



2015 ANNUAL REPORT

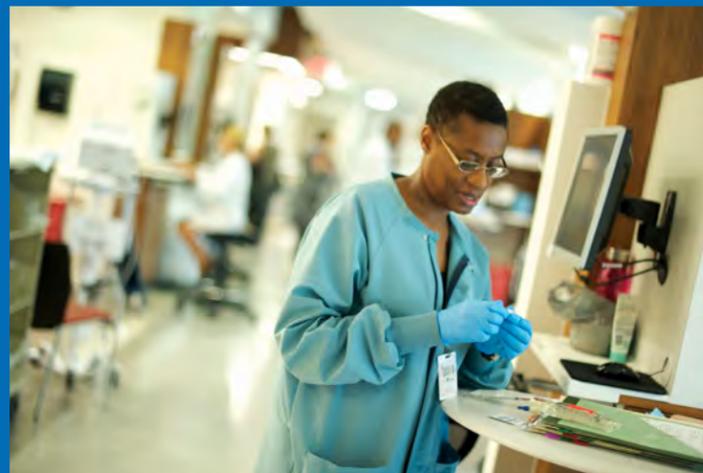


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LEADERSHIP MESSAGE

Welcome to the 2015 Annual Report for the Princess Margaret Cancer Centre at the University Health Network (UHN). This year proved to be both exciting and engaging as we continue to deliver revolutionary cancer care for our patients, and we are looking forward to sharing the progress we have made. The 2015 edition showcases the recent activities and accomplishments of our people, departments, disease groups, and research and education programs. As one of the largest comprehensive cancer treatment facilities in the world, we have a great deal to share as we continue our efforts to be on the frontiers of medical, surgical and radiation oncology, embracing the latest technology and international best-practices, and setting standards for patient care.

In 2015, we celebrated 20 years of our presence on University Avenue; the hub of the discovery district. The move not only signified our commitment to meet the increased demands and evolving needs of our patients, but also encouraged collaboration, innovation, and research, enabling us to continue making progress in conquering cancer. Today, we again embrace change as we drive implementation of our space plan, with a focus on redeveloping facilities to improve the patient experience, including patient amenities, access, flow, and wayfinding.

2015 marked the completion of a five year project at the Kuwait Cancer Control Centre (KCCC), where over 250 individuals across Princess Margaret and UHN participated in visits to the KCCC. Through this collaboration, Princess Margaret staff had the opportunity to share best practices and transfer knowledge half way across the world for the joint mission of addressing the global cancer burden.

Many of our initiatives would not have been possible without the Princess Margaret Cancer Foundation and their unwavering commitment to us that enables our work of conquering cancer in our lifetime.

Additionally, we would like to thank our staff and volunteers for their dedication and determination to provide the very highest standard of care and support for our patients, and for continually pushing the boundaries of innovation and collaboration in our quest towards realizing our vision as a Top 5 Cancer Centre in the world. For more information about Princess Margaret, please visit our website: www.theprincessmargaret.ca.

Marnie Escaf MHA, HBBA
Senior Vice President
Executive Lead
Princess Margaret Cancer Program



Mary Gospodarowicz MD, FRCPC, FRCR (Hon)
Medical Director
Princess Margaret Cancer Program

OUR PROGRAM

WHO WE ARE

Our Vision: "To achieve global impact as one of the top five comprehensive cancer programs in the world"

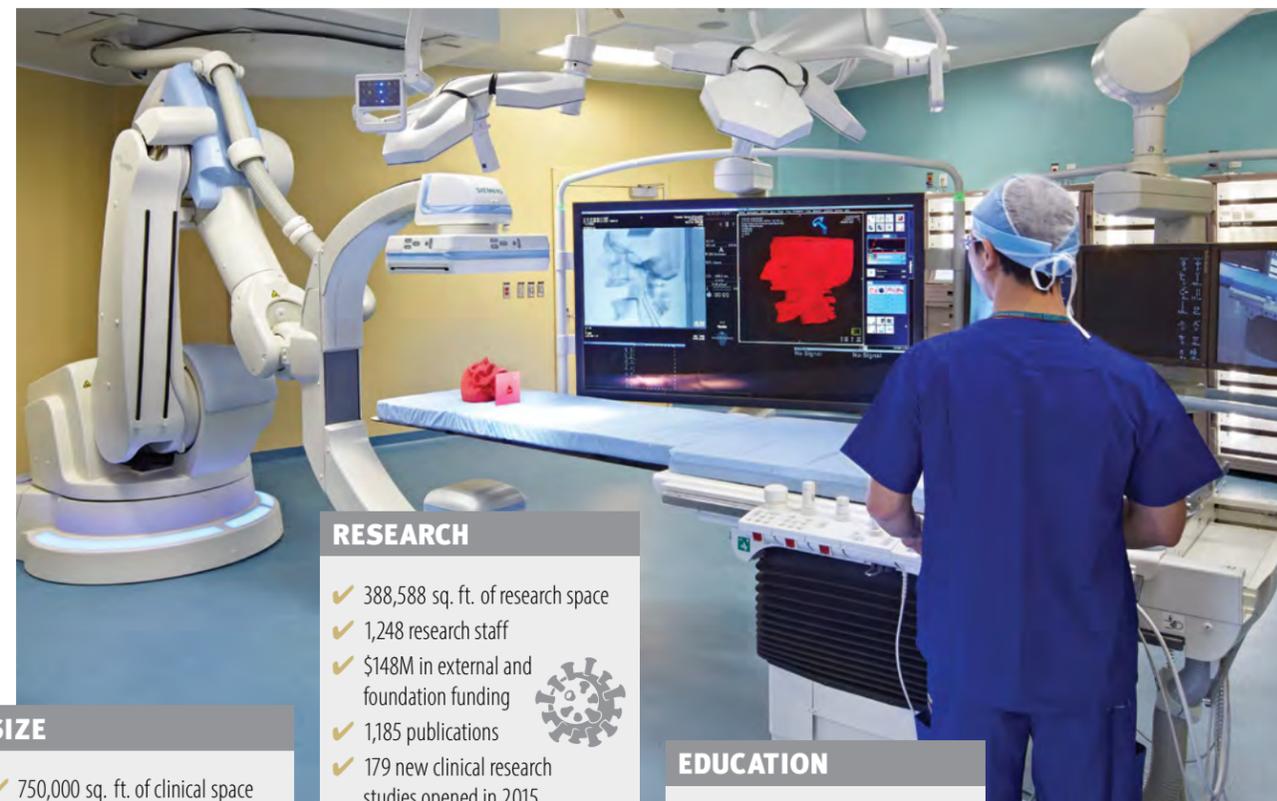
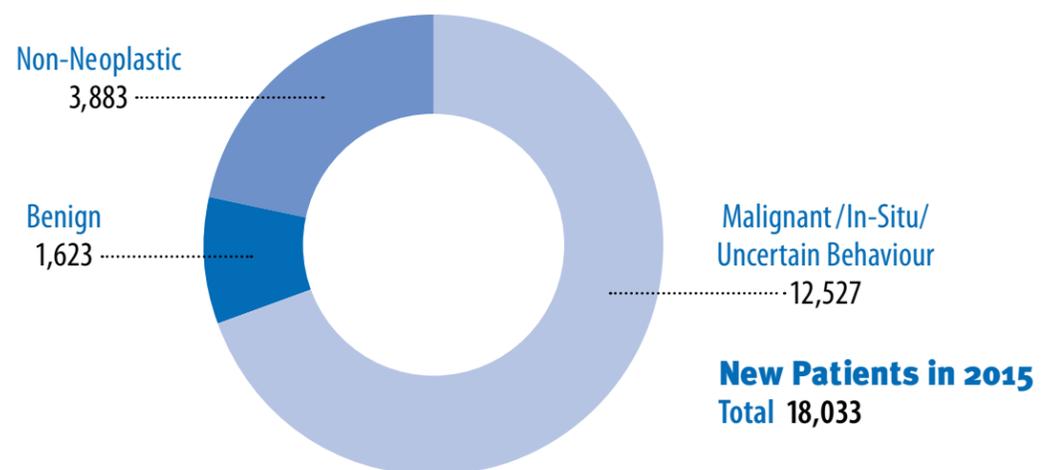
The Princess Margaret Cancer Centre is Canada's largest comprehensive cancer centre. Offering a full suite of cancer services at the community, regional, provincial, and international levels, we are a key resource for complex cancer care spanning the continuum; from diagnosis to palliation and survivorship, across all disease sites. With ongoing research, education and innovation, Princess Margaret continues to be at the frontier of medical, surgical and radiation oncology; embracing the latest technology, international best-practices, and setting standards for patient care.

We conduct a wide range of basic, translational, and clinical cancer research as well as population science and cancer control research. Our scientists lead transdisciplinary cancer research across 10 major thematic areas: Immune Therapy; Stem Cells; Genomics, Epigenetics, and Diagnostics; Proteomics and Computational Biology; Cancer Imaging and Image Guided Therapy; Cancer Metabolism and Microenvironment; Cancer Models and Drug Development; Cancer Targets and Pathways, Cancer Predisposition and Prevention, and Supportive Care.

We transform cancer care through research and knowledge transfer. Education is at the heart of everything we do. We engage the public, our patients, our staff, and healthcare professionals in education on all aspects of cancer. We employ a large number of highly active and evolving education programs at Princess Margaret that encourage collaboration and networking among professionals and organizations involved in cancer.

Under the auspices of Cancer Care Ontario (CCO), Princess Margaret provides leadership to the Toronto Central South Regional Cancer Program, which includes Princess Margaret and UHN, Mount Sinai Hospital, St. Joseph's Health Centre, St. Michael's Hospital and Women's College Hospital, in collaboration with Toronto Central Community Care Access Centre.

Cancer patients receive care across UHN; Toronto General Hospital, Toronto Western Hospital, Toronto Rehabilitation Institute and the Princess Margaret Cancer Centre, however most cancer services are delivered at the Princess Margaret site. The following numbers describe the size and scope of cancer clinical care, research, and education activity across our sites.



SIZE

- ✓ 750,000 sq. ft. of clinical space
- ✓ >3,000 people
 - ◆ 2,977 employees
 - ◆ 93 oncologists
 - ◆ 400 volunteers
- ✓ 202 beds
- ✓ 400 ambulatory clinics
- ✓ 18 radiation treatment machines

RESEARCH

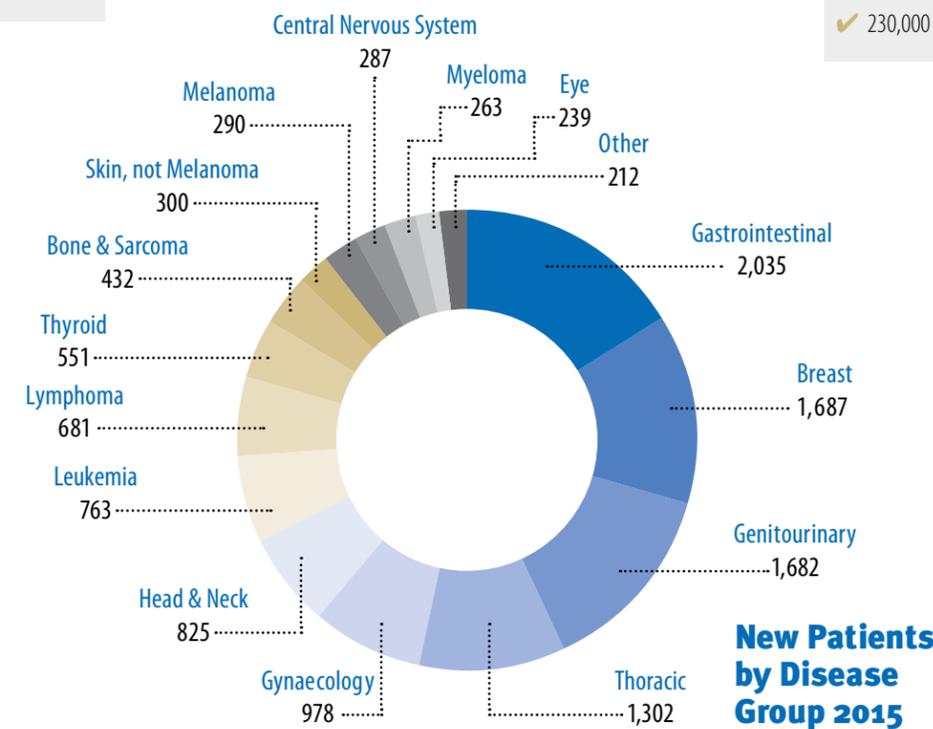
- ✓ 388,588 sq. ft. of research space
- ✓ 1,248 research staff
- ✓ \$148M in external and foundation funding
- ✓ 1,185 publications
- ✓ 179 new clinical research studies opened in 2015
- ✓ 9,070 patients participated in clinical research studies in 2015
- ✓ 2,089 patients entered in clinical trials in 2015
- ✓ 20% of treated patients participated in clinical trials

EDUCATION

- ✓ 130 clinical fellows
- ✓ 496 nursing & health professional students
- ✓ 112 residents

CLINICAL CARE

- ✓ 18,033 new patients
- ✓ 6,206 surgeries
- ✓ 34,851 outpatient chemo visits
- ✓ 93,379 radiation visits
- ✓ 416 stem cell transplants
- ✓ 230,000 clinic visits



CLINICAL CARE

OUR CLINICAL PROGRAMS

Surgical Oncology

The Department of Surgical Oncology offers the most comprehensive surgical cancer care in Canada, with 89 beds. Our multidisciplinary surgical teams offer services to over 6,200 patients a year for central nervous system, breast, skin and melanoma, sarcoma, urology, head and neck, thoracic, hepatobiliary, colorectal, gynecologic, ocular neoplasms, oncological reconstruction, endocrine, and dental oncology. 80% of patients require surgical services during their cancer care, and our team of 68 surgical oncologists, and more than 525 clinical, research, administrative, and other support staff continue to meet the increasing demand for surgical services while contributing to growing and improving the program in an area where we provide care to the most complex patients.

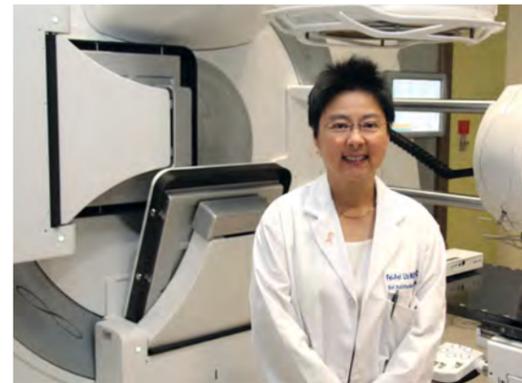
Jonathan C. Irish MD MSc FRCSC FACS

Chief, Surgical Oncology, Princess Margaret Cancer Centre
 Provincial Head, Surgical Oncology, Cancer Care Ontario
 The Kevin and Sandra Sullivan Chair in Surgical Oncology
 Professor, Department of Otolaryngology-Head and Neck Surgery, University of Toronto



Radiation Oncology

The Radiation Medicine Program is the largest radiation treatment centre in Canada, and one of the largest single-site treatment facilities in the world. The program is organized by three core disciplines of 36 radiation oncologists, 33 radiation physicists, and 160 radiation therapists, which are supported by clinical, research, administrative, and technical support staff. It is equipped with state-of-the-art technologies that facilitate high-precision and quality care for over 8,000 new cancer patients annually. Our interprofessional team of world-renowned radiation oncologists, physicists, therapists, nurses, and researchers is dedicated to advancing best practices in radiation medicine through innovative research, education, and the uptake of cutting-edge, novel radiation practices and technologies.



Fei-Fei Liu MD FRCP

Chief, Radiation Medicine Program, Princess Margaret Cancer Centre
 Professor and Chair, Department of Radiation Oncology, University of Toronto
 Senior Scientist, Ontario Cancer Institute
 Dr. Mariano Elia Chair in Head & Neck Oncology



Medical Oncology

The Department of Medical Oncology and Hematology is comprised of 53 medical and hematological oncologists, together with over 150 practitioners, nurses, trainees and allied health professionals. This multidisciplinary, inter-professional team provides care to complex solid tumour cases, and also comprises the largest leukemia, lymphoma, myeloma, and bone marrow transplantation programs in Canada. More than 50 international fellows from five continents are currently undergoing clinical research training at Princess Margaret. The team also includes an additional 8 hematologists for treatment of benign blood disorders. Our facilities include over 100 inpatient beds, an 80-chair chemotherapy unit and transfusion centre, an urgent care centre, and a bone marrow transplantation day hospital, in addition to greater than 100 site-specific clinics per week in the ambulatory setting.

Amit M. Oza MD

Interim Head, Department of Medical Oncology and Hematology, Princess Margaret Cancer Centre
 Professor of Medicine, University of Toronto
 Director, Cancer Clinical Research Unit, Princess Margaret Cancer Centre
 Co-Director Bras Family Drug Development Program, Princess Margaret Cancer Centre

Supportive Care

The Department of Supportive Care is comprised of three divisions: Psychosocial Oncology, Palliative Care, and the Cancer Rehabilitation and Survivorship Program. In total, over 80 social workers, psychiatrists, psychologists, palliative care physicians, nurses, music therapists, kinesiologists, occupational therapists, physiotherapists, registered massage therapists, dietitians, and other allied health engage in clinical care, research, and education, with the ultimate vision to ensure that every patient receives the supportive and palliative care that they need. Care is provided to patients through clinics, consultation services, and emergency on-call services, in the 12-bed palliative care inpatient unit as well as in the 10-bed Kensington Hospice. The Department of Supportive Care aims to maximize the quality of the patient experience across the continuum of care, and enhance research and education opportunities through increased integration and collaboration both nationally and internationally.

Gary Rodin MD

Head, Department of Supportive Care, Princess Margaret Cancer Centre
 Professor of Psychiatry and Chair in Psychosocial Oncology and Palliative Care, University of Toronto



Collaborative Academic Practice

The Collaborative Academic Practice portfolio contains 14 health professions, including Nursing, Anesthesia Assistants, Chiropractic, Clinical Nutrition, Kinesiology, Medical Imaging Technology, Occupational Therapy, Physiotherapy, Psychology, Respiratory Therapy, Social Work, Speech Language Pathology, Spiritual Care, and Therapeutic Recreation, all of which are involved in the care of cancer patients. These health professionals play a central role in leading the synthesis of practice, education, and research, and each person plays a part in modeling a dynamic culture of collaboration. Each profession is aligned to the cancer program areas, working to optimize unique contributions in collaboration with other members of interdisciplinary and multidisciplinary teams, to enable best practice, best care, and best service. There are over 500 nurses and 28 health professionals dedicated to the care of cancer patients at Princess Margaret.



Pamela Savage RN MAEd, CON(C)

Director of Professional Practice, Princess Margaret Cancer Centre

PERSONALIZED CANCER MEDICINE

OUR STRATEGY

In 2015, we refreshed the Princess Margaret Cancer Centre Strategy by adding specificity and precision to our directions, and further integrating the activities of our research program. We provided more detail on the activities that help us make progress towards our strategic goals, and demonstrated the momentum already gained in executing our strategic plan. The Princess Margaret Cancer Centre Strategy 2013–2018: World Class Personalized Cancer Medicine summarizes our goals across five key strategic themes with a vision of **Global Impact as a Top 5 Comprehensive Cancer Centre in the World**. To view the full report, visit the link here: bit.ly/1YdUsy7



Transform patient care We will transform patient care by empowering patients to become partners in their care, developing new models of inter-professional care, offering support through all the aspects of cancer care, and customizing support for unique and vulnerable populations.

Augment correlative cancer biology We will understand cancer biology at the molecular, cellular, and tumour levels, knowing that this is critical to diagnosis, monitoring treatment response, and developing new therapeutic strategies that are safer and more effective.

Accelerate guided therapeutics We will foster continuous innovation and evaluation of technologies, supported by a robust foundation of informatics and quantification; enabling individualized cancer detection, diagnosis, treatment, and support.

Expand novel therapeutics We will provide patients with access to leading-edge treatments through research and implementation of novel systemic therapeutics, incorporating molecular imaging and genomic signatures, and improving outcomes for cancer patients globally.

Drive outreach and education We will strengthen our impact and reputation by contributing to our communities, improving care and research, and exchanging knowledge through education and outreach, as well as through global and local collaborations and partnerships.

WE ARE TRANSFORMING PATIENT CARE

Spotlight: Laura Mitchell

Laura Mitchell is a Clinical Nurse Specialist in the Adolescent and Young Adult (AYA) Program at Princess Margaret. Laura became interested in the healthcare field while taking nursing elective courses during a Bachelor of Arts (Sociology) degree at McGill University. She then pursued a Bachelor of Science in Nursing at the University of Toronto where her training focused on oncology and palliative care. After graduation, Laura began her nursing career at Princess Margaret as a full-time inpatient nurse while concurrently completing a Certification in Oncology Nursing CON(C) and a Master in Nursing degree from the University of Toronto. During her Masters, Princess Margaret awarded Laura with the Frank Gerstein Advanced Education Fund for Palliative Care Nursing. Following her Master's degree, Laura worked as a Clinical Nurse Specialist in the Palliative Care and Pain Programs at Princess Margaret before being approached to co-lead the hospital's AYA Program after demonstrating a special interest in AYA oncology during her Master's Program.

Having the opportunity to launch an AYA Program at Princess Margaret has been an important accomplishment for Laura. She is proud to be a part of the first AYA Program in Ontario, and to be awarded the Innovative Program and Services Award at the only North American AYA conference, Critical Mass. In addition to providing patient care, Laura also enjoys teaching healthcare providers about key AYA issues such as fertility and sexual health. Not only has she educated the majority of nursing staff at Princess Margaret, but also nationally at the Canadian Oncology Nursing Conference, and internationally to oncology nurses at Hamad Medical Corporation in Qatar. For this work, she was a proud recipient of the Excellence in Oncology Nursing Teaching/Mentorship Award at Princess Margaret's Oncology Nursing Day ceremony.

Laura is dedicated to increasing awareness of AYA unique needs. She is continuing to accomplish this by co-authoring recent publications with Dr. Abha Gupta in pertinent oncology journals – including the Cancer and the Canadian Oncology Nursing Journal – and by planning an international sexual health symposium with the goal of developing clinical guidelines around common AYA sexual health concerns.



“I have witnessed how devastating a cancer diagnosis is for someone young and although I know we can't change the fact that they have this diagnosis, I am certain we can change their experience with cancer – and this is why dedicated AYA programming is so critical at Princess Margaret.”

Laura Mitchell

Global Institute of Psychosocial, Palliative and End-of-Life Care

The Global Institute of Psychosocial, Palliative and End-of-Life Care (GIPPEC) is dedicated to furthering and developing interdisciplinary research that addresses the medical, psychological, social, legal, ethical, cultural, and religious problems related to psychosocial and palliative care of individuals with advanced and terminal disease. Research generated from GIPPEC will also inform debate regarding complex and controversial medical, legal, and ethical issues related to death and dying.

GIPPEC's vision is to be an interdisciplinary, collaborative centre for research and education that is focused on the psychological, physical, and social consequences of life-threatening and advanced disease. GIPPEC brings together global thought leaders from multiple disciplines to engage in clinical research projects, discussion, and debate on current topics with the goal of generating meaningful evidence to inform local, national and global health policy, clinical practice, and public awareness.

GIPPEC is involved in a number of initiatives such as expanding the Managing Cancer And Living Meaningfully (CALM) training to countries such as China and Italy, as well as holding international symposiums to bring together global thought leaders.

In 2015, an online training platform was developed to train researchers in Kenya. The curriculum includes background information, step by step instructions, videos of re-enacted scenarios, and an evaluation component to assess knowledge translation. This work will enable the expansion of research that originated at Princess Margaret, and creates an infrastructure to support work with future international collaborators. For more information, follow @gippec on Twitter.

“From assisted dying in Canada to the quality of death and dying in Africa, GIPPEC is promoting scholarship and advocacy to improve the palliative and end-of-life care throughout the world.” Gary Rodin MD



Top Row: Bill O'Neill, Jill Kelsall, Joshua Oliver, Marsha Hewitt, Malcolm Moore, Isabelle Baszanger, David Oliver, Yona Lunsky, Timothy Quill, Kevin Reel
Bottom Row: Eric Cazdyn, Camilla Zimmermann, Gary Rodin, Jennifer Gibson

Colorectal Cancer Diagnostic Assessment Program

The UHN Colorectal Cancer Diagnostic Assessment Program (CRC DAP) is transforming patient care through the provision of personalized, coordinated, and expedited access for patients referred with a suspicion or confirmed diagnosis of colorectal cancer. Patients who enter the DAP have access to a multidisciplinary team, including a nurse navigator, who provides a single point for patient contact, coordinates appropriate testing utilizing evidence-based diagnostic pathways, and provides patient education and supportive care to improve the patient experience.



Virginia Mulcahy

The program aims to make progress towards regional integration in addition to conducting research and sharing knowledge on best models of care. The CRC DAP held its first annual continuing medical education event, Colorectal Cancer Management for the Gastroenterologist, in June of 2015, with over 50 gastroenterologists and family physicians in attendance. The DAP also developed a partnership with the Kensington Screening Clinic to provide enhanced capacity for endoscopy services. Currently, an e-cancer tool is under development, and will capture synoptic data at the point of care to generate linked clinical notes that will reduce duplicate data entry, and allow real-time access to diagnostic information as the patient travels through the diagnostic work-up.



Dr. Fayez Quereshey

“The stress associated with a cancer diagnosis is difficult enough, and treatment wait times should not be adding to the anxiety surrounding patient care. The colorectal DAP program promotes patient-centred care by streamlining the process, while providing adequate nursing navigation to holistically support and manage a patient’s treatment plan. Ultimately, our goal is to condense the preoperative evaluation phase to a single day experience, whereby a definitive diagnosis and treatment plan can be articulated for their care.” Faye A. Quereshey MD, MBA, FRCSC

Ambulatory Team

The Princess Margaret Ambulatory Team strives to support an environment that advances collaborative and integrated care, fosters inter-professional teams, maximizes talent and expertise, and cultivates a culture of inquiry and quality performance.

The Interprofessional Model of Care is grounded in the Canadian Interprofessional Health Collaborative (CIHI) Competency Framework of a highly functioning team. It aims to ensure the right role is providing the right care at the right time for the patient, and adheres to three principles: quality, safety, and continuity of care.



Keeping the patient at the centre, work is currently focused on Specialized Oncology Nurses; ensuring they are working to their full scope of practice to meet gaps in patient needs. To achieve this, three distinct nursing functions have been created: triage, circulating, and tele nurses.

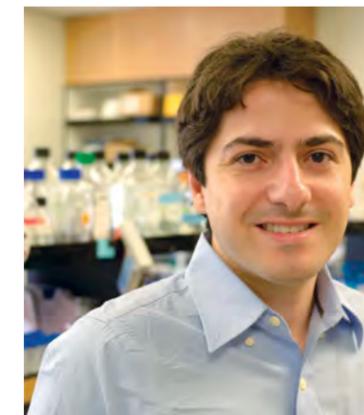
In 2015, the new model of care rolled out into the Allogeneic Bone Marrow Transplant and Gynecologic Oncology Clinic sites; with focus on the nursing triage (front-of house assessments and proactive care) and on the tele role (symptom management, customer service, mitigation, and proactive calls). Exciting progress has begun with pharmacy to enhance integration of their role to ensure safe medication reconciliation.

Lung, Leukemia, Breast, and Head & Neck are in early stages of engagement and will be establishing site working groups to plan implementation for their clinics in 2016.

WE ARE AUGMENTING CORRELATIVE CANCER BIOLOGY

Spotlight: Dr. Daniel De Carvalho

Dr. Daniel De Carvalho is a Scientist at Princess Margaret with interest in the fields of cancer epigenetics and cancer immunology. During his Ph.D. in immunology at the University of São Paulo, Dr. De Carvalho studied how cancer cells evade the immune system by shutting down genes necessary for cell death. In his research, he discovered that cancer cells use something known as an epigenetic mechanism to turn off these genes. It was through this discovery that Dr. De Carvalho realized he had found his passion in the field of epigenetics. After his Ph.D., Dr. De Carvalho completed postdoctoral training in Cancer Epigenetics at the University of Southern California in Los Angeles, where he identified the driver epigenetic mechanisms necessary for cancer cell survival. This finding was highlighted by the American Society of Clinical Oncology in its 2012 annual report on progress against cancer as a groundbreaking research study that may improve current epigenetic therapies. Because of the potential to transform the cancer immunotherapy field, Dr. De Carvalho's work was selected among the Top 10 Notable advances of 2015 by Nature Medicine and Top 10 research impact stories by the Canadian Cancer Society.



Dr. De Carvalho moved from Brazil and chose Toronto to be his new home, fully embracing the city's multiculturalism. He especially enjoys the cultural diversity of food Toronto has to offer. Additionally, Dr. De Carvalho likes the Toronto climate, as moving here represents the first time he has lived in a city with all four seasons. In his free time, Dr. Carvalho's participates in triathlons and long distance running.

Regarding his career, Dr. De Carvalho firmly believes that Toronto is one of the best cities in the world for biomedical research, with a high profile university, and several hospitals and research institutes in a relatively small area; he feels this creates an ideal environment for medical discovery and innovation. “Princess Margaret is the epicenter of cancer research in Toronto and a great place to work. We have scientists and clinicians that are very willing to collaborate, share ideas, and discuss clinical challenges and potential solutions. The environment here has been very important in shaping my research program towards more translational aspects”.

Cancer Genomics Program

The Cancer Genomics Program (CGP) is dedicated to advancing personalized cancer medicine through the identification of underlying genetic mutations and molecular mechanisms that drive cancer, and to match patients to targeted therapies based on their genotypes. The CGP's flagship studies, Integrated Molecular Profiling in Advanced Cancers Trial (IMPACT) and Community Oncology Molecular Profiling in Advanced Cancers Trial (COMPACT), have collectively enrolled over 3000 patients to date, many of whom have been matched to clinical trials based on genomic profiling results. The team's experience from IMPACT and COMPACT has facilitated the transfer of genomic profiling technology from a research environment to a clinical routine molecular genetic testing environment; patients receiving standard of care treatment can now also benefit from more comprehensive testing using this new technology.

As the landscape of genomic testing is ever changing, the CGP hosts an annual Applied Cancer Genomics Symposium, an educational event for cancer researchers and inter-professionals. The objective of the Symposium is to provide the latest updates on how genomic profiling technologies can be applied to identify clinically actionable genomic alterations. In November 2015, six world class experts in clinical genetics, molecular diagnostics, bioinformatics, pathology, and genomic-based clinical trials were invited to present at the second annual Applied Cancer Genomics Symposium and sit as External Advisory Board (EAB) members for the CGP. The CGP EAB members participated in a day-long presentation from the program and provided useful advice and critical evaluation of the program's past performance, current initiatives, and future directions in the delivery of precision medicine. Recommendations from the CGP EAB have been summarized in a 2015 CGP EAB Report and 2016 CGP initiatives will incorporate many of these recommendations.



Back Row: Dr. Philippe Bedard, Dr. Michael Berger, Memorial Sloan Kettering Cancer Center, Dr. Trevor Pugh

Front Row: Dr. Lillian Siu, Celeste Yu, Jeanna McCuaig, Dr. Tracy Stockley, Dr. Raja Luthra, MD Anderson Cancer Center, Dr. Shashikant Kulkarni, Washington University School of Medicine, Dr. Patricia LoRusso, Yale Cancer Center, Dr. Allison Kurian, Stanford University School of Medicine, Dr. John Quackenbush, Dana-Farber Cancer Institute

WE ARE ACCELERATING GUIDED THERAPEUTICS

Clinical Implementation of MR-guided Radiotherapy

In November 2015, the MR-guided interventional prostate team migrated their entire program into the MR-guided Radiotherapy (MRgRT) facility. For these procedures, the clinical team uses MR-guidance to target the tumour for both biopsy and catheters placement for high dose rate brachytherapy. Because the entire procedure is now performed in the same space, this has allowed the team to both increase patient safety, and also increase treatment capacity. The MRgRT Facility consists of 3 suites: A High Dose Rate (HDR) Brachytherapy suite, an external beam linear accelerator suite, and an MRI on rails that travels between the two adjacent suites. MR-guided high dose rate brachytherapy treatment for prostate cancer is just the beginning for this high tech facility. In the near future, we will usher in other interventional procedures. The unprecedented ability to accurately localize and target tumours is an enormous step forward in advancing patient treatment and care.



“Integrating MR imaging with radiation treatment in the same physical space and in real time represents a major paradigm shift in cancer treatment. As a result, we alleviate uncertainty, physicians have more confidence, and we are able to more precisely target tumours while minimizing side effects to our patients. The work we have pioneered here at Princess Margaret is driving innovation in this field, and will change the way treatment is delivered both across Canada, and internationally.”

Michael Milosevic MD, FRCP

Cancer Informatics Starts Rolling Out to Clinic

Understanding how patients with cancer respond to treatment is key to building a healthcare system that continuously learns how to deliver safer and more effective cancer treatments. The Cancer Informatics (CI) team is focused on developing tools enabling clinicians to evaluate how groups of patients with a specific diagnosis respond to a treatment protocol in order to improve the protocol. Using information from the tool, cancer researchers can tie the results from their investigations to clinical data in order to drive development of new cancer treatments.

In 2015, the Cancer Informatics team rolled out a set of tools to provide point-of-care outcome capture for all disease sites within the Princess Margaret Cancer Centre. The most visible component of the CI system is an iPad app that allows physicians to report outcomes when patients attend follow-up clinics. After an early test implementation focused on Head and Neck patients, the CI team worked with physicians in the Head and Neck, Gynecology, Lung, Lymphoma, and Leukemia disease sites to define the configuration of the outcome data to be captured for each disease. The system was deployed to the Head and Neck group and piloted with Gynecology physicians. The development team also started integration to pathology, biobank, and genomic systems in order to build a comprehensive record for scientific research. Continuing efforts are underway to roll out the tool to the rest of the clinics at Princess Margaret.

“The CI process allows real-time relevant time-dependent outcomes to be captured at point-of-care in the clinics. This provides efficient and customized access to the patient electronic record for physicians with opportunity to annotate tumour response, control, toxicity and second cancers. By merging baseline patient and tumor descriptors – including pathology and molecular characteristics – with treatment outcomes, we now have the opportunity for precision medicine research on large numbers of patients.”

Brian O’Sullivan MD



Icon and Brain Metastasis Clinic

A revolution in radiosurgery, the Leksell Gamma Knife® Icon™ is a next-generation platform developed at Princess Margaret through a partnership with Elekta Inc. The Icon provides online cone-beam CT image-guidance and infrared motion-monitoring capabilities that enables complex, conformal radiosurgery treatments to be delivered with high precision and accuracy, and without the use of an invasive stereotactic frame that has been used to ensure immobilization for Gamma Knife radiosurgery until now. This will provide greater patient comfort while introducing the potential to investigate the benefits of dose fractionation for larger metastases and adaptive radiotherapy approaches. In 2015, Icon became certified for use and

distribution in Europe, or CE marked, with a public launch at the European Society for Radiotherapy & Oncology (ESTRO). The first machine was installed, and the first clinical treatments were delivered in Marseilles with members of the development team present. Princess Margaret would like to recognize the innovation and hard work of the following individuals for their collective development of Icon: Dr. Caroline Chung, Dr. Cynthia Menard, Dr. David Jaffray, Dr. Erik Pearson, Dr. Greg Bootsma, Dr. Mark Ruschin, Dr. Philip Komljenovic, Dr. Young-Bin Cho, Steve Ansell, and Winnie Li.

“The success of this development embodies the TECHNA approach – clinically-motivated innovation advanced through highly collaborative global industry partners for the benefit of our patients.” David Jaffray

In 2009, a multidisciplinary and interdisciplinary Brain Metastasis Clinic was opened at the Princess Margaret Cancer Centre to facilitate patient-centered care addressing the special needs of patients and their caregivers. In 2014, Dr. Caroline Chung was recognized for her dedication to her brain metastases patients through a generous donation that created the Robert and Andrée Rhéaume Fitzhenry Brain Metastases Program. 2015 saw the development and launch of the world’s first dedicated brain metastases website, with comprehensive information about the presenting symptoms, investigations, treatment options, and supportive resources. Ongoing work includes a patient and caregiver survey that will guide further developments in this web-based resource that not only reaches our community, but the global cancer community.

Guided Therapeutics (GTx) Surgery

The Guided Therapeutics (GTx) Surgery program continues to accelerate the translation of novel image-guided technology into the operating room. The foundation of the GTx Program is the integration of three-dimensional imaging, surgical navigation, robotics, and molecular imaging to provide precise intraoperative visualization of tumours and surrounding healthy tissue. The in-room computed tomography (CT) imaging capabilities of the GTx-OR, a unique research-dedicated operating room constructed in 2013, are being evaluated in a growing number of clinical studies including head & neck, skull base, orthopaedic, thoracic, vascular, and cardiac patients.

Pre-clinical research in the GTx Program of note includes studies on the use of novel injectable nanoparticle-based contrast agents that will allow multimodality imaging (fluorescence, CT, MRI, PET) and potentially be theranostic (allow therapeutic ablation and allow for diagnostic imaging) which will set the stage for first-in-human studies. Successful findings in 2015 on two such agents, porphyrins (in collaboration with Dr. Gang Zheng) and liposomes (in collaboration with Christine Allen, Jinzi Zheng and David Jaffray) showed promising translational potential of these nanoparticles to enhance both diagnosis and therapy of head and neck cancer, and were featured as the cover articles in journals of Clinical Cancer Research and Advanced Healthcare Materials.

From benchtop to bedside, 2015 has marked a successful year in translating further use of the GTx navigation and planning platform to the OR, with first-in-patient procedures executed for a clinical trial lead by Drs. Jay Wunder and Peter Ferguson. The GTx platform was further developed for patients with benign extremity bony tumours, a stepping stone toward more complex pelvi-sacral sarcoma surgeries.

Dr. Kazu Yasufuku continues to have numerous ongoing clinical trials taking place in the GTx OR, focusing on the development of new technology in thoracic surgery and interventional pulmonology. Of note, he has made great advances in the novel minimally invasive technique for localization of pulmonary nodules using indocyanine green (ICG) and the PINPOINT system, an endoscopic fluorescence imaging system.

UHN’s cardiac and vascular interventional teams furthered their program’s use of the GTx OR through clinical trials. Their research and development initiatives not only increase the capabilities across programs, but advance our GTx team’s expertise in vascular flow in cancers.





WE ARE EXPANDING NOVEL THERAPEUTICS

Tumour Immunotherapy Program

Established formally in 2015, the Tumour Immunotherapy Program (TIP) is a flagship program at the Princess Margaret Cancer Centre. The mission of TIP is to conduct cutting-edge research spanning from basic immunology discoveries, to clinical trials with a focus on improving knowledge of the immune system to better diagnose, detect, and target cancers. TIP is directed by Dr. Pamela Ohashi, a world renowned immunologist. The clinical leadership of TIP is shared by Dr. Marcus Butler who leads the immune monitoring laboratory, and Dr. Lillian Siu who integrates TIP with two other key programs, the Drug Development Program and Cancer Genomics Program, to deliver precision cancer medicine. The recruitment of two scientists, Dr. David Brooks and Dr. Tracy McGaha, is instrumental in adding key expertise in translational research, and for evaluating biomarkers of response.

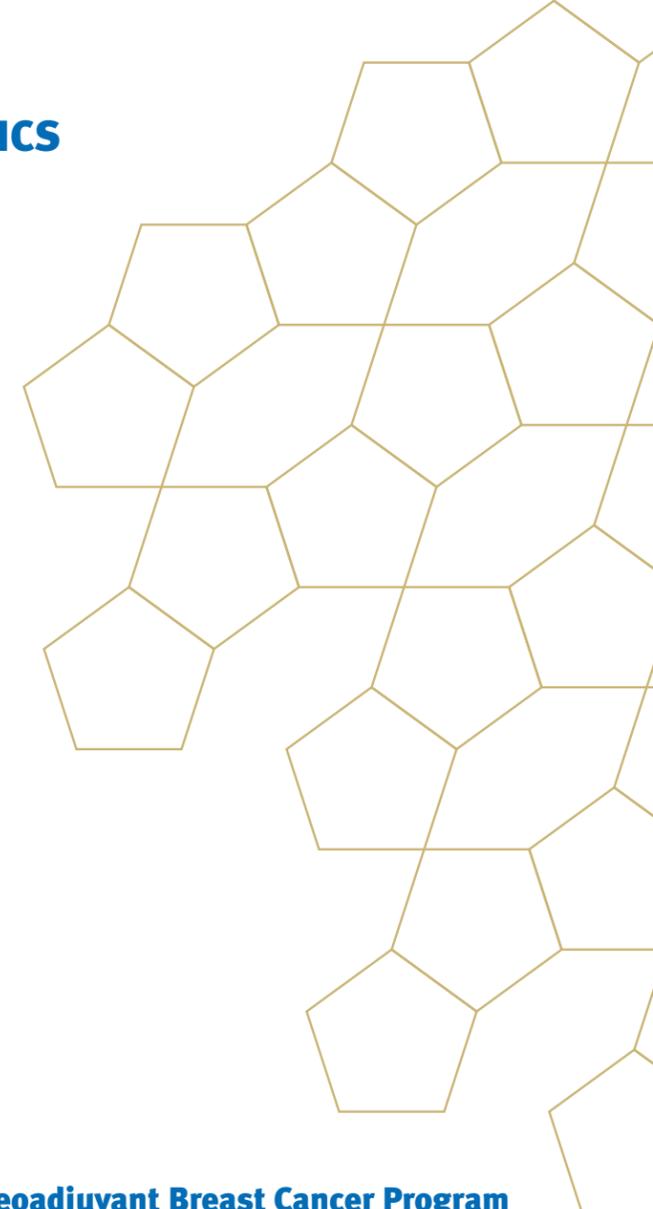
TIP has been very active in 2015 in launching investigator-initiated clinical trials. The team has successfully enrolled patients on the first mesothelioma tumour infiltrating lymphocyte (TIL) and combination ovarian cancer TIL/dendritic cell (DC) trials.

Dr. Naoto Hirano's group has been engaged in the research of T cell receptor (TCR) gene therapy. In the laboratory, they have developed a new technology which allows efficient isolation of high quality cancer-fighting T cells and their uniquely encoded TCR genes. In collaboration with a biotechnology company, the group is launching a first-in-Canada TCR gene therapy clinical trial for patients with advanced cancers.

TIP is also opening an investigator-initiated study called "INSPIRE" to evaluate an immune checkpoint inhibitor, pembrolizumab, in patients with advanced cancers. The primary objective is to perform comprehensive and dynamic molecular and immune profiling of tumour and blood samples to understand biomarkers of response.

Finally, an institution-wide TIP database of all patients who are receiving immune therapy at Princess Margaret is being established. This, along with the development a questionnaire to evaluate the quality of life of patients receiving immune checkpoint modulators, will provide useful resources for the clinical surveillance of patients on immune therapies.

Dr. Pam Ohashi, Dr. Lillian Siu, Dr. Marcus Butler, Dr. Philippe Bedard, Dr. Naoto Hirano, Dr. Linh Nguyen, Dr. Albiruni Razak, Dr. Anna Spreafico, Dr. Dave Cescon, Dr. Scott Bratman, Dr. Daphne Dai, Dr. Doug Millar, Kendra Ross, Helen Chow, Sawako Kobori, Diana Gray, Dagmara Kolodziejczyk, Amanda Giesler



Neoadjuvant Breast Cancer Program

As part of the multi-disciplinary Gattuso Rapid Diagnostic Centre (GRDC) program, the Neoadjuvant Breast Cancer Program delivers timely, holistic, and patient-centred care; resulting in better outcomes for patients diagnosed with high-risk early or locally advanced breast cancers. There are a number of advantages of neoadjuvant therapy, including a reduction in the chances of the cancer spreading, shrinking the tumour to enable less extensive surgery, and testing tumour sensitivity to chemotherapy with visible results.

In April 2015, the breast group launched a program for pre-operative systemic therapy for breast cancer patients. This program, which includes dedicated tissue collection for research, is designed to address an area of unmet clinical need at Princess Margaret. Furthermore, the pre-operative setting provides excellent opportunities for better outcomes and translational research. In 2015, approximately 80 patients were treated through this program with over 77% of the patients from the GRDC. It is estimated that in 2016, 100-120 patients will be treated in this program.

WE ARE DRIVING OUTREACH AND EDUCATION

Princess Margaret's International Programs

Partnership with Hamad Medical Corporation in Doha, Qatar

In January 2015, Princess Margaret initiated a multi-year engagement in Doha, Qatar with the Hamad Medical Corporation (HMC). The collaboration is focused on improving cancer services by transferring knowledge through coaching, mentoring, and educating healthcare practitioners at HMC. The current focus of the partnership is within the areas of Medical Oncology, Laboratory Medicine, and Nursing and the Health Professions.

Highlights from the past year include foundational and advanced specialized oncology nursing education, laboratory training in Toronto for the development of new tests at HMC, and support introducing inter-professional site specific care models in the Breast and Leukemia disease sites. To date 43 of our clinicians have visited HMC, while Princess Margaret hosted 10 HMC visitors to tour its facilities.

A UHN/Princess Margaret Team in Qatar, led by Ajay Pillai, provides project management, logistical support, stakeholder management, and implementation support.



From Left: Ajay Pillai, Melissa Chin, Kobori Bora, Karelin Martina in Doha, Qatar



From Left: Ibrahim Al-Hijji, Lara Waywell, Alexander Knuth, Marnie Escaf, Mary Gospodarowicz

Toronto Addis Ababa Academic Collaboration in Addis Ababa, Ethiopia

The Toronto Addis Ababa Academic Collaboration (TAAAC) is a multidisciplinary collaboration including the Department of Medicine at the University of Toronto, with the goal of establishing postgraduate programs in a number of healthcare disciplines in Addis Ababa, Ethiopia, including medical subspecialty training programs. Fellowship training programs in Emergency Medicine, Endocrinology, and Hematology are supported by members of the Faculty of Medicine. Members of the Division of Medical Oncology and Hematology (DMOH) from Princess Margaret have been participating in the AAU Hematology fellowship program since its inception in 2012, providing on-the-ground mentorship and didactic, laboratory and clinical bedside teaching during one-month blocks at the Black Lion Hospital in Addis Ababa, Ethiopia's only Hematology referral centre. Most of these biannual visits to Addis Ababa in support of the AAU Hematology trainees have included members of DMOH, led by Dr. Michael Crump, and division members have also served as external examiners in Ethiopia for the Hematology fellows who have completed their training. To date, three hematologists have graduated from this program, increasing the number of trained specialists in hematology in Ethiopia from two to five. In addition, Dr. Korosh Khalili and the Joint Department of Medical Imaging (JDMI) have been instrumental in creating and maintaining multiple fellowship training programs in radiology at Addis Ababa University since 2012. JDMI has hosted 4 Ethiopian fellows for 3-month-long observerships in Toronto with 4 more observerships planned in 2016.



Department of Pathology at the Tikur Anbessa Hospital. Dr. Tufa Gemechu and fellow pathologists.

Nursing Oncology Program in Eldoret, Kenya

In 2014, the Princess Margaret Global Health Capacity Building Program funded a project in Eldoret, Kenya to develop an Oncology Nursing Higher Diploma Program. Working alongside the Academic Model Providing Access to Healthcare (AMPATH), which is a consortium of North American academic health centers led by Indiana University working in partnership with the Government of Kenya, the program continues to gain headway.

The Oncology Nursing Higher Diploma Program is a three-way partnership between the Moi Teaching & Referral Hospital in Eldoret, the Aga Khan University School of Nursing and Midwifery in Nairobi, and the Princess Margaret Cancer Centre. This partnership is the first of its kind to foster collaboration between the private and public health sectors in Kenya. The Diploma Program Curriculum was finalized in August 2015. It consists of 16 modules covering a range of topics from cancer biology, treatment, patient/family support and community care and covers the continuum of care from diagnosis to treatment and/or palliation. Based on the Oncology Nursing Practice Standards of the Canadian Association of Nurses in Oncology, the Program will launch in the fall of 2016. This will represent the first Oncology Diploma Program in Kenya.



From Left: Tayreez Mushani, Roselyne Yatich, Lydiah Korir, Yasmin Amarsi, Ruth Sego, Sabrina Khamisa

Toronto Central South Regional Cancer Program

The Toronto Central South Regional Cancer Program (TRCP) of Cancer Care Ontario (www.cancercare.on.ca) includes the Princess Margaret Cancer Centre, Sinai Health System, St. Joseph's Health Centre, St. Michael's Hospital, and Women's College Hospital. CCO's goal is to optimize access and quality of care for patients in the region with a main objective to implement the Ontario Cancer Plan. In 2015, Cancer Care Ontario released the Ontario Cancer Plan IV (OCP IV). The full report can be found here: bit.ly/1qoKobi.

Last year, TRCP South focused on the development and expansion of our Aboriginal Cancer Program led by Bernice Downey, Primary Care engagement in screening, early detection, and palliative care under the leadership of Dr. Ed. Kucharski, and Diagnostic Assessment Programs.

We are very pleased with our progress in implementing Multidisciplinary Cancer Conferences in all our institutions, and engagement in our community of practice events. Many of our experts are engaged in leadership in Cancer Care Ontario regional and provincial programs, expert panels and initiatives. For more details on TRCP, please visit the following link: www.trcp.ca.

FEATURE STORY

Princess Margaret Shifting Horizons – 1995-2015-2035

On December 1st, 2015, we celebrated the 20th Anniversary of the Princess Margaret Cancer Centre's move from its original location on Sherbourne Street to its current home on University Avenue, in the heart of Toronto's Discovery District. The move to the current location was a significant milestone in the history of Princess Margaret, as it represented the turning point in which Princess Margaret outgrew its old facility, and was ready to expand and accommodate more patients, provide more research space, and educate more trainees.

In a program entitled "Princess Margaret Shifting Horizons, 1995-2015-2035", current and former staff were brought together in a tribute to the past with a focus on the future. Leading up to the event, we spoke to staff about the most significant changes that they had seen over the past 20 years, and their hopes for the future. During the event, we reflected on the numerous changes in our centre, in cancer care, and in cancer research through a series of videos which can be found here: bit.ly/1NTYd6v.



Panel Discussion



Dr. Mary Gospodarowicz



Paul Alofs, CEO of the Princess Margaret Cancer Foundation and Dr. David McCready, Breast Site Group Lead



Janet Beed and Dr. Michael Baker share their memories of the move with Marnie Escaf, Executive Lead, Princess Margaret

Organizing Committee



Shifting the focus to 2035, a number of esteemed speakers shared their predictions on the future of healthcare, cancer research, and global health in 2035, followed by a spirited panel discussion. After the event, guests shared their hopes and dreams for the future of cancer care in 2035 through a vision board and a virtual word cloud. Visit #horizons2035 on Twitter to experience the videos, behind the scenes footage, and other exciting moments from the event.

“The future of research is going to be defined by an army of inquisitive and creative research scientists who define the scope of the problem in their own individual sense and address that with their own unique skills and approaches.”

Dr. Bradly Wouters, Director, Research (Interim) at Princess Margaret, on Cancer Research in 2035

“In cancer control, most would say the answer really lies in building capacity for people to develop their own healthcare systems rather than import systems from higher resistance countries.”

Dr. Simon Sutcliffe, President, Two Worlds Cancer Collaboration Foundation and President and CEO of Princess Margaret during the move 20 years ago, on Cancer in the World in 2035



Dr. Fei-Fei Liu, Chief, Radiation Medicine Program at the Princess Margaret, catching up with Dr. John Hunt, a senior scientist in the cancer program, who she says, “taught me everything I know.”

Reception in the 7th Floor Atrium of Princess Margaret



“We will facilitate a process where there will be much more real-time access to clinical decision support, to data that’s required to manage diseases in real time, and where patients will become partners in their care in a much different way than they are engaged now.”

Dr. Peter Pisters, President and CEO of UHN, on UHN in 2035



Dr. Bradly Wouters and Dr. Peter Pisters

“Health is at the forefront of how we’ve seen change in our world. Improvements in health have indeed redefined our world. It’s hard to find any other area or sector where we’ve seen such huge change.”

Felicia Knaul, Director of the Global Task Force on Expanded Access to Cancer Care and Control, on Global Health in 2035

“We live in one of the least dense countries on the planet and we believe everybody can do everything in every province for cancer. And, actually, they can’t. So, we have to find a way of improving access to sub-specialty care and virtualizing care going forward.”

Dr. Terry Sullivan, Former President and CEO of Cancer Care Ontario on Cancer in Canada in 2035

Kuwait Project – Kuwait Cancer Control Centre

Princess Margaret's five year cancer care engagement with the Kuwait Cancer Control Centre (KCCC) concluded on December 31, 2015. The partnership focused on capacity building at KCCC and within Kuwait for enhancing the programs and functions of the KCCC, while also bringing back learnings and resources to Princess Margaret and UHN, for the betterment of Ontario's healthcare system. Over 250 individuals across Princess Margaret and UHN participated in visits to the KCCC over this period.

Leadership of this project included Dr. Bob Bell (former President and CEO of UHN), Marnie Escaf (Senior VP, UHN and Executive Lead, Princess Margaret), Dr. Mary Gospodarowicz (Medical Director, Princess Margaret), Adil Khalfan (the Executive Regional Director) Fatima Sheriff (Former Director, UHN International), and Justin Young (Manager, UHN International). Princess Margaret was also fortunate to engage staff to help deliver on our commitments, including Pamela Savage, Director of Professional Practice, Daniela Fierini, Clinical Nutrition, Mary Fountas, Laboratory Medicine, Dr. Madeline Li, Psychiatry, and former Surgeon-in-Chief Dr. Bryce Taylor.



From Left: UHN Kuwait Team: Muhammad Usman, Viva Nsair, Carole Gilliam, Qaiser Muhammad, Ai Tanimizu, Veronica Nickerson, Fazilah Khalfan, Dr. Satish Jaywant, Arman Amlani-Kurji, Adil Khalfan, Dr. Frank Cannizzo, Ahmad Al Samman, Hozefa Ali, Dalia Al-Mouaswas



From Left: Dr. Bob Bell, Fatima Sheriff, Marnie Escaf

Spotlight: Adil Khalfan

Adil Khalfan, the Executive Regional Director for UHN international programs in the Gulf region, holds a Masters of Health Administration from the University of Ottawa, and a Bachelor of Science in Nursing from the University of Western. He completed an International Development Management Fellowship with the Canadian International Development Agency (CIDA) and the Aga Khan foundation of Canada, where he was assigned to working with refugee settlements in Pakistan. Adil's family first moved to Canada when he was four years old. A key decision maker in choosing Canada as their new home was the healthcare system. This decision impacted Adil from a very young age, and is the very reason he chose a career in healthcare administration. "I wanted to impact system change, to better healthcare, and to ensure that the infrastructure I leave behind is vastly evolved and improved for my children and all future generations".

Adil's healthcare administration career began at UHN, where he started as a health admin resident, and then was hired to work in corporate planning, under the leadership of Dr. Bob Bell. Adil eventually left UHN to accept a role as the Director of Quality, Risk, and Privacy at the Central West Community Care Access Centre. He was then recruited to join the Toronto Central Local Health Integration Network as a Senior Consultant. In 2011 Adil was recruited back to UHN by Dr. Bell as the Operations Leads on the Kuwait project. Fazilah, Adil's wife, was also involved in the Kuwait project as a Clinical Project Manager, with a 4 month role in 2014, and then once again from March 2015 to March 2016.

In his free time, Adil enjoys playing soccer and volleyball, volunteering at the local community mosque, and spending time with his 2 children and wife. Most recently, Adil received the 2015 Ontario Hospital Association Hay Award for leadership. Adil volunteers his time by offering project management guidance and oversight for not-for-profit organizations.



Space Transformation

Princess Margaret welcomes and supports more than 50,000 people moving throughout its facilities each and every week. To meet the changing needs of patients, enable achievement of world-class personalized cancer care, and to allow integration and expansion of clinical and research programs, Princess Margaret is embracing a space transformation with a multi-phase 10 year plan. Our exciting transformation journey begins at street level at both the Murray Street and University Avenue doors. The current entrances will evolve to become more welcoming with the introduction of greenery to emphasize warmth, subtle changes in lighting to add brightness, and appropriate grades and slopes promoting full accessibility for mobility challenged patients. This theme continues upon entering, where guests will be greeted by fully staffed reception desks to convey a feeling of personal attention. All administrative spaces currently occupying the main floor will be relocated to create a broad sight-line between both entrances. Warm materials will define and bind this new main artery in Princess Margaret. Communal spaces of interaction and passage will stream through the middle, mingling comfortably with more quiet and intimate lounge-like spaces. The intuitive reorganization of key services on the main floor – from Patient Education, Princess Margaret Cancer Foundation, Blood Lab, and Pharmacy, to a variety of retail and support stations, lounge spaces and quiet areas – will allow patients to navigate their care with ease and confidence, all with a fundamental focus on well-being.

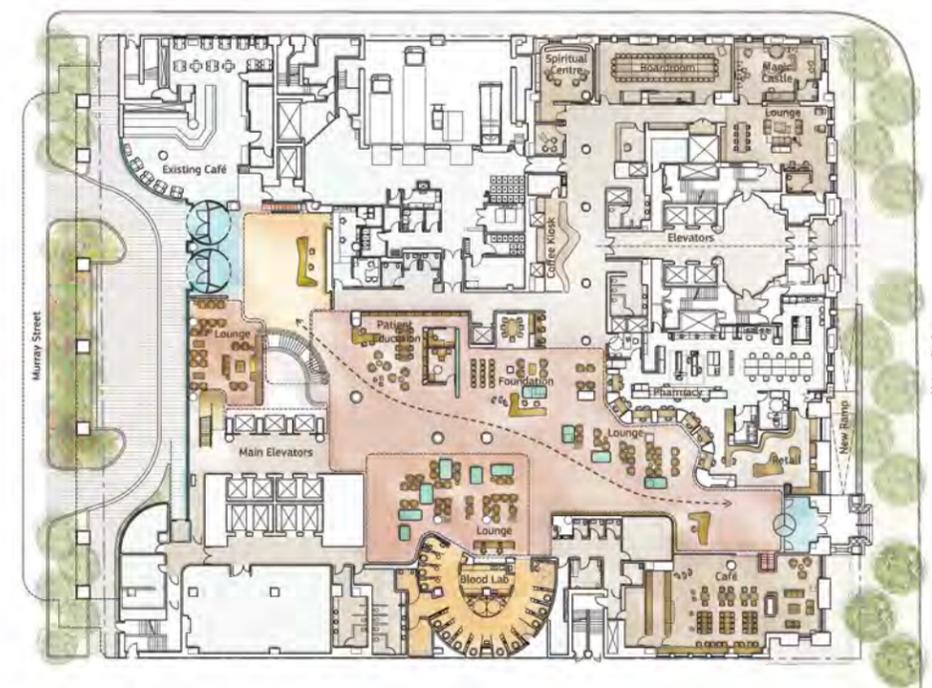
Upon full completion, this evolution in space at Princess Margaret will:

- Transform the look and feel to improve patient care and experience
- Build capacity to respond to the growth in cancer and growing demand for care
- Provide opportunities for innovation in patient care, clinical research, education, and to create new research and education programs
- Support inter-professional teams and integrate research and education with clinical practice
- Create an environment to optimize staff engagement and satisfaction
- Provide opportunities for enhanced integration with primary care and external partners
- Expand the opportunities for observers, visitors, and other partners to learn from us, and impact cancer care worldwide

Phase 1 of the project focuses on four key priorities:

- Redevelop the main floor to improve patient amenities, including access, flow, wayfinding, privacy, and experience
- Create a new gynecology clinic and a new dedicated palliative clinic
- Integrate and consolidate collaborative spaces across two new floors in 700 University Avenue
- Expand staff amenities, including a wellness and fitness centre, communal spaces in the form of lounges and eating areas, change rooms with temporary lockers, and multi-purpose spaces for meetings, education, team building, and other staff functions

Planning for the first phase is well underway, with implementation scheduled in multiple stages between 2016 and 2018. The Princess Margaret Space Transformation Project will embody patient-centred care, promoting patient involvement and understanding of their treatment, with dignity, warmth, and humanity.



Draft Drawing of Main Floor Plan

EDUCATION

WE ARE EDUCATING THE LEADERS OF TOMORROW



Spotlight: Dr. Andrea MacNeill

Dr. Andrea MacNeill is a Surgical Oncology Fellow at the Princess Margaret Cancer Center with an interest in the links between climate change, environmental pollutants, and cancer. During her surgical residency, she completed a Master's degree in Environmental Change and Management at Oxford University in order to investigate the environmental impacts of the healthcare industry. She identified operating rooms as one of the most resource- and carbon-intensive areas of healthcare, and conducted a carbon footprinting study of surgical suites across a number of health systems.

Dr. MacNeill is currently working with healthcare administrators and industry to reduce the environmental impact of surgical products and processes. "Climate change has been identified by the WHO as the greatest health threat of the 21st century. As health professionals, we should be leading the global public health campaign to clean up our air, water, and food supply, and eliminate environmental carcinogens. This begins with a critical look at our own activities, to ensure that in the treatment of patients today, we are not adversely affecting the health of generations to come. No other industry or sector has this kind of vested interest or moral imperative to act on climate change."

1st Annual Personalized Cancer Medicine Conference

On February 2nd and 3rd 2015, the Princess Margaret Cancer Centre hosted the Personalizing Cancer Medicine in 2015 event, co-chaired by Drs. Robert Bristow and Lillian Siu. This scientific forum and continuing education event was designed to facilitate, discuss, and debate among clinical oncologists, scientists, graduate students, and trainees, the challenges of personalized medicine in order to promote knowledge exchange, stimulate new ways of thinking, foster novel collaborations, and move the promise of personalized medicine closer to the patient.



Several international experts attended including: Dr. Christopher Contag, Professor from Stanford; Dr. Kim Chi, University of British Columbia and Medical Oncologist, British Columbia Cancer Control Agency; Dr. Charles Cleeland who is the McCullough Professor of Cancer Research at MD Anderson Cancer Center; Dr. Michael D. Kuo who is an Associate Professor of Radiological and Diagnostic Sciences, Department of Radiology and Member, JCCC Signal Transduction and Therapeutics Program Area at Ronald Reagan UCLA Medical Center; Dr. Allison Kurian who is an Assistant Professor of Medicine and of Health Research and Policy at Stanford University, and Dr. Sanne Schagen from the Netherlands Cancer Institute, Division of Psychosocial Research and Epidemiology.

These keynotes were complemented by talks from an impressive list of over 25 local, national, and international clinical and scientific faculty. The following link is a video which provides feedback from delegates of the event bit.ly/1qoKAqX.

"A great balance of basic science and clinical - with a great focus on how to better merge these two worlds!" "High quality all around - well organized with excellent choices of knowledgeable, cutting edge speakers." "Good start and illustrated out of the box thinking," were just a few quotes from our 230 delegates.

Worldwide Launch of 9th Edition of UICC Manual of Clinical Oncology

The Manual of Clinical Oncology Ninth Edition reflects a 3-year global collaborative effort by acknowledged experts in Oncology, led by Editor-in-Chief Brian O'Sullivan, with full editorial support from Editorial Coordinator Sophie Shao-Hui Huang. The 9th Edition covers state of the art clinical oncology in a format that provides readily available information using a consistent formatted style. It continues to emphasize a multidisciplinary perspective to address different fields of cancer management for use by medical students, and all health professionals working in oncology, and particularly in jurisdictions where information is less immediately available. In this edition, additional content was added that is relevant to contemporary cancer treatment, such as cancer informatics, levels of evidence, and principles of prognostication, survivorship, and pregnancy.



RESEARCH

Stem-cell scientists redefine how blood is made

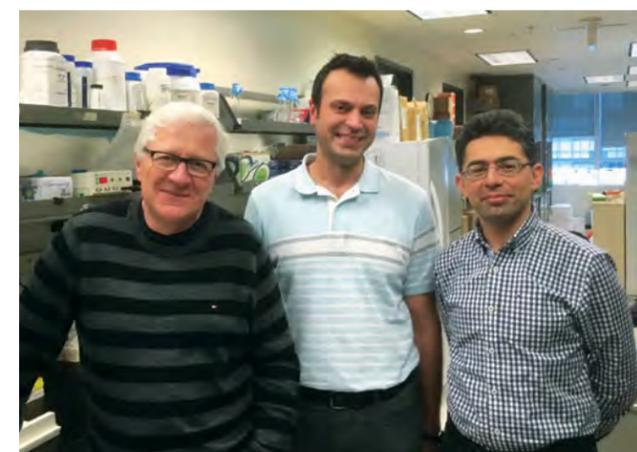
Stem-cell scientists led by Dr. John Dick have discovered a completely new view of how human blood is made, upending conventional dogma from the 1960s.

The research topples the textbook view that the blood development system is stable once formed. The findings show that the whole classic 'textbook' view once thought to be true doesn't exist. The blood system is two-tiered and changes between early human development and adulthood.

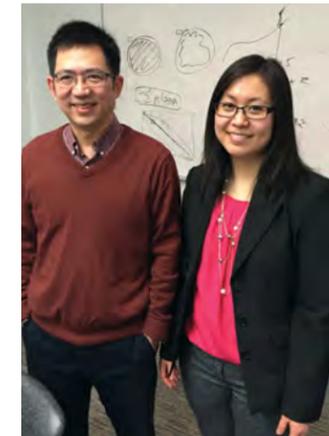
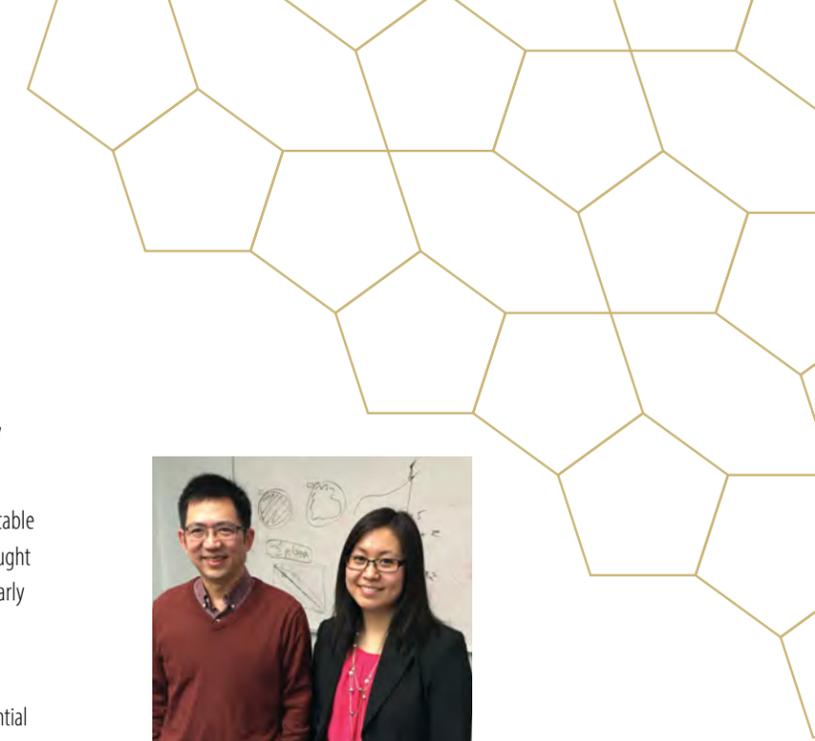
Co-authors Dr. Faiyaz Notta and Dr. Sasan Zandi believe that in redefining the architecture of blood development, the research team mapped the lineage potential of nearly 3,000 single cells from 33 different cell populations of stem and progenitor cells obtained from human blood samples taken at various life stages and ages.

“Our discovery means we will be able to understand far better a wide variety of human blood disorders and diseases — from anemia, where there are not enough blood cells, to leukemia, where there are too many blood cells. Think of it as moving from the old world of black-and-white television into the new world of high definition.”

John Dick MD



From Left: Drs. John Dick, Sasan Zandi and Faiyaz Notta



Dr. Gang Zheng and Elizabeth Huynh PhD

Study on Converting Microbubbles to Nanoparticles that Harness Light to Advance Tumour Imaging

Biomedical researchers led by Dr. Gang Zheng have successfully converted microbubble technology already used in diagnostic imaging into nanoparticles that stay trapped in tumours to potentially deliver targeted therapeutic payloads.

The discovery, published in Nature Nanotechnology, details how Dr. Zheng and his research team created a new type of microbubble using a compound called porphyrin — a naturally occurring pigment in nature that harvests light.

“Our work provides the first evidence that the microbubble becomes nanoparticles after bursting and that it also retains its intrinsic imaging properties. We have identified a new mechanism for the delivery of nanoparticles to tumours, potentially overcoming one of the biggest translational challenges of cancer nanotechnology. In addition, we have demonstrated that the imaging technique validates the delivery mechanism.”

Conventional microbubbles, on the other hand, lose all intrinsic imaging and therapeutic properties once they burst, he says, in a blink-of-an-eye process that takes only a minute or so after bubbles are infused into the bloodstream. “So for clinicians, harnessing microbubble to nanoparticle conversion may be a powerful new tool that enhances drug delivery to tumours, prolongs tumour visualization and enables them to treat cancerous tumours with greater precision.”

OUR PEOPLE

OUR NEW RECRUITS



Dr. Alejandro Berlin

Princess Margaret welcomed Radiation Oncologist Dr. Berlin, also appointed as Assistant Professor in the Department of Radiation Oncology under the Faculty of Medicine at the University of Toronto. Dr. Berlin completed his MD at Pontificia Universidad Católica de Chile in Santiago, Chile at the top of his class. He then completed his Radiation Oncology Residency training at the Universidad del Desarrollo in Santiago, Chile, followed by two years as a faculty Radiation Oncologist in Santiago. Dr. Berlin completed a two-year Research Fellowship at Princess Margaret with a concomitant MSc from the Institute for Medical Sciences (IMS). Over the past 8 months, Dr. Berlin has been a practicing Radiation Oncologist at the Clinica Alemana de Santiago, in Santiago, Chile.



Dr. Steven Chan

Dr. Chan received his medical and research training at Stanford University where he earned his MD and PhD degree in Immunology. He completed his internal medicine residency and adult hematology fellowship at Stanford Hospital and Clinics. He conducted his postdoctoral research at the Stanford Cancer Institute where he studied acute myeloid leukemia stem cells. He joined the leukemia group at the Princess Margaret Cancer Centre as a clinician scientist in 2015. His current research focuses on the role of mitochondria in leukemogenesis and the development of novel AML therapies that target the mitochondria.



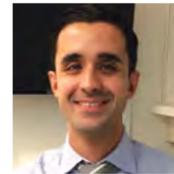
Dr. Jennifer Croke

Dr. Croke was appointed to the position of Radiation Oncologist, and as an Assistant Professor in the Department of Radiation Oncology under the Faculty of Medicine at the University of Toronto. Dr. Croke graduated with her MD from Memorial University in Newfoundland in 2008, and completed her Radiation Oncology residency training at the University of Ottawa in 2013. This was followed by a one-year Clinical Research Fellowship here at Princess Margaret, specializing in Gynecologic Oncology and MR-guided brachytherapy (2013–2014). She then returned home to St. John's, Newfoundland as a faculty Radiation Oncologist at the Dr. H. Bliss Murphy Cancer Centre.



Dr. Aaron Hansen

Dr. Aaron Hansen is a medical oncologist who received his medical degree from the University of Queensland in Australia and completed his residency and medical oncology specialization at the Princess Alexandra Hospital in Brisbane. In 2012 he started his fellowship in the Drug Development Program at the Princess Margaret Cancer Centre and in 2015 he began his current position as a staff medical oncologist in the Division of Medical Oncology and Hematology. In addition, he has been appointed as an assistant professor in the Department of Medicine at the University of Toronto. His research interests are in experimental therapeutics with a focus on immunotherapies.



Dr. Eric Monteiro

Dr. Monteiro joined Princess Margaret under the Fellowship training in head and Neck oncology, skull base surgery, and rhinology. He is an Assistant Professor under the Department of Otolaryngology–Head and Neck Surgery at the University of Toronto. Dr. Monteiro earned his Honours BSc. from the University of Western Ontario in Kinesiology, and then attended medical school at the University of Toronto. He completed his residency in Otolaryngology–Head & Neck surgery. Dr. Monteiro also obtained an MSc. 2013–2014 in Quality & Patient Safety from Uoft's school of public health. His research focus is quality improvement and patient safety, clinical outcomes in head and neck oncology, and skull base surgery.



Dr. David Shultz

Dr. Shultz joined Princess Margaret as a Radiation Oncologist, and was appointed as an Assistant Professor in the Department of Radiation Oncology under the Faculty of Medicine at the University of Toronto. Dr. Shultz completed his MD and PhD at Case Western Reserve University, Cleveland, Ohio in 2009, and his postgraduate training in Radiation Oncology at Stanford University in 2014. Over the past year, he has been retained as an Instructor at Stanford University Hospitals.



Dr. Auro Viswabandya

Dr. Viswabandya finished his MD in internal medicine in India, followed by three-year hematology sub-specialty training. He is a faculty member at Christian Medical College, Vellore, which is the largest academic hematology and transplant centre in India. He did his fellowship in Malignant Hematology and Stem Cell Transplantation. Dr. Viswabandya is currently working as an active staff member in the allogeneic transplant division at Princess Margaret, and has joined as an Assistant Professor and Clinician Teacher at the University of Toronto. Dr. Viswabandya has been actively involved in managing auto and allogeneic bone marrow transplant patients for more than 10 years, and benign and malignant conditions, including both pediatric and adult patients.

TRANSITIONS

Fatima Sheriff to Meena Merali



In the summer of 2015, Fatima Sheriff transitioned from her role as Director, UHN International and Cancer Strategy Stewardship to Director, Strategy and Planning, working directly with UHN's President & CEO, Dr. Peter Pisters.

In September 2015, Meena Merali moved into the position of Director of Cancer Strategy Stewardship. As the Director of Cancer Strategy Stewardship, Meena supports Princess Margaret's Personalized Cancer Medicine Strategy to accelerate and catalyze progress, facilitate integration of new initiatives into the existing programs, and enable tangible results that can be demonstrated to all stakeholders with a focus on fund stewardship and accountability.

Meena has a Bachelor of Applied Science in Chemical Engineering from the University of Waterloo and a Master of Business Administration with a specialization in Health Sector Management from the Richard Ivey School of Business at University of Western Ontario. Before working in healthcare, Meena was a professional engineer at Imperial Oil and Estée Lauder with a focus on continuous improvement and process optimization.



Malcolm Moore to Amit Oza

As the former Head of the Division of Medical Oncology and Director of the Bras Family Drug Development Program, Dr. Moore led the major expansion of the laboratory and clinical components of the Drug Development Program while at Princess Margaret. This program was selected by the National Institutes of Health as one of seven North American sites to perform new drug development of novel anti-cancer agents. In July 2015, Dr. Moore moved into a new role as President of the British Columbia Cancer Agency.

Dr. Oza transitioned into the role of Interim Head of the Division of Medical Oncology and Hematology upon Dr. Moore's departure. Dr. Oza is also the Director of the Clinical Research Unit, and Co-Director of the Robert and Maggie Bras and Family Drug Development Program.

Dr. Oza has made tremendous contributions in his field in the 23 years he has been a part of the Princess Margaret Cancer Centre. Some of these outstanding achievements include the principle investigator and program scientific lead for the Princess Margaret Hospital Consortium over the last nine years, Co-Chair of National Cancer Institute Investigational Drug Steering Committee from 2014–2016 and the current co-chair of the Gynecologic Cancer Steering Committee. He is CEO of Ozmosis Research, a not-for-profit social enterprise clinical research organization. He has been an active principle investigator and co-investigator in phase I, II, and III trials for gynecological cancer. His research interests are focused towards the development, assessment, and validation of novel therapeutic strategies for cancer including molecular targeted therapies. He is the principal and co-author of more than 200 publications in major peer-reviewed journals such as New England Journal of Medicine, Lancet Oncology, Cancer Research, Journal of Clinical Oncology, Annals of Oncology, Investigational New Drugs, and Clinical Cancer Research.

Barry Rosen to Marcus Bernardini



Dr. Rosen was the former head of Gynecologic Oncology as well as the head of the division of gynecologic oncology in the department of obstetrics and gynecology at the University of Toronto. In 2014, the Gynecologic Oncology Society of Canada (GOC) honoured Dr. Rosen with their most prestigious award—the Presidential Medal.

Following Dr. Rosen's retirement, Dr. Bernardini took on the role of Head of Gynecologic Oncology. A graduate of Western University, Dr. Bernardini completed his residency at the University of Toronto. During that period, he obtained a Master's degree in Laboratory and Pathobiology, which was followed by a combined fellowship in Gynecologic Oncology at the University of Toronto and Duke University Medical Centre.

Dr. Bernardini has received numerous research and teaching awards such as the 2013 Chair's Award for Outstanding Research Potential and the 2014 Award for Teaching Excellence, and has published many peer reviewed manuscripts. In addition, he holds several administrative positions in both national and provincial organizations. He leads the UHN robotic surgery program and he currently sits on the Board of the Ontario Oncology Association. His research interests include improving outcomes for women with endometrial and ovarian cancer, and risk stratification for women with ovarian cancer and those at risk for developing ovarian cancer.



TRIBUTES



Dr. Anthony Joshua

Dr. Joshua completed his medical oncology training at the Royal Prince Alfred hospital in Sydney, Australia before moving to Toronto, Canada in 2004 to complete a PhD under the supervision of Dr. Jeremy Squire in prostatic carcinogenesis, and a clinical

Fellowship under Dr. Ian Tannock at Princess Margaret. He joined the Department of Medical Oncology at Princess Margaret as a staff oncologist in late 2008, specializing in genito-urinary malignancy and melanoma with research interests in circulating tumour DNA, tumour heterogeneity, mechanisms of enzalutamide resistance and autophagy. He instituted the exceptional responders program and tissue procurement program and currently maintains a laboratory in conjunction with Dr. Bradley Wouters. Dr. Joshua returned to Australia, joining the Kinghorn Cancer Centre and the Garvan Institute of Medical Research in late 2015. He is currently a conjoint Associate Professor with the University of New South Wales.



Dr. Helen Mackay

Dr. Helen MacKay is a Medical Oncologist and an Associate Professor of Medicine at the University of Toronto. She left the Princess Margaret Cancer Centre in August 2015 to accept a position as Head of the Division of Medical Oncology and Hematology at the Odette Cancer Centre at Sunnybrook Health Sciences Centre. Dr. MacKay's clinical practice and research focus is on gynecological cancers. Her research involves collaborating with translational and basic scientists in the development and validation of novel therapeutic strategies. She is an investigator of a number of phase I, II and III clinical trials. At the national level Dr. Mackay is the inaugural Ontario Gynecological Cancers Lead for Cancer Care Ontario (CCO), and a member of the CCO Gynecologic Cancer Disease

Site Group, which has led to the coauthoring of several provincial treatment guidelines. She also co-chairs the Ovarian Group for the Canadian Cancer Trials Group, and is a member of their Gynecologic Cancer Site Executive Committee. At the international level she is involved in a number of committees, which includes chairing the Gyne Track of the American Society of Clinical Oncology Education Committee, and is also a member of the National Cancer Institute Gynecological Cancer Steering Committee. We look forward to future collaborations with Dr. Mackay in her new position.



Dr. Malcolm Moore

After 26 years at Princess Margaret, Dr. Malcolm Moore celebrated his last day on July 31, 2015 as he transitioned to his new role as the President of the British Columbia Cancer Agency (BCCA).

While at Princess Margaret, Dr. Moore was cross-appointed at the Departments of Medicine and Pharmacology at the University of Toronto. He focused his research on new drug development in pancreatic and other gastrointestinal and genitourinary tumours. He also held the Ho Chair in Prostate Cancer Research and served as Chair of the National Cancer Institute of Canada GI cancer disease site.

Dr. Moore recounts "One of the first things I learned at Princess Margaret was that you accomplish more working collectively than individually. I was fortunate to be involved with two high performing teams, the Drug Development Program and the McCain Pancreatic Cancer Centre, where I worked with others in creating a shared vision and then transforming those ideas into reality. I am perhaps most proud of how those programs have become world class and continue to thrive and grow under the leadership of others."

As the current President of the British Columbia Cancer Agency (BCCA), his focus is on creating a cancer control system that is patient-centred and offers high quality care across the cancer patient's journey. This work engages local BC leaders in discussion around improving the overall system to meet the needs of BC patients. Dr. Moore continues to work with Princess Margaret in a number of important collaborations between researchers at Princess Margaret and at BCCA.



Dr. Joan Murphy

Dr. Murphy is a gynecologic oncologist, and Associate Professor at both the University of Toronto and the University of British Columbia. After 15 years of dedication to Princess Margaret, Dr. Murphy accepted a role as Medical Director and Program Chief of the Women's and Children's Program at Trillium Health Partners.

Dr. Murphy was the first female gynecologic oncologist in Canada to come on staff, and the first Head of Gynecologic Oncology in the Department of Surgical Oncology. She graduated from the University of Calgary, and completed sub-specialty training in gynecologic oncology at the University of British Columbia and McMaster University. Her interest is focused on cervical cancer screening and prevention, using innovative technologies and translating them into optimal screening and prevention strategies. In July 2011, she was named Clinical Lead of the Cancer Care Ontario Cervical Screening Program.

Dr. Murphy co-chaired the Toronto Ovarian Cancer Research Network throughout its existence, and sat on the Board of Ovarian Cancer Canada, and the Genesis Research Foundation. From 1995 to 2008, she was Chief of the UHN Division of Gynecologic Oncology, and is past President of the Society of Gynecologic Oncology of Canada (GOC). Dr. Murphy chairs the GOC Task Force on Cervical Cancer Prevention and Control, and in 2011, was awarded the GOC Presidential Medal Award. She was formerly program director of the then combined University of Toronto and McMaster University Sub-specialty Residency in Gynecologic Oncology, and has had a career-long commitment to clinical teaching.



Dr. Barry Rosen

After 30 years at Princess Margaret, Dr. Rosen moved to Michigan in June 2015 to accept a role as the Section Head of Gynecologic Oncology at Beaumont Health and Professor at Oakland University William Beaumont School of Medicine.

Dr. Rosen graduated from medical school at The University of Western Ontario. He completed his obstetrics and gynecology residency at McMaster University and his gynecologic oncology fellowship at the University of Toronto.

After completing his fellowship he worked at both the Princess Margaret Cancer Centre and Toronto General Hospital. In 2002 he was appointed the Head of Gynecologic Oncology at the University of Toronto and Head of Gynecologic Oncology at UHN. He has published over 140 peer reviewed papers. His main focus of research has been in hereditary ovarian cancer. He established clinical databases and worked with CPAC to promote the strategies used to collect point of care clinical data. One of Dr. Rosen's greatest achievements at Princess Margaret was to initiate and develop the process of synoptic reporting in gynecologic oncology. This supported the collection of clinical data for research, to analyze outcomes, and to alter clinical practice based on these findings. Dr. Rosen became heavily engaged in global health during a visit to Eldoret Kenya 8 years ago. During subsequent visits he trained the graduated the first two gynecologic oncology surgeons through a training program he initiated and developed through Moi University in Kenya, the first of its kind in Sub-Saharan Africa outside of South Africa. This program has graduated 3 fellows to date and three more are in training.



Fatima Sheriff

Fatima Sheriff has been with UHN for over 18 years, initially joining the organization's Social Work Department in 1997 as a student completing her internship as part of her Social Services Worker Diploma. Since then Fatima's career at UHN has progressed through many operational and strategic roles – from discharge planning and patient flow, to site and corporate planning. During this time, Fatima also returned to school to complete her MBA.

In 2015, Fatima Sheriff transitioned from her role as Director, UHN International and Cancer Strategy Stewardship to Director, Strategy and Planning, working directly with UHN's President & CEO, Dr. Peter Pisters. During her time with the Cancer Program, Fatima successfully launched UHN's international program; including being a key contributor to our cancer partnerships in Kuwait and Qatar. Fatima also set up foundational structures and processes to govern and monitor implementation of our cancer strategy; working closely with the Princess Margaret Cancer Foundation, our clinicians, and program leaders. In her new role, Fatima will be a key advisor and work closely with UHN's Executive and Senior Management Teams to steward organization-wide priorities and strategic initiatives.

Fatima has been a key part of our program for a number of years now and we will miss her daily contribution to our work here at the cancer centre. We wish her well and look forward to working with her in her new role.

OUR LEADERS

Clinical Program Leaders

Medical Oncology	Amit Oza
Surgical Oncology	Jonathan Irish
Radiation Oncology	Fei-Fei Liu
Supportive Care	Gary Rodin
Oncology Nursing	Pamela Savage

Disease Site Group Leaders

Breast	David McCready
Central Nervous System	Normand Laperriere
Endocrine	James Brierley
Gastrointestinal	Jennifer Knox
Genitourinary	Tony Finelli
Gynecology	Stephane Laframboise
Head and Neck	Brian O'Sullivan
Leukemia	Aaron Schimmer
Lung	Andrea Bezjak
Lymphoma	Michael Crump
Ocular	Normand Laperriere
Skin	Danny Ghazarian
Sarcoma	Peter Ferguson

Senior Management Team

Marnie Escaf, *Senior Vice President, UHN, Executive Lead, Princess Margaret Cancer Centre*
 Judy Costello, *Senior Clinical Director, Hematology, Hematologic Oncology & Palliative Care UHN*
 Rudy Dahdal, *Senior Director, Planning & Redevelopment*
 Jane Finlayson, *Senior Public Affairs Advisor*
 Zsolt Hering, *Finance Manager*
 Jin-Hyen Huh, *Director of Pharmacy Operations*
 Terri Stuart-McEwan, *Executive Director, Solid Tumour Oncology and Gattuso Rapid Diagnostic Centre*
 Pamela Savage, *Director of Professional Practice*
 Sophie Foxcroft, *Director of Operations, Radiation Medicine Program*
 Terra Lerasts, *Shared Information Management Services, Site Manager*
 Lorinda Lee, *Director of Human Resources*
 Martha Wyatt, *Director of Regional Cancer Program and Toronto Medical Affairs*
 Hayley Panet, *Manager, Strategic Projects*
 Paul Cornacchione, *Clinical Director of Radiology Management*

Cancer Executive Committee

Mary Gospodarowicz (Chair), *Medical Director, Princess Margaret Cancer Centre*
 Marnie Escaf, *Senior Vice President, UHN and Executive Lead, Princess Margaret Cancer Centre*
 Jonathan Irish, *Head, Department of Surgical Oncology*
 Gary Rodin, *Head, Department of Supportive Care*
 Amit Oza, *Interim Head, Department of Medical Oncology and Hematology*
 Fei-Fei Liu, *Head, Department of Radiation Oncology*
 Pamela Savage, *Director, Professional Practice*
 Terri Stuart-McEwan, *Executive Director, Solid Tumour Oncology and Gattuso Rapid Diagnostic Centre*
 Judy Costello, *Senior Clinical Director, Hematology, Hematologic Oncology & UHN Palliative Care*
 Meredith Giuliani, *Staff, Radiation Oncology and Interim Director, Cancer Education*
 Aaron Schimmer, *Cancer Executive Committee member as of Sept 1, 2015*
(representative as Chair of the Cancer Committee)
 Jennifer Knox, *Cancer Executive Committee member Jan – Aug 2015*
(representative as Chair of the Cancer Committee)
 Meena Merali, *Director, Cancer Strategy Stewardship*
 Martha Wyatt, *Director, Regional Cancer Program and Medical Affairs*

Barbara Tiano Wins Torontonion of the Year

When CBC's Metro Morning radio team invited listeners to call in and suggest who should be named "Torontonion of the Year" because of their special impact on the quality of life in our city, a long-time Princess Margaret volunteer, Nina Betson nominated Barb Tiano. Barb is one of the most recognizable faces at Princess Margaret who welcomes patients and visitors as the frontline receptionist. We were delighted to hear on December 18, 2015 that the CBC judging panel selected Barb as "Torontonion of the Year" from among the many dozens of nominees.

For all those who have met Barb, this is no surprise since she has been at Princess Margaret for more than 35 years, helping countless patients and family members from the moment they walk through the doors. Barb is best known for her sweater collection. She has vibrant sweaters for St. Patrick's Day, Halloween and other celebrations. She said it's a helpful distraction for patients as they come into the hospital for treatments. For many, Barb Tiano is one of the first people they meet when they arrive at Princess Margaret. In an interview with CBC, Barb said, "I basically help people as they come into the hospital. We try to ease the journey for patients a little bit. I have wonderful volunteers that work with me and we take patients to clinics and we talk about the weather, my sweaters, the flowers or anything to take their minds off what they're doing at the hospital. I just help people and enjoy doing it".



From Left: Nina Betson, Barb Tiano and CBC host Gill Deacon

External Awards

Frances Shepherd, medical oncologist, was named Officer of the Order of Canada and honoured for her leadership in improving treatment options and outcomes for individuals with advanced lung cancer.

Mary Gospodarowicz, Medical Director of Princess Margaret Cancer Centre, was named an Officer of the Order of Canada for her contribution to improving cancer radiotherapy and for her leadership in advancing cancer care around the world.

Patrick Gullane, head and neck surgeon, received the Order of Ontario to recognize his contribution to the field of making once impossible surgeries for malignancies, surgery that now saves lives and provides a better quality of life.

Hans Messner, renowned scientist and physician, received the Order of Ontario to recognize his pioneering work in bone marrow and stem cell transplantation extending the lives of thousands of blood cancer patients.

Shel Keshavjee was awarded the Dr. Joel Cooper Award, Canadian Society of Transplantation which recognizes a lung transplant professional who has made an outstanding contribution to the field of lung transplantation in Canada either through innovation, outstanding clinical care, or scientific achievement.

Audrey Friedman and the late Dr. Pam Catton were honoured by The Change Foundation as "pioneers in the field of patient engagement" for creating the Patient Education Program at the Princess Margaret Cancer Centre.

Accreditation Canada recognized the Head and Neck Cancer Survivorship Program as a national Leading Practice. This prestigious recognition is given in competition with all accredited healthcare settings throughout Canada, crossing all disciplines and diseases. Jolie Ringash and Maurene McQuestion are the founding co-Leads of the program.

Jonathan Irish was elected Vice-President of the American Head and Neck Society.

Michael Sharpe was elected as a Fellow of the American Association of Physicists in Medicine (AAPM). The Fellow position honours members who have contributed greatly to research, education or leadership in the medical physics community.

Adil Khalfan received the Ontario Hospital Association Alan Hay Award winner for leadership.

Danielle Rodin received the Jean Roy Memorial award. This national award is given to acknowledge a resident who shows the qualities of creativity, capacity to innovate, and leadership in the fields of education, administration or clinical application of new technologies.

Ian Pang received the Paul Halligan Memorial Pharmacy Residency Award, Canadian Society of Hospital Pharmacists Ontario Branch.

Julie MacDonald received a Young Investigator Award - Multinational Association of Supportive Care in Cancer, International Symposium.

Penny Bradbury received the Elizabeth Eisenhauer Early Drug Development Young Investigator Award.

Christy Brissette was the recipient of the 2015 Dietitians of Canada Member Recognition Award: Association Catalyst.

Frances Shepherd received the Joseph Pater Founder's Award for Excellence in Clinical Trials Research from the Canadian Cancer Trials Group.

Peter Ferguson received the 2015 National AMS Royal College of Physicians and Surgeons Donald Richards Wilson Award.

Ming Tsao won the Mary Matthew Pathology Award from the International Association for the Study of Lung Cancer (IASLC). Recipients of the award are recognized for having made extraordinary contributions to the Association and advanced the science of lung cancer.

Ann Lee received the Canadian Society for Hospital Pharmacists Patient Care Enhancement Award.

Caitlin Meyer, Colette Raymond and Pamela Ng received the Canadian Society for Hospital Pharmacists Pharmacotherapy Best Practices Award.

Mike Milosevic received the 2015 Gordon Richards Lecturer award at the Canadian Association of Radiation Oncology 2015 Annual Scientific Meeting.

James Downar was awarded a Wightman-Berris Academy Postgraduate Teaching Award, and the William Sibbald Visiting Professorship at the University of Western Ontario.

Jack Seki received the Wightman Berris Individual Teaching Award.

Ian Pang received the OPRA Poster Award under the Canadian Society of Hospital Pharmacists Ontario Branch for evaluating prescribing practice of PCJ pneumonia prophylaxis in allogeneic bone marrow transplant recipients.

Meredith Giuliani received ESTRO Best Clinical Poster Award for "Predictors and patterns of regional recurrence following lung SBRT: A report from the Elekta Lung Research Group".

Danny Ghazarian's melanoma prevention and awareness video, "Dear 16 Year old me" won the 2015 award for best communication on cancer prevention by the Scottish Cancer Prevention Network.

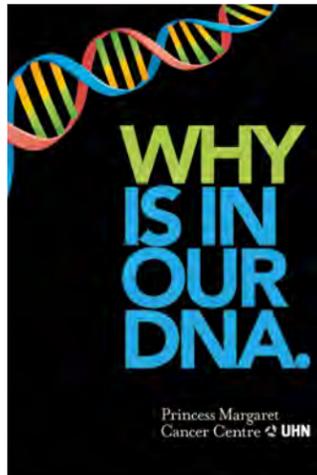
Geoffrey Liu was awarded the Canadian Cancer Society Research Impact Grant Award which provide a mechanism for scientists to adopt innovations and accelerate the application of new knowledge to address problems in cancer research that have the potential for practical application.

THE PRINCESS MARGARET CANCER FOUNDATION

FOCUSING ON WHY

“At the Princess Margaret Cancer Foundation, we are proud to be raising funds for a cancer centre that is continually raising the bar for cancer treatment and patient care by finding answers to the many tough questions that start with WHY.”

Paul Alofs, President and CEO



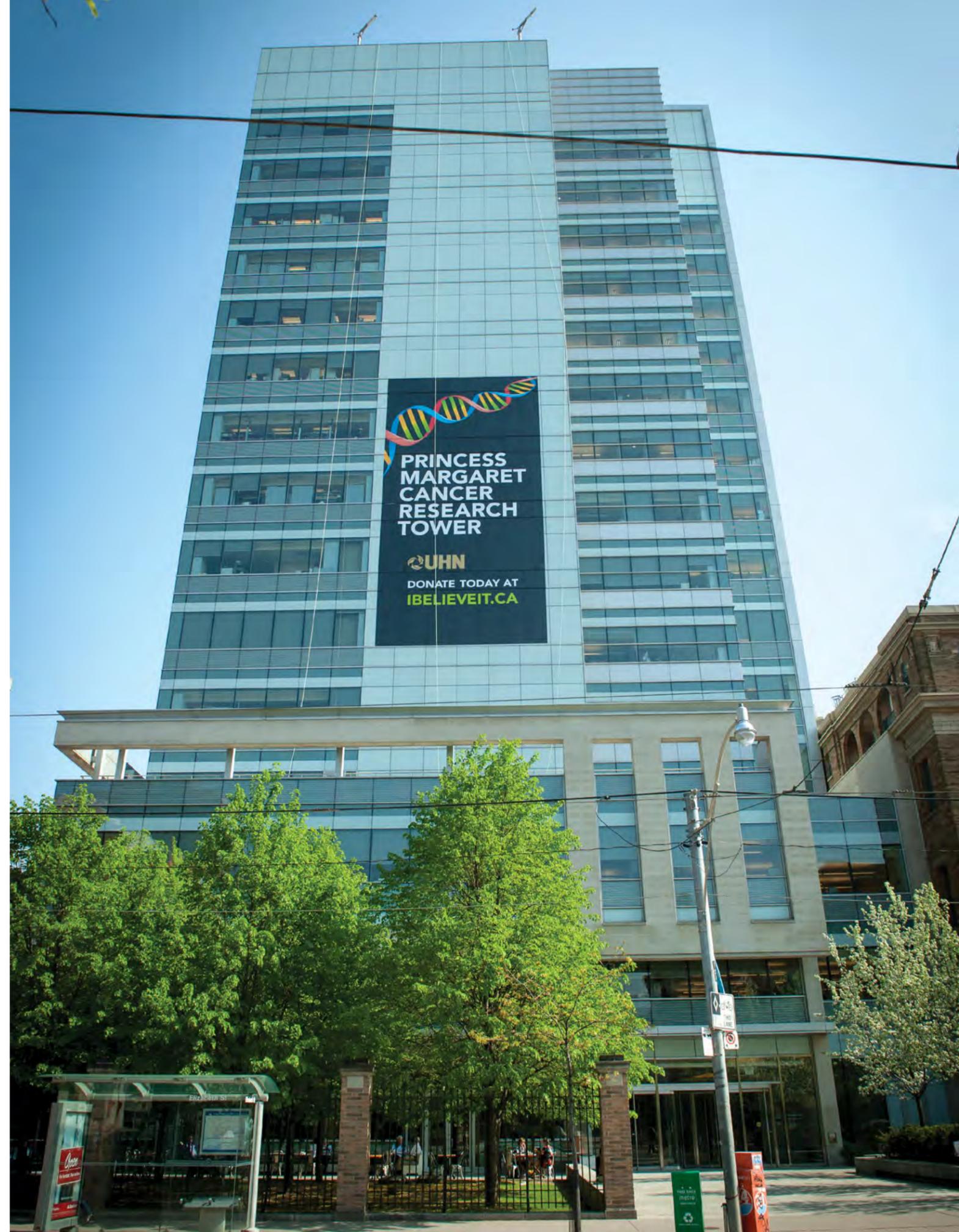
In 2015, our communications with donors and supporters of the Princess Margaret Cancer Centre focused on WHY—highlighting the intense curiosity that defines our culture and enables our team to find the answers needed to improve care for cancer patients. The visual message included a colourful double helix, linking the message to our goal of leading the way in Personalized Cancer Medicine.

In fiscal 2015, the Princess Margaret Cancer Foundation achieved a net fundraising total of \$102 million through all of our programs and donations.

Working together with Princess Margaret researchers, we have almost completed the fourth year of our Billion Dollar Challenge—our five-year initiative to raise \$1 billion to lead the way in Personalized Cancer Medicine. We estimate that over \$861 million will be secured by the end of March 2016.

The Foundation showed its strong creative side in 2015 with the launch of a new social media fundraising campaign called #NoHairSelfie, which culminated on World Cancer Day. More than 21,000 participants and their communities took up the challenge to ‘shave, share, and donate,’ and the campaign raised over \$1.8 million in its first year.

We continue to execute with excellence in our core programs—our two lotteries sold out and raised a record \$23.8 million for cancer research, while 4,853 participants in the 2015 *Enbridge Ride to Conquer Cancer* raised over \$19 million. We have a new title sponsor for our major one-day walk. The *Rexall OneWalk to Conquer Cancer* allows all walkers to raise funds for the cancer that is most important to them.



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