-of-the-Art Clinical Approaches to Smoking Cessation”

RESEARCH BY THE NUMBERS



**62 Research Faculty,
Including 28 Scientists
and Clinician Scientists**



**\$10.3M Awarded in
External Peer Reviewed
Grants and Awards**



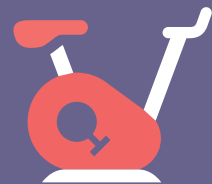
**275 Published
Research Articles**



**298 Active Clinical
Research Studies**



CARDIOLOGY



CARDIAC PREVENTION AND REHABILITATION



CARDIAC ANESTHESIOLOGY



CARDIAC SURGERY

OUR CLINICAL DIVISIONS



Dr. Rob Beanlands
CARDIOLOGY



Dr. Thais Coutinho
CARDIAC PREVENTION
AND REHABILITATION



Dr. Stéphane A. Lambert
CARDIAC
ANESTHESIOLOGY



Dr. Marc Ruel
CARDIAC
SURGERY

CARDIOLOGY

The Division of Cardiology, recognized internationally for excellence in patient care, education and research, includes 59 physicians and five PhD scientists each working to foster a patient-first culture.

Its clinical programs are recognized as leaders serving among the most patients in Canada in electrophysiology, interventional cardiology, cardiac critical care, heart failure and multimodality imaging.

A series of programs have been initiated in the past year to better serve patients, including:

- a regional echocardiography program in Renfrew,
- regional heart failure programs in Renfrew and Cornwall,
- rapid diagnostic testing for emergency room patients and rapid intervention clinic for heart failure,
- post-revascularization clinic with links to Cardiacore,
- a new atrial fibrillation referral program,
- and enhanced quality and patient safety.

Training includes one of the most sought-after cardiology residency programs in Canada with fellowships that attract trainees from around the world, led by Dr. Michael Froeschl, the 2017-18 Resident Doctors of Canada's Mikhael Awardee for Medical Education.

The Division of Cardiology was once again recognized for its research excellence, with over 168 articles published in 2017, and several members recognized nationally including Dr. Ruth McPherson, Canadian Institute of Health Research Foundation grant awardee, Drs. Mielniczuk and Chih, Heart and Stroke Foundation Personal Support awardees and Dr. Peter Liu, the 2017 Canadian Heart Failure Society Achievement awardee.



CARDIAC PREVENTION AND REHABILITATION

The Division of Cardiac Prevention and Rehabilitation is comprised of 4 Physicians, 57 allied health professionals, 7 scientists, 5 postdoctoral fellows, 4 PhD students, 7 full-time research staff members and 12 trainees and volunteers.

CARDIAC REHABILITATION

In 2017, several innovative rehabilitation programs were launched by the Division's team including the Risk Management and Walking Rehabilitation for Peripheral Arterial Disease, the first of its kind in Canada, the Virtual Care Rehabilitation Program, and the Cardiac Pre-Habilitation Program.

PREVENTION AND WELLNESS AND SMOKING CESSATION

Within the group of Prevention and Wellness, the CardioPrevent® Program has served hundreds of patients for primary prevention in 2017. The Virtual Care Program has enrolled close to 1,000 participants and its platform was chosen by the Heart & Stroke Foundation to be used as part of their ACTIVATE Program.

The now world-renowned Ottawa Model for Smoking Cessation helped 2,380 patients quit smoking at the Heart Institute alone, and over 40,000 patients at clinics and hospitals across Canada.

CANADIAN WOMEN'S HEART HEALTH CENTRE

In 2017, the Centre helped make women healthier through its IMPROVE Post-partum risk reduction program and the Women@Heart Program.

RESEARCH

Finally, the Division's scientists, including Drs. Thais Coutinho, Bob Reid, Heather Tulloch, Andrew Pipe and Jennifer Reed, brought in \$5,081,444 in research grants.



CARDIAC ANESTHESIOLOGY

The Division of Cardiac Anesthesiology includes 17 anesthesiologists fully dedicated to the care of cardiac patients. Its practice model of comprehensive perioperative care is unique in Canada, where anesthesiologists are involved from the careful preoperative preparation, through the expert intraoperative care, to the comprehensive postoperative care in the intensive care unit.

Over the last year, the Division has grown to meet the increasing clinical needs of the Heart Institute and has provided excellent clinical care by facilitating the delivery of high-quality surgical care to a growing number of increasingly complex cardiac patients.

Its team members have been instrumental in achieving a smooth and successful transition to the Heart Institute's new state-of-the-art facility, and a significant role in the Heart Institute's multidisciplinary Heart Teams.

Finally, two of its members were honoured in 2017 with important awards by the University of Ottawa's Department of Anesthesiology and Pain Medicine. Dr. Jean-Yves Dupuis received the Earl Wynands Award, in recognition of his lifetime contribution of excellence to the department, and Dr. Benjamin Sohmer received the Dave Roberts Memorial Award, a teaching award in which the recipient is decided by votes from anesthesia residents.

CARDIAC SURGERY

The Division of Cardiac Surgery is an international leader in clinical care, quality outcomes, research dissemination, and advanced post-graduate teaching.

The Division consists of eight full-time academic operating heart surgeons, one adult congenital surgeon, two surgeons with a consultancy role in quality and education, two basic scientists, and four associate surgeons.

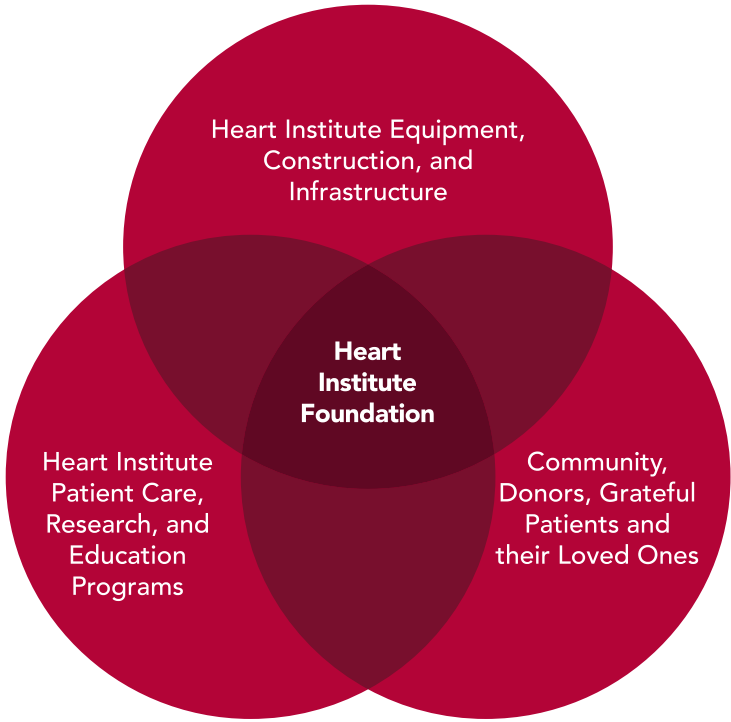
Over the last year, the team performed over 1,600 complex cardiac surgical interventions, with outcomes maintained amongst the very best in the country, as repeatedly evidenced by external data from the Canadian Institute for Health Information, the Canadian Cardiovascular Society, and others.

The Division of Cardiac Surgery, despite its size, was also involved in the publication of nearly 80 scientific papers, and surgeons continued to shape cardiac surgery and cardiovascular care around the world. As an internationally-renowned centre for the advanced teaching of complex surgical techniques, such as minimally invasive bypass and valve surgery, hundreds of surgeons from around the world have come to the Heart Institute to perfect those techniques.

But above all, it is the patients and their families who are at the cornerstone of the Division. Everything the surgeons do is ultimately oriented at providing the very best patient care. They work closely with the Divisions of Cardiac Anesthesiology and Cardiology, and colleagues from the Heart Institute multi disciplinary teams to constantly achieve this goal.

THE HEART INSTITUTE FOUNDATION

The Heart Institute Foundation promotes and implements the fundraising initiatives of the Heart Institute, a bridge between the programs, facilities, and people who save lives every day and the individual and corporate philanthropists in our community who share the vision of a world-class cardiac care centre, and are engaged by the Foundation to provide financial support to achieve this goal.



Thanks to the generosity of our community, the Heart Institute Foundation can provide funds to support priorities including patient care, research, and education. Funds raised support renovations to the original Heart Institute building will improve our patients’ experience, and enable the purchase of specialized life-saving equipment — for which we do not receive any government funding.

RAISING MONEY



Last year, **15,040** generous donors in our community made over **36,000** gifts to the Heart Institute Foundation.



Throughout the year, more than **75** community events are held to raise funds for the Heart Institute. A total of **791** board members, committee members, administrative volunteers, and event volunteers donated their time and expertise to the Heart Institute last year.

FUNDING HEART INSTITUTE PRIORITIES



In 2017-18, the Patient Alumni Association received **\$250,000** in funding to support their work in patient engagement.



More than **\$716,000** in funding was provided to the Canadian Women’s Heart Health Centre last year.



Last year, through support from our community, the Foundation was able to provide **\$3,094,430** in funding to research initiatives at the Heart Institute, paving the way for the treatments of tomorrow.



In 2017-18, the Heart Institute Foundation provided more than **\$19,360,000** in funding to support the completion of the new critical care tower, and to purchase specialized equipment, technologies, and innovations.

PATIENT ALUMNI ASSOCIATION

The Heart Institute’s Patient Alumni Association continues in its new direction set last year in which all patients are now made automatic members of the Association upon discharge from the hospital. This new approach triggered the need for a refocused strategic plan, a new communication strategy, amended by-laws and a renewed governance structure.

THE PATIENT ALUMNI ASSOCIATION NOW FOCUSES ON:

- continuing and increasing the support and activities to its members.
- strengthening its membership.
- increasing its activities and support provided to the Heart Institute.
- significantly augmenting its involvement in patient engagement initiatives.

The Patient Alumni Association continues to strengthen its position as a strategic partner of the Heart Institute through:

STRATEGIC OBJECTIVES

- Provide strategic support to the Heart Institute.
- Strengthen and improve the support to the community of patients, relatives, caregivers and others.
- Continue to improve the delivery of bilingual resources and services which promote the well-being of Alumni members.
- Promote and contribute to the Heart Institute’s patient engagement initiatives.

STRATEGIC DIRECTIONS

- Foster greater opportunities for patient engagement.
- Increase membership.
- Increase the number of special activities to strengthen member involvement.
- Fund patient-centered projects.
- Increase visibility and activities as partners of the Heart Institute.

The Patient Alumni Association has recently been recognized as a leading practice organization by the Health Standards Organization.

A more detailed report of the past year’s activities is available at ottawaheartalumni.ca

HEART INSTITUTE AUXILIARY

The Heart Institute Auxiliary is a 150-person unit providing over 20,000 volunteer hours annually to the Heart Institute. Its volunteers can be seen in seven different areas of the Heart Institute, with the largest group being the lobby desk volunteers. These are the smiling faces every person, whether patient or visitor sees as they enter the Heart Institute.

Part of the Auxiliary's area of responsibility includes the operation of the boutique and it is through this fund-raising venture the Auxiliary has contributed over \$1.1 million to the Heart Institute for equipment purchases in the past 40 years. Profits from the boutique have also enabled the Auxiliary to establish the Nora Greene Auxiliary Fund with the Heart Institute Foundation. This is an endowment fund named after the Auxiliary’s founding director and first president.

Auxiliary members are proud to be an integral part of the operations of the Heart Institute. The Auxiliary welcomes new members at all times.

FINANCIAL STATEMENTS 2017-18

GUIDING PRINCIPLES

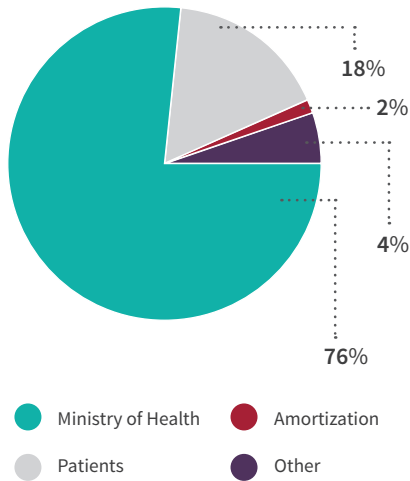
We are held accountable for the use of public funds and our financial statements are audited yearly by Marcil Lavallée.

We are transparent to all stakeholders, including all Canadians.

We give taxpayers value for money by managing responsibly.

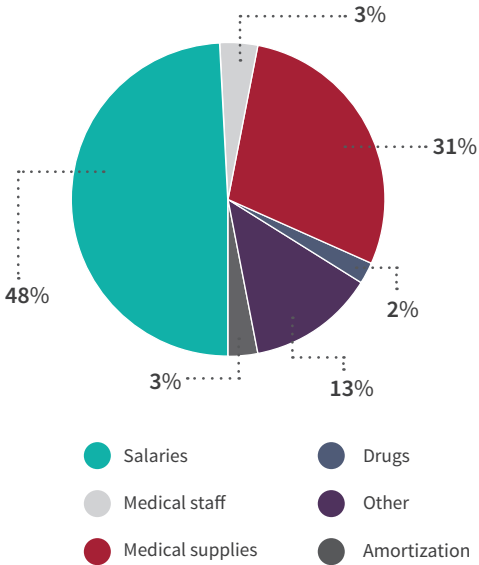
UNIVERSITY OF OTTAWA HEART INSTITUTE

REVENUE



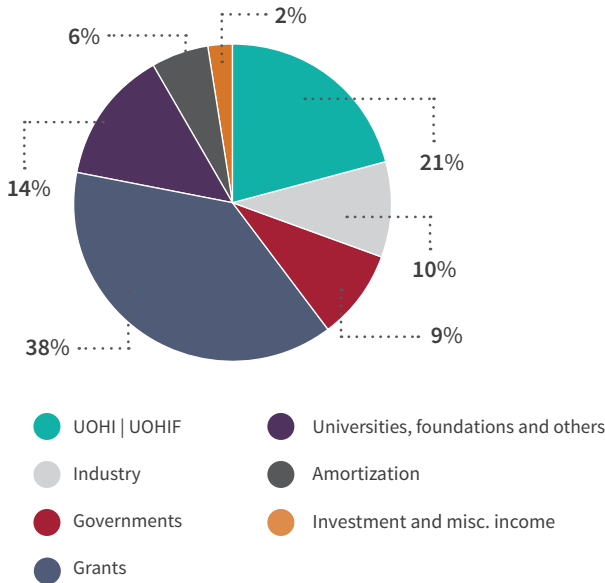
TOTAL BUDGET \$181 MILLION

EXPENSES



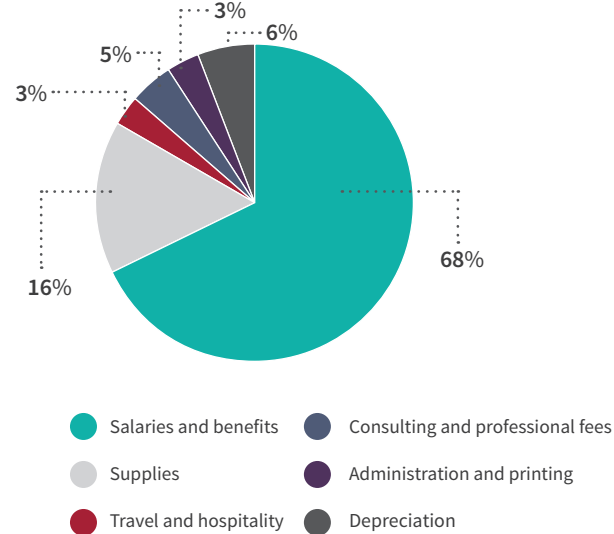
OTTAWA HEART INSTITUTE RESEARCH CORPORATION

REVENUE



TOTAL BUDGET \$35.2 MILLION

EXPENSES





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DE L'UNIVERSITÉ D'OTTAWA