



Princess Margaret Cancer Centre

ANNUAL REPORT

2020

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Leadership Message

The 2020 year of the pandemic presented unprecedented challenges to the global community, transforming how we deliver healthcare, how we conduct science, and how we teach, learn and connect with each other.

However, what it did not change was the continuing growth in new cancer cases, and our relentless determination to advance treatment by understanding cancer at the most minute molecular level, by giving comfort and confidence to our patients, and to each other in this, one of the most challenging times of this century.

Throughout this difficult time, everyone in our cancer program delivered the best care for our patients, consistently putting the needs of our patients first and quickly initiating new virtual ways to communicate with them and their caregivers so that their care could continue with as few interruptions as possible.

Although COVID-19 hampered some of the bold initiatives in our strategic plan, much progress has been made:

- New clinical services have been launched, including implementing complex pain control procedures in the Princess Margaret operating rooms, conscious sedation of patients undergoing bone marrow procedures, a cure for an adult sickle cell patient with a stem cell transplant, and we completed the first-ever Canadian liver precision radiation treatment in our state-of-the-art MR-Linac facility.



A. Keith Stewart, MB.ChB, MBA, FRCPC
VP Cancer & Medical Director
Princess Margaret Cancer Centre



Aaron D. Schimmer, MD, PhD, FRCPC
Research Director
Princess Margaret Research Institute

- The Princess Margaret Global Cancer Program has been launched to address the growing disparities in cancer treatment within Canada, and around the world. The Program hosted the first virtual Canadian Global Oncology Workshop, bringing together 110 clinicians, government leaders, and academics to identify pan-Canadian initiatives to support our mission.
- Our governance was strengthened by adding finance, quality and research representatives to the Princess Margaret Executive Committee, along with creating a new role for a Director of UHN Cancer Experience. Working with dedicated teams, our new Director, Dr. Gary Rodin, will implement change that elevates the comfort and confidence of our staff, learners, patients, and their families.
- We completed renovating the main floor, as well as the Gynecology and Palliative Care Clinics on the 5th floor to create a healing and more inviting environment for our patients.

Despite the restrictions imposed by COVID-19, our researchers continued to

push the boundaries of science in the laboratory, publish in high-impact journals, and win awards from all the major funding agencies in Canada. Some of our major achievements include:

- Setting up a new biotechnology company, based on innovative T-cell immunotherapy technologies developed by senior scientist Dr. Naoto Hirano. Many more patients may be able to benefit from these options.
- Accelerating discoveries in blood stem cells, senior scientists Drs. John Dick and Mathieu Lupien uncovered the difference between 'dormant' long-term and 'activated' short-term cell states. This provides important clues on how cancers maintain stem-like properties that may later be re-activated and contribute to cancer reoccurring, even after therapy.
- Leading the way in COVID-19 research, senior scientist Dr. Amit Oza and teams from the Cancer Clinical Research Unit launched the RESPECT study to determine the prevalence of coronavirus infection within healthcare, research and clinical care

organizations, with the goal to improve testing and tracking of infections. The study recently expanded to food production workers, with a dedicated mobile research team, delivering test results in real time.

We would like to especially acknowledge the role of The Princess Margaret Cancer Foundation in its immense philanthropic efforts that help make our programs, research and bold innovation agenda possible. We thank our donors, granting agencies, sponsors, and supporters for their continued patronage despite the many challenges posed by the pandemic.

And finally, our immense gratitude to our staff, volunteers, and learners, many from across the globe, for their commitment and resilience in the face of the ongoing pandemic.

We are heartened by all of your enormous efforts and visible determination to roll up your sleeves to take on the additional demands required by our ever-expanding COVID-19 activities. Your unflinching work and optimism continues to make a major difference to our patients, their families, and our colleagues.

Princess Margaret at a Glance



Size

850,000 sqft
Clinical Space

329,400 sqft
Research Space

199
Beds Across UHN



People

>3,236 Total

179
Oncologists

563
Nurses

543
Health Professions Staff

1,314
Researchers/
Research Staff



Clinical Care

5,333
Surgical
Procedures

76,108
Radiation Therapy
Visits

49,483
Systemic Therapy
& Transfusion Visits

467
Stem Cell
Transplants

222,825 Clinic &
Virtual Visits

103
Nursing Students

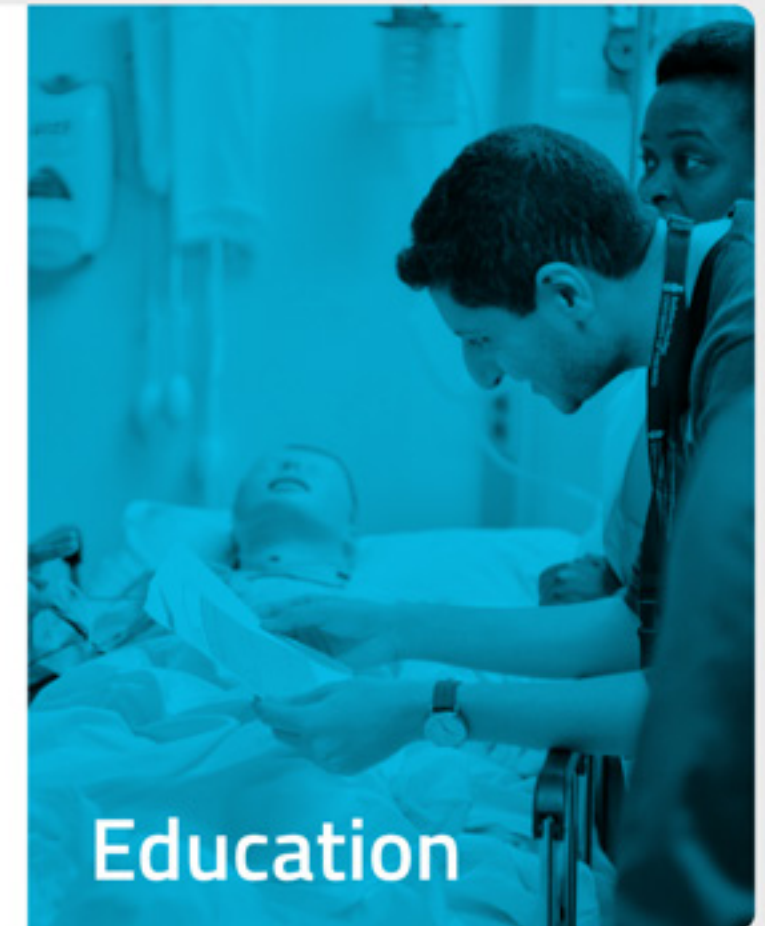
128
Residents

174
Health Professions
Students

87
Fellows

376
Research Trainees

32,386
Global Engagement in
Virtual Education
Cancer Campus



Education



Patient Volumes

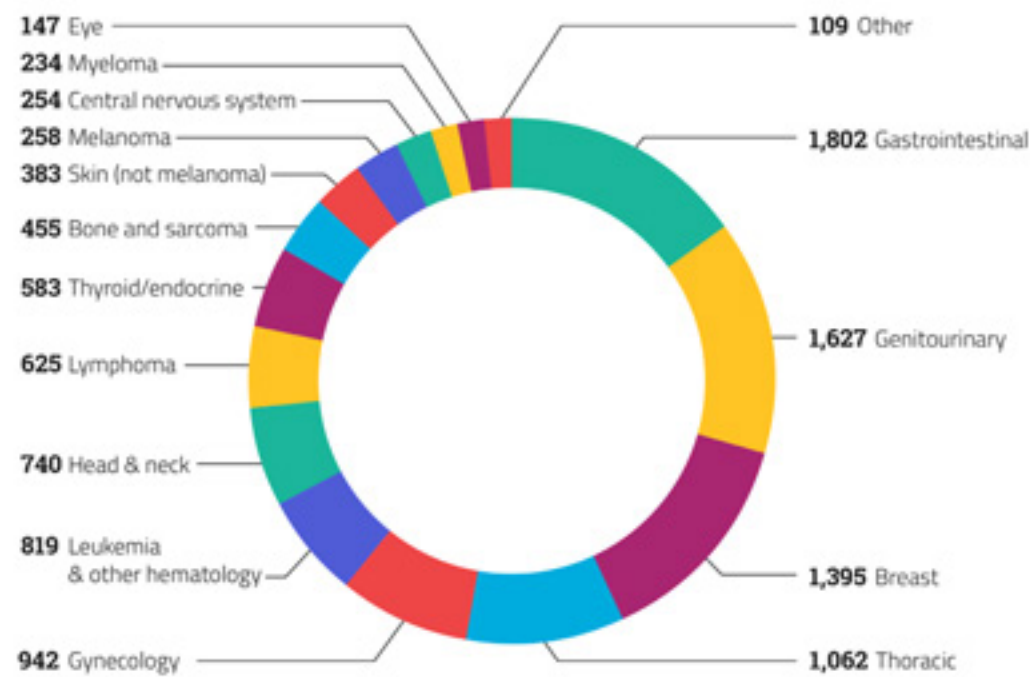
16,365
New Patients

11,435
Malignant

3,618
Non-Neoplastic

1,312
Benign

New Malignant Diagnosis by Disease Group



Research

\$254M
Research Funding

1,062
Peer-Reviewed Publications

163
New Clinical Research Studies Opened

5,161
Patients in Clinical Research Studies

2,351
Patients Entered in Clinical Trials

19.2%
of Patients Treated in Clinical Trials

Publications & Citations

From 2015 to 2020:



5,749 Published papers



121,167 Citations



>26.0% Of articles are top papers

A New Era in Treatment

CAR T-cell program brings life-saving treatment to patients

A new cellular therapy program at the Princess Margaret Cancer Centre marks a new era in realizing the full potential of immunotherapy treatments for cancer patients. Chimeric Antigen Receptor or CAR T-cell therapy – one of the most promising life-saving immunotherapies on the horizon – will be offered as a standard of care. CAR T-cell therapy is when the body's own immune cells are removed from a patient and genetically engineered to recognize and fight their own tumour.

Using a process called apheresis, T-cells (a critical cell in the immune system) are removed from the patient's blood and genetically engineered to express a protein called a Chimeric Antigen Receptor (CAR). This CAR allows the T-cells to recognize and kill the patient's cancer cells.

DIFFERENCE BETWEEN LIFE AND DEATH FOR SOME PATIENTS

To prepare, more than 300 staff have received specialized education. Even with the herculean effort, everyone is dedicated to bringing the therapy to patients.

"There is a lot of change and new work, but we're on the forefront of delivering this to patients, and that's something we can all rally around," said Sarah Coyle, Manager, DMOH. For patients such as Charlotte Grad, access to CAR T-cell therapy has been the difference between life and death.



This is a game-changer.

Charlotte Grad
CAR T-cell Therapy Patient

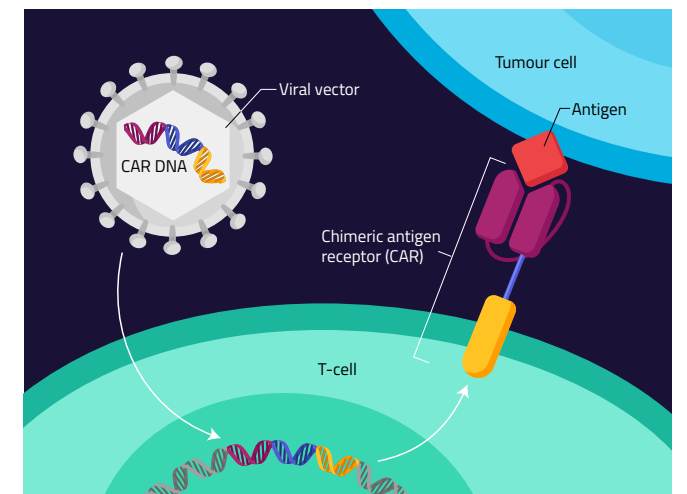


Image credit: Atlas Content Studio. Reprinted with permission.



Charlotte Grad was one of the first patients in Canada to receive CAR T-cell therapy

Image credit: Atlas Content Studio. Reprinted with permission.



In March, 2017 at age 63, Charlotte was diagnosed with stage 4 non-Hodgkin's lymphoma and swiftly began chemotherapy treatment. Her positive can-do attitude towards the journey ahead was shaken when she received further bad news: two unique mutations were discovered. Her cancer was resisting chemotherapy.

That fall, she was told she had six to twelve months to live. "I had to cancel my life," says Charlotte. "Everything became urgent. My kids got married...no plans were made beyond a month at a time."

The decision was made to try a stem cell transplant. Her oncology care team prepared, but with the chemo and progressing cancer, she wasn't strong enough to proceed with the transplant.

"I was living in a cloud of terminal diagnosis and a fog of several chemo failures and refractory treatments," she says.

FIRST IN CANADA TO RECEIVE THE TREATMENT

Dr. John Kuruville presented one more option for Charlotte: CAR T-cell therapy. With a supportive force behind her, Charlotte decided to proceed with the revolutionary therapy in the fall of 2018.

"Without such a fantastic team at Princess Margaret, and the support of every single one of my friends and family, especially my children and partner, I could not have proceeded," she says.

She is one of the first in Canada to receive the treatment in its trial phase.

Now, over a year after her treatment, Charlotte is in remission, with a new lease on life.

"I have a future now," she says. "I'm back in the gym; I'm taking a drama course and even going to Portugal. I have been able to rekindle my thirst for adventure, create new goals and look forward to new life lessons." For Charlotte, it's simple: "This is a game-changer."

Laurie Tucker is a supervisor on the COVID Door Screening Team, keeping patients and staff safe at the Princess Margaret



KEEPING US SAFE

IN A YEAR LIKE NO OTHER

Throughout this pandemic, our enduring commitment to patients and each other has been absolutely remarkable. Each wave has brought its own challenges, and the difficulties we face continue to stretch the limits of our resilience and patience.

Seeing us through the pandemic has required our steady commitment to the same core principles—looking out for ourselves and each other, remaining vigilant in our adherence to safety and infection control guidelines, and maintaining consistent communication in the midst of an evolving situation. I am so grateful for each of you—for your commitment and resilience.

Thank you.

—Dr. Keith Stewart

The COVID Steering Committee

The PM COVID Steering Committee, led by Dr. Monika Krzyzanowska, provides oversight and recommendations on the cancer program's response to and recovery from COVID. Areas of focus include: inpatient and outpatient protocols and testing guidelines during COVID, patient education and communication, Essential Care Partner policies, planning for activity ramp down and recovery, staff well-being and most recently, vaccination policies.

"As we approach the grim one-year anniversary of the declaration of the pandemic, I wanted to thank everyone for their hard work and dedication to our patients, the Princess Margaret Cancer Program and the "committee" over the last year.

What I have learned through this experience is that we have an incredible team. I have been amazed by the commitment, care, thoughtfulness, stamina and out-of-the-box thinking that we are capable of! I appreciate that there were many other members of our Princess Margaret community who contributed to various documents and working groups and many frontline staff that worked tirelessly to continue to deliver care. It really does take the whole cancer centre to deal with a challenge of this magnitude from the screeners at our front doors all the way up to our leaders. Everyone counts!"

Dr. Monika Krzyzanowska
Lead, COVID Steering Committee



The COVID Door Screening Team

Establishing Joy in Work during a pandemic sounds unconventional, but this has been the experience of the screening team at the Princess Margaret. The team, led by Alyssa Macedo, ensures that the 4,000 individuals entering daily are well, and adhere to public health guidance during their visits. Initially, redeployed staff, and now hired screeners, roll up their sleeves to keep PM safe. Although screening has had its challenges, developing human connections has provided a lot of joy and meaning. We achieved Joy in Work through a concerted effort on team building with huddles, open forums, team training, debriefs, and mentorship. As well, we continually used data, and audit and feedback strategies to simultaneously build confidence and manage distress. Together, we have successfully developed the newest high-functioning team at PM—all while creating a little joy.



The COVID PM Staff Well-Being Collaborative

We recognize that our staff are our most precious resource, and fostering a healthy workforce is a vital element of protecting the cancer system throughout the pandemic. The COVID PM Staff Well-Being Collaborative was established under the leadership of Dr. Mary Elliott from the Department of Supportive Care, to bring the staff well-being voice to the PM COVID Steering Committee.

During the pandemic, there was a sharp increase of time pressures and competing demands. Three staff well-being projects highlight how we met those challenges:

- 01** The collaborative set a goal of boosting support for staff by immediately instituting the Buddy-Up System, as a way for staff to do a daily check-in with each other and provide peer support as needed.
- 02** Further, the Compassion, Resilience and Team Building (CREATE) initiative, was rapidly implemented to deliver a proactive team-based intervention at point-of-care which incorporated elements of psychological first aid and adaptive coping. CREATE incorporated our already established Building Resilience in Institutions Together with Employees (BRITE) program.
- 03** As a celebration of the PM community, the Well-Being Collaborative, aided by twenty-two staff, made the well received "Taking Care of Ourselves, Taking Care of Each Other, We are Stronger Together" video.



Infection Prevention & Control (IPAC)

This past year has been a whirlwind for the IPAC team, and safe to say a year we will never forget! It has been a year of challenges (on-call madness, rapidly evolving information, anxieties, sacrificing time with family), successes (zero transmission to patients or staff identified thus far, prompt identification and isolation of cases, effective screening tools, amazing IPAC & PM leadership and a great team), and a year of immense professional growth.

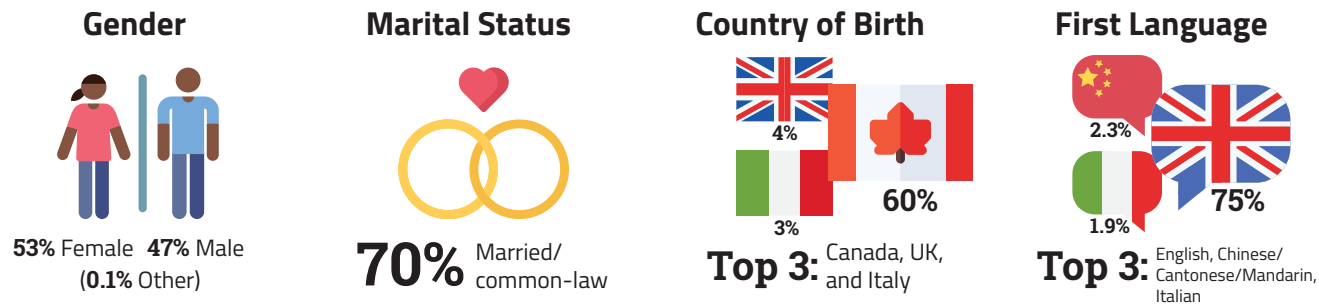
As the pandemic lingers on, we continue to be grateful for all of the front-line staff who work tirelessly to keep our patients and our staff healthy and safe. We look forward to a future that looks a bit closer to normal, or at least the "new" normal, and look forward to continuing to be able to play our role in patient and staff safety here at the Princess Margaret.



Cancer Patients & COVID-19: Perceptions of the Pandemic

As the pandemic began to take hold in North America, we recognized that it would introduce new difficulties to the delivery of patient care and early reports indicated that cancer patients were concerned about how public health measures might affect their treatment. Research on previous disease outbreaks has shown the importance of effective communication in shaping risk perception and engagement in preventative practices. To examine the effects of COVID-19 on cancer patients' treatment, knowledge, attitudes and perceptions, the Princess Margaret Cancer Education team, lead by Dr. Janet Papadakos, developed and distributed a survey to 5,800 patients at the Princess Margaret Cancer Centre in July and August of 2020, garnering a response from 1,631 patients.

Respondent Demographics



Attitudes

Most respondents either **agreed** or **strongly agreed** with the statements below:

- The COVID-19 pandemic can be controlled (70%)
- The Princess Margaret Cancer Centre has done a good job of responding to the COVID-19 pandemic (85%)
- As a person affected by cancer, you feel confident that you know what to do to protect yourself from COVID-19 (91%)

Questions & Comments

In the comments sections, respondents said they wanted to know more about:

- The cancer centre's visitor rules
- COVID-19 testing and treatment
- The risk of getting COVID-19 at school and work

Psychological Impact

Most respondents **agreed** or **strongly agreed** that they have:

- Had fears about getting COVID-19 (62%)
- Had fears of family/loved ones getting COVID-19 (78%)
- Had fears of friends getting COVID-19 (65%)

About half of respondents **agreed** and half **disagreed** that:

- It has been hard to focus on tasks
- They have felt angry/irritable
- They have felt anxious about financial concerns

Knowledge

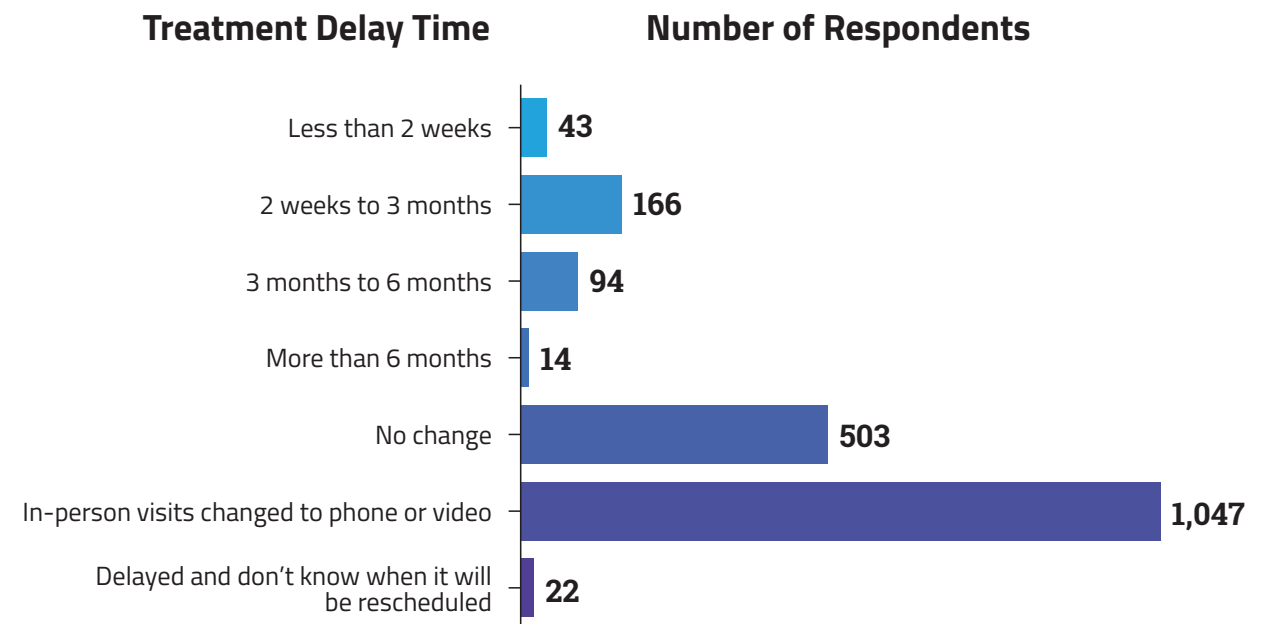
Most respondents scored high on the knowledge test. On a scale from 0-14, the average (median) score was **13**.

True or False questions included:

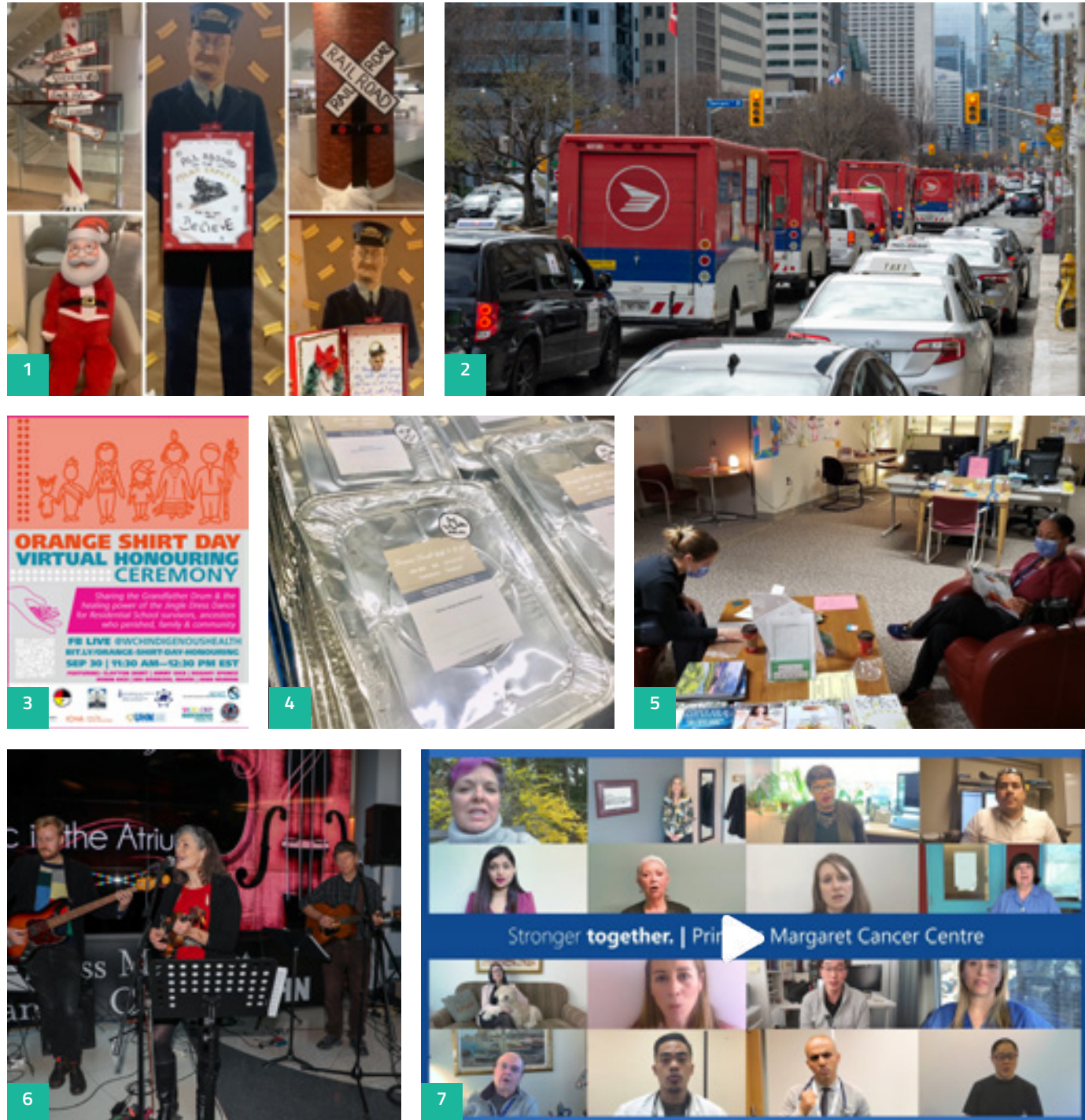
- Not all people with COVID-19 will develop a severe case. Seniors and people with chronic illnesses are more likely to get a severe case (True)
- The COVID-19 virus spreads via respiratory droplets through coughing, sneezing or intimate contact (True)
- Wearing a medical mask can help prevent the COVID-19 virus from spreading (True)

Treatment

Impact of COVID-19 on Treatment



Celebrating Each Other



1) Holiday decorations (Ambulatory/Hematology); 2) Public Services salute to healthcare; 3) Orange Shirt Day poster; 4) MLSE meal donations for staff; 5) COVID Staff Respite Centre; 6) Music in the Atrium; 7) Stronger Together Video; 8) Halloween; 9) COVID Care Packages for Staff; 10) Feel Good Flowers TO



Share Your Smile: RMP Photo Buttons Initiative

To help cancer patients connect better with TeamRMP during the COVID-19 pandemic, the program launched a Photo Buttons initiative spearheaded by Dr. Derek Tsang. Inspired by the "Share Your Smile" movement at Scripps Mercy Hospital, large 3.5" buttons of photos submitted by staff were created, so patients could see staff's smiles under the layers of PPE. This impactful initiative has been very well received by both patients and staff, reinforcing the Radiation Medicine Program's commitment to providing our patients with the most compassionate care.

To all the staff who have worked tirelessly to keep our people and our patients safe:

Thank you!

Ambulatory

Virtual COVID Clinic:

Help 'when they need us most'

Princess Margaret Cancer Centre launched its first Nurse-Led Virtual Care Clinic geared towards assessing and managing symptoms of cancer patients who have tested positive for COVID-19. "We've wrapped our services around what makes the most sense for the patients," says Michelle Mackay, Nurse Manager, Solid Tumour Oncology Ambulatory, Urgent Care, and the COVID 19 Assessment Clinics. "This way we can proactively identify symptoms and escalate them in a streamlined way."

Virtual care has accelerated rapidly across UHN during COVID-19. At the Princess Margaret, it's the start of a new era post-pandemic: incorporating existing remote tools with new technology to allow specialized oncology nurses to practice to the full scope of proactive and compassionate care. The clinic empowers nurses to order swabs under a medical directive, monitor symptoms with standardized assessment tools, and align patients with the most appropriate healthcare resources in consultation with their physician.



Jacqueline Savill, a registered nurse at the Princess Margaret Cancer Centre, checks in with her patients through the virtual clinic in between her in-person clinic activities

The clinic was developed by an inter-professional team including Smart Cancer Care – who has spearheaded the change to virtual care, when appropriate, at the Princess Margaret, along with Nurse Managers, Clinical Directors, Medical Site Leads, Nurse Educators, Professional Practice and many more.

Cancer Virtual Care: Quality, Convenience, Cost-Saving

COVID-19 accelerates cancer virtual care

Virtual care was launched at the Princess Margaret 12 days after the COVID-19 pandemic was declared. This was done to protect patients from preventable exposure and to minimize the impact of infection control measures and concerns about the availability of personal protective equipment for patients and staff.

Research led by Dr. Alejandro Berlin, a radiation oncologist at the Princess Margaret, found that 80 per cent of patients reported they were either very satisfied or satisfied with virtual care, citing convenience as a main factor, with 72 per cent of physicians reporting similar satisfaction. Moreover, 64 per cent of providers and 85 per cent of patients indicated that the quality of care was comparable or better than in-person care. Some 66 per cent of respondents in both groups – patients and physicians – were either very likely or likely to recommend virtual care for future appointments.

"The shift to virtual care helped ensure that patients needing in-person visits, such as those receiving chemotherapy and radiation treatments could continue, while decreasing traffic and facilitating physical distancing on premises," explains Dr. Berlin.

"The surprising result of implementing virtual care almost overnight was the impressive benefits for our patients and clinicians," says Dr. Keith Stewart, Medical Director, Princess Margaret Cancer Centre. "With these findings, a new normal emerges which includes virtual care as a feasible and important part of care for many patients. They will help guide the transformation of telemedicine in the post COVID-19 era, firmly establishing virtual care as a standard option that we can offer to patients."

80% PATIENTS **72%** PHYSICIANS

Were either very satisfied or satisfied with virtual care

85% PATIENTS **64%** PROVIDERS

Indicated that the quality of virtual care was comparable or better than in-person care

\$3.1M

COST-SAVINGS BETWEEN MARCH AND MAY 2020



Sabrina Bennett, Manager of the Malignant Hematology Day unit, cuts the ribbon for the newly-named clinic

Hematology

Celebrating the Spectrum of Care

The Malignant Hematology Day Unit (MHDU)

The Transfusion Clinic at the Princess Margaret does much more than just transfusions. Approximately 50-60 patients are seen in the Malignant Hematology Day Unit each day for a variety of supportive interventions, medical assessments and treatments such as chemotherapy and blood products, as well as blood level and symptom monitoring.

On May 1st, 2020, the Transfusion Clinic was renamed the Malignant Hematology Day Unit (MHDU) to better reflect the care being provided on the unit. The team held a ribbon-cutting to celebrate the name change.



Nursing

Bringing Comfort to Blood Cancer Patients

Pioneering Bone Marrow Conscious Sedation in Canada

In December 2020, the Princess Margaret established a Nurse Practitioner (NP)-led Bone Marrow Biopsy/Aspiration (BMBA) under Procedural Sedation Program for malignant and benign hematology patients – the first of its kind in Canada.

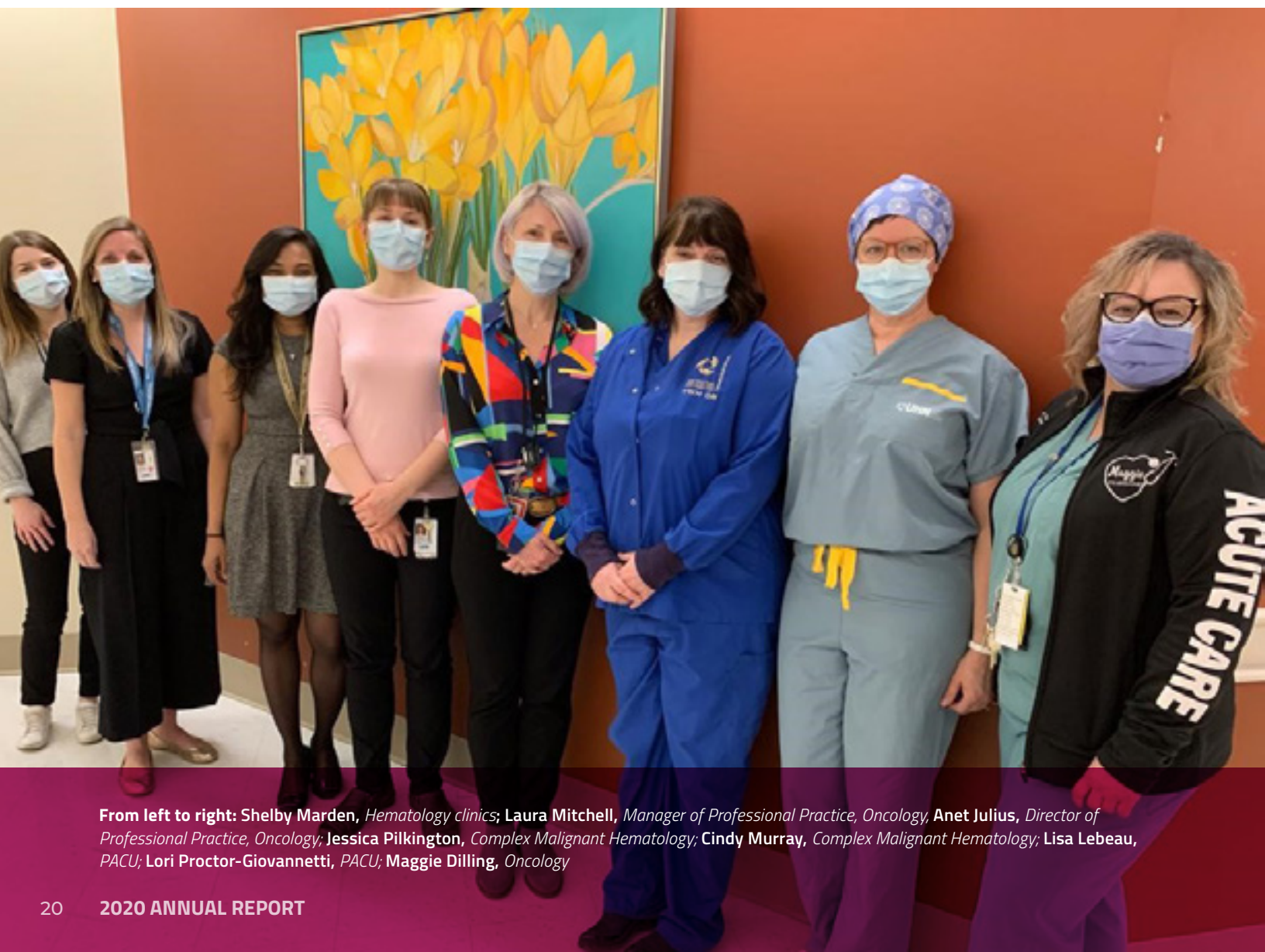
The program was launched in response to patients requiring additional pain management strategies when undergoing BMBA procedures with local anesthesia. The project team included many key stakeholders including practice, operations, medical leadership, anesthesia leadership, malignant hematology NPs, Advanced

Practice Nursing Educators (APNEs), point of care malignant hematology, and Post Anesthesia Care Unit (PACU) nursing staff, and the Joint Department of Medical Imaging (JDMI) staff. Education and training for clinicians were developed in collaboration with nursing leadership from established procedural sedation programs at UHN and PM. Clinical care guidelines have been created to ensure safe and high quality patient care.

Upon referral to the BMBA program, a virtual consultation is conducted by an NP to confirm patient eligibility. Education

is also provided to the patient. On the day of procedure, patients receive their BMBA under procedural sedation in the PM PACU. The NP prescribes procedural sedation and completes the BMBA with the support of a Malignant Hematology RN. Administration of the sedation and monitoring is completed by the PACU RN team.

Volumes of referrals continue to increase and planning is in progress to expand the program to meet patient care needs. A quality improvement (QI) project is currently underway to evaluate the program's impact on the patient care experience.



From left to right: Shelby Marden, Hematology clinics; Laura Mitchell, Manager of Professional Practice, Oncology; Anet Julius, Director of Professional Practice, Oncology; Jessica Pilkington, Complex Malignant Hematology; Cindy Murray, Complex Malignant Hematology; Lisa Lebeau, PACU; Lori Proctor-Giovannetti, PACU; Maggie Dilling, Oncology

Radiation Medicine Program

A Milestone in Precision Radiation Medicine

Using SBRT to guide cancer teams in treatment decision-making

The MR-Linac (MRL) facility has been one of the largest recent design-build projects in the Radiation Medicine Program, with more than 50 members of TeamRMP involved in its design and commissioning. This cutting-edge technology fully integrates an MR scanner with a linear accelerator to enable true real-time imaging during radiation treatment delivery. On March 27, 2020, RMP completed the first-ever MRL Liver Stereotactic Body Radiation Therapy (SBRT) treatment in Canada at the Princess Margaret. A second Liver SBRT patient also completed their treatment on the MRL on March 31. Congratulations to the multidisciplinary RMP Liver SBRT MRL Working Group that was involved in this significant milestone: Tim Craig, Jennifer Dang, Laura Dawson, Ahmed Elamir, Ali Hosni, Harry Keller, Vickie Kong, Winnie Li, Patricia Lindsay, Cathy Rocca, Andrea Shessel, Teo Stanescu, and Jeff Winter! Thanks to the immense collaborative efforts and dedication of our multidisciplinary teams, RMP has achieved a major milestone in advancing precision radiation medicine for our patients despite the challenges of COVID-19.



From left to right: Cathy Rocca, Jennifer Dang, Laura Dawson, Teo Stanescu, Anthony Machada (patient), Winnie Li, and Andrea Shessel stand next to the MRL Liver SBRT

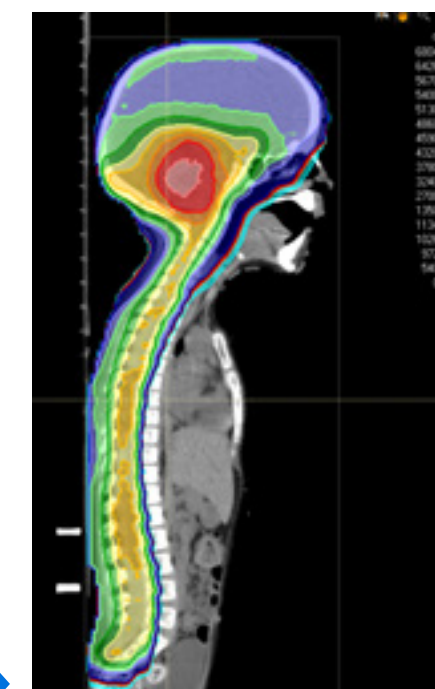
Launch of Ontario's First Proton Therapy Consultation Service

To raise awareness among healthcare providers about the potential benefits of proton therapy, RMP launched a Proton Therapy Consultation Service in 2020. Led by Drs. Derek Tsang, Tim Craig, and Victor Malkov, and radiation therapists Amy Parent and Michael Howell, this service creates proton treatment plans for any cancer patient in Canada, at the request of the patient's local oncologist. The proton plan will inform the referring team about the potential benefits in prescribing proton therapy over photon radiation therapy, so that radiation treatment decision-making can be individualized and personalized. RMP received its first proton consultation for a patient outside Ontario in June 2020.

As shown in the image, proton therapy was able to avoid giving unwanted radiation doses to the patient's oral cavity, neck, thyroid, heart, lungs, liver, abdominal organs, and bladder.

“ This service creates proton treatment plans for any cancer patient in Canada. ”

Image from the first proton consult case



Grand Challenges

Thinking beyond chemotherapy — and curing more patients

The Princess Margaret Grand Challenges are advancing cancer diagnoses and treatments to cure more patients and improve quality of life by moving beyond chemotherapy. The series sets the stage for the Princess Margaret moving boldly towards precision medicine and tailored individualized treatment plans for each patient, and focuses on four key directives:

- 01 Beyond Chemotherapy:** Thinking beyond chemotherapy towards more precise, customized therapies that effectively target cancer to each individual patient, without the harsh side effects of chemotherapy

- 02 Intercept Cancer:** Detecting cancer early and intercepting it, while still curable

- 03 Digital Intelligence:** Reimagining and redesigning the cancer patient experience by maximizing digital intelligence and embracing augmented human intelligence and platforms

- 04 Cancer Experience:** Infusing comfort and joy into every interaction, with particular focus on equity and access, navigation, diversity, ambience of the centre, patient engagement, inclusivity and supportive communication



Cancer Education

Growing the Cancer Workforce

Inspiring students and informing practitioners globally

Cancer is a major public health concern globally and the incidence is rapidly rising. The Cancer Education program is focused on capacity-building on a local and global scale. Education priorities include growing the cancer workforce, nurturing a culture of critical inquiry to prepare the workforce to evolve their practice, and embedding inter-professional care and patient engagement into all aspects of cancer care.

The Princess Margaret (PM) Cancer Campus online learning platform has significantly enabled progress in these priority areas by expanding the reach of educational excellence at the PM and serving as an education innovation hub globally. In 2020, education activities were accessed over 32,000 times through Cancer Campus, reaching learners from 128 countries.

Cancer 360 is a new open-access online course in Cancer Campus intended to inspire students to consider a

future career in cancer and inform current practitioners on topics not typically covered within their scopes of practice. The Cancer 360 course includes 12 multimedia units developed by experts on topics including cancer prevention and survivorship, inter-professional care, cancer and health literacy, knowledge translation, music therapy, smoking cessation, research methods and cancer and Indigenous populations.

To date, over 800 people from 120 countries have accessed the Cancer 360 course, with 95% of respondents indicating that they would recommend the course to a friend or colleague. 'Cancer 360 Advanced' is currently under development and will target experienced professionals with topics such as: Caring for Older Adults with Cancer, Innovations in Cancer Treatment, and Homelessness and Cancer.

Drs. Natasha Leigh (left) and Adrian Sacher (right) were the successful applicants of the first two Grand Challenges. Both projects test an exciting new procedure called liquid biopsy, of which the Princess Margaret is a global leader. In developing this next-generation sequencing technology, the goal is to pinpoint quickly, accurately and less-invasively whether the cancer is active in each individual patient with a simple blood test. In contrast, with various imaging scans, it may take weeks or months to detect whether a tumour is shrinking.



Princess Margaret Space Transformation

Building a healing environment for our patients

As one of the top five cancer centres in the world and a leader in developing breakthrough diagnostic and therapeutic interventions, we recognize the importance of taking an innovative approach to the patient experience. To continue to meet the demand for our services and to improve the patient experience, the Princess Margaret Space Transformation (PMST) project was initiated in May 2017.

The project focuses on increasing the comfort and confidence of every patient who walks through our cancer centre. Renovations include a new main floor to make the area more inviting for patients and visitors, a refresh of the 5th floor to accommodate an expanded Gynecology Clinic and to create a permanent location for the Palliative Care Clinic.

The design and physical attributes of a space can greatly impact the healing experience, and music can also play an important part. To celebrate the achievement of an incredible milestone – the completion of the PMST project, we collaborated with the Toronto Symphony Orchestra to celebrate these new healing spaces. Click [here](#) to see their performance.



Building Global Capacity to CONQUER CANCER

The Princess Margaret Global Cancer Program

The Princess Margaret Global Cancer Program (GCP) was formally launched in 2020 to address the growing disparities in cancer treatment within our communities in Canada and around the world. Dr. Danielle Rodin, Director, aims to develop a program that builds global capacity for cancer control by conducting global cancer research, supporting innovation in clinical care, training the next generation of

global cancer leaders, and mobilizing our community to engage in collective action to advance global cancer control.

Structured around four pillars, the program has built new partnerships with leading comprehensive cancer centres and cancer organizations, including the International Atomic Energy Agency, City Cancer Challenge Foundation, and Institut Curie.

In November 2020, together with the Canadian Partnership Against Cancer, we hosted the first Canadian Global Oncology Workshop, which brought together 110 clinicians, government leaders, and academics, to discuss initiatives in research, education, advocacy, and policy in cancer, and to identify opportunities for pan-Canadian action in the field.



Comfort and Confidence:

PM's Inaugural Director of Cancer Experience

Dr. Gary Rodin was appointed as the Cancer Program's first Director of Cancer Experience at University Health Network (UHN), beginning November 1, 2020. Dr. Rodin will work with dedicated teams to elevate the comfort and confidence of our staff, learners and patients, harnessing the many ongoing initiatives at UHN and generating new ones in supportive communication, navigation, diversity and equity, ambiance and engagement.



Sarika Khasnis is a post-doctoral Research Fellow at Princess Margaret Cancer Centre

Research

Revolutionizing the Future of Cancer Immunotherapy

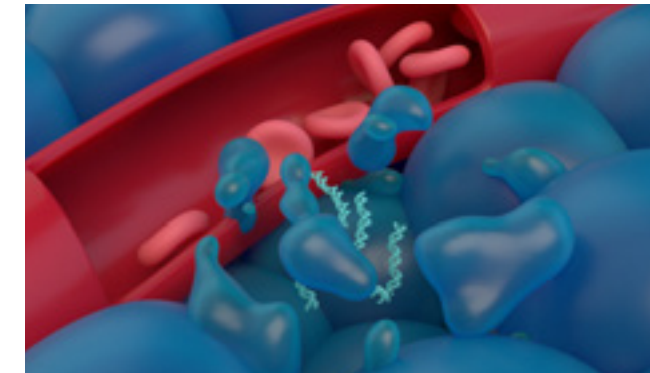
Researchers have recently launched a new biotechnology company, TCRyption Inc., based on innovative T-cell immunotherapy technologies developed by senior scientist, Dr. Naoto Hirano. The company is set to produce immunotherapy options that could benefit a broader range of cancer patients.

The technology centers around T-cell receptor (TCR)-based adoptive cellular therapy. This approach involves engineering T-cells, derived from the patient, with specialized structures on their surface that enable them to better recognize and attack cancer cells (Murata et al., *eLife*, 2020; Sugata, Matsunaga et al., *Nat Biotechnol*, 2021). "Until now, this form of therapy has been limited to a fraction of patients with certain types of immune

molecules known as human leukocyte antigens (HLA)," explains Dr. Hirano. "However, this new technology enables a wide array of different types of HLAs to be used to target cancer and can be tailored to each patient."

The creation of the company was led by UHN's Technology Development and Commercialization office and TIO Bioventures, which provided an initial \$10M USD in seed financing. TCRyption was also co-founded by world pioneers in T-cell biology, Drs. Tak Mak and Mark Davis, who are most known for their discovery of TCR structure and function. Dr. Hirano was also named 2019 UHN Inventor of the Year for this ground-breaking invention.

Paving the Way in Cancer Diagnostics: Launch of DNAMx



Continuous efforts in cancer research are focused on developing non-invasive and highly-sensitive tests to detect cancer. Being able to accurately detect and monitor cancer with a simple blood test would be a game changer in cancer care.

Researchers at Princess Margaret are one step closer toward bringing this concept to the clinic.

After years of innovating in the lab, Drs. Daniel De Carvalho and Scott Bratman successfully launched their company, DNAMx Inc., which is based on liquid biopsy technology that they developed to measure circulating cell-free methylated DNA in the blood.

Given that cancer genomes display altered patterns of DNA methylation, the researchers developed a platform that detects these patterns in tiny amounts of DNA that shed from the tumour and enter the bloodstream. Known as cfMeDIP-seq (cell-free Methylated DNA Immunoprecipitation and high-throughput sequencing), the platform was originally developed using 587 blood samples from seven different cancer types and healthy subjects and showed remarkable accuracy (Shen et al., *Nature*, 2018). After further improvements in the technology, the researchers provided clinical validation in the challenging settings of kidney cancer using both blood and urine samples (Nuzzo et al., *Nature Medicine*, 2020) and brain tumours using blood samples (Nassiri et al., *Nature Medicine*, 2020).

"Not only is our assay capable of detecting different cancer types and subtypes with a high degree of specificity, but this screening approach also provides a non-invasive and cost-effective alternative that we anticipate will have large clinical uptake," says Dr. De Carvalho. "We also foresee the adoption of this technology in other clinical applications beyond cancer."

Accelerating Discoveries in Blood Stem Cells

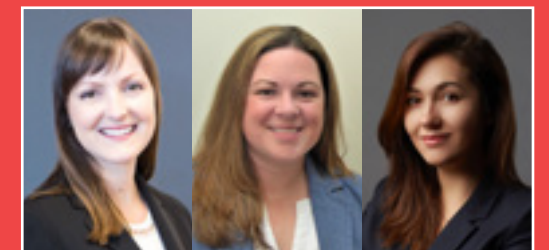
Globally recognized for its breakthroughs in stem cell biology, the Princess Margaret is home to award-winning stem cell experts including Dr. John Dick. In 1994, Dr. Dick uncovered that cells with stem cell properties were responsible for initiating and sustaining acute myeloid leukemia, termed leukemia stem cells (LSCs). This rare population of cells was the first type of cancer stem cells to be characterized, leading to an entirely new field of research devoted to cancer stem cells. Since then, his team has made a number of major discoveries that show that these cells are also the prime cause of therapy failure and cancer recurrence.

"Killing cancer stem cells in leukemia is imperative for eradicating the disease," explains Dr. Dick. "Finding ways to effectively target these cells with the least amount of damage possible to normal blood stem cells will be the cornerstone for future anti-leukemic therapies."

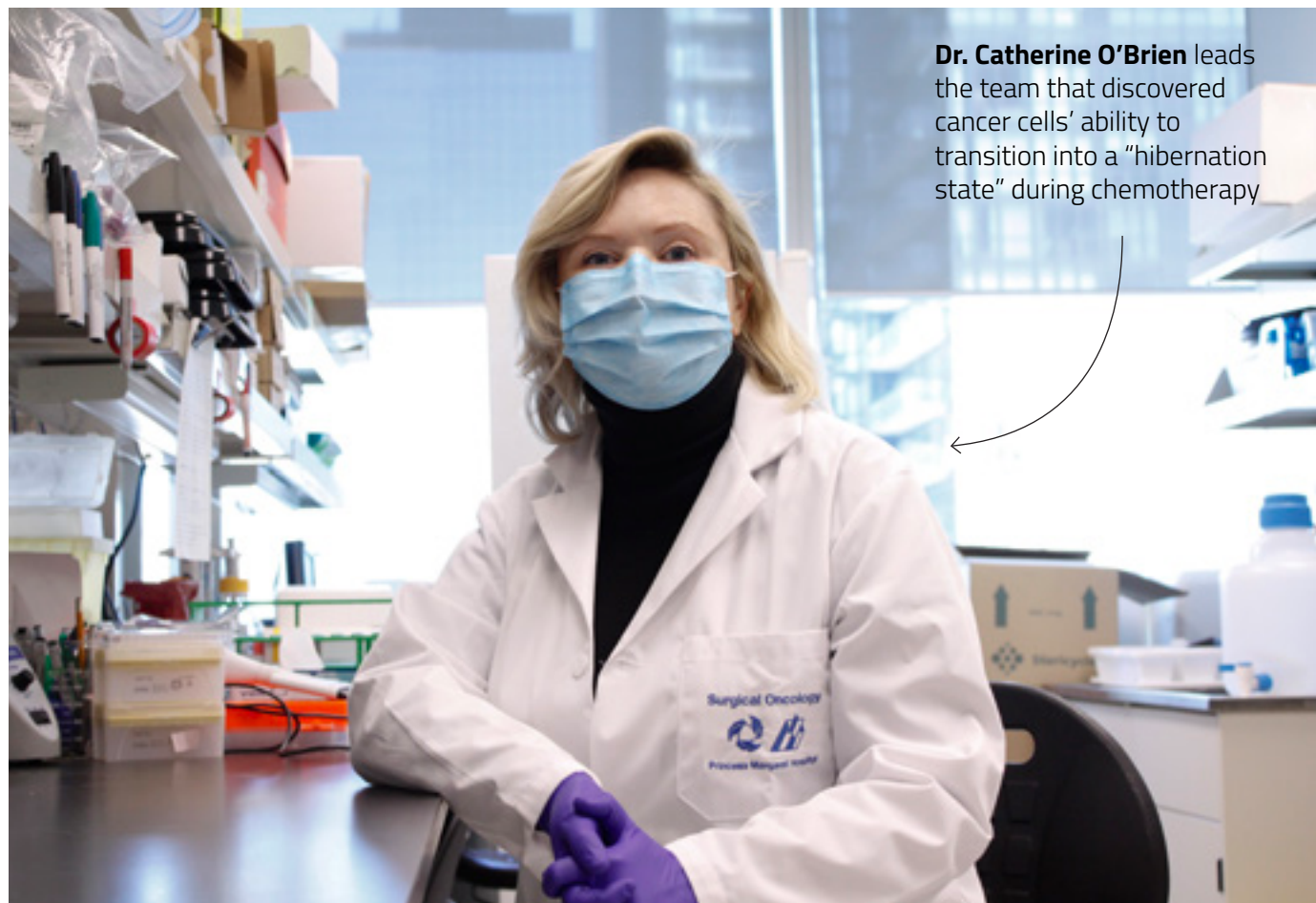
To achieve this, researchers must understand the differences between normal blood stem cells and leukemia-causing stem cells. In a recent report, Dr. Dick and senior scientist Dr. Mathieu Lupien have teamed up to demonstrate how normal blood stem cells become activated and give rise to new blood cells. Using state-of-the-art epigenomic profiling techniques, they uncovered that the three-dimensional re-organization of the genome plays a significant role in gene regulation in stem cells and differed between 'dormant' long-term and 'activated' short-term stem cell states. These results provide important clues as to how cancers may develop and maintain stem-like properties that may later be re-activated following therapy.

Welcoming a New Generation of Stem Cell Experts

To expand work in this field, three new scientists—Drs. Kirstin Hope, Courtney Jones and Anastasia Tikhonova—were recruited to the Princess Margaret to establish research programs, that are focused on: molecular processes that govern normal and malignant blood stem cell function; metabolic requirement variations between normal blood stem cells and LSCs; and how leukemic cells contribute to cancer progression and therapy resistance.



From Left to Right: Drs. Kirstin Hope, Courtney Jones, and Anastasia Tikhonova



Dr. Catherine O'Brien leads the team that discovered cancer cells' ability to transition into a "hibernation state" during chemotherapy

An Ancient Evolutionary Survival Mechanism

Cancer cells can enter a hibernation-like state to survive chemotherapy

Princess Margaret Cancer Centre scientist, Dr. Catherine O'Brien and her team discovered that when under threat, all cancer cells – rather than just a subset – have the ability to transition into this protective state, where the cells "rest" until the threat, or chemotherapy, is removed.

Dr. O'Brien, who is a surgeon specializing in gastrointestinal cancer, explains that cancer cells under attack by the harsh chemotherapy environment are able to adopt the embryonic survival strategy.

Similar to embryos, cancer cells in the slow-dividing state require activation of the cellular process called autophagy, meaning "self-devouring." This is a process in

which the cell "devours" or destroys its own proteins or other cellular components to survive in the absence of other nutrients. Dr. O'Brien tested a small molecule that inhibits autophagy, and found that the cancer cells did not survive. The chemotherapy killed the cancer cells without this protective mechanism.

"This gives us a unique therapeutic opportunity," says Dr. O'Brien. "We need to target cancer cells while they are in this slow-cycling, vulnerable state before they acquire the genetic mutations that drive drug-resistance. It is a new way to think about resistance to chemotherapy and how to overcome it."

Next-Generation Sequencing Technologies

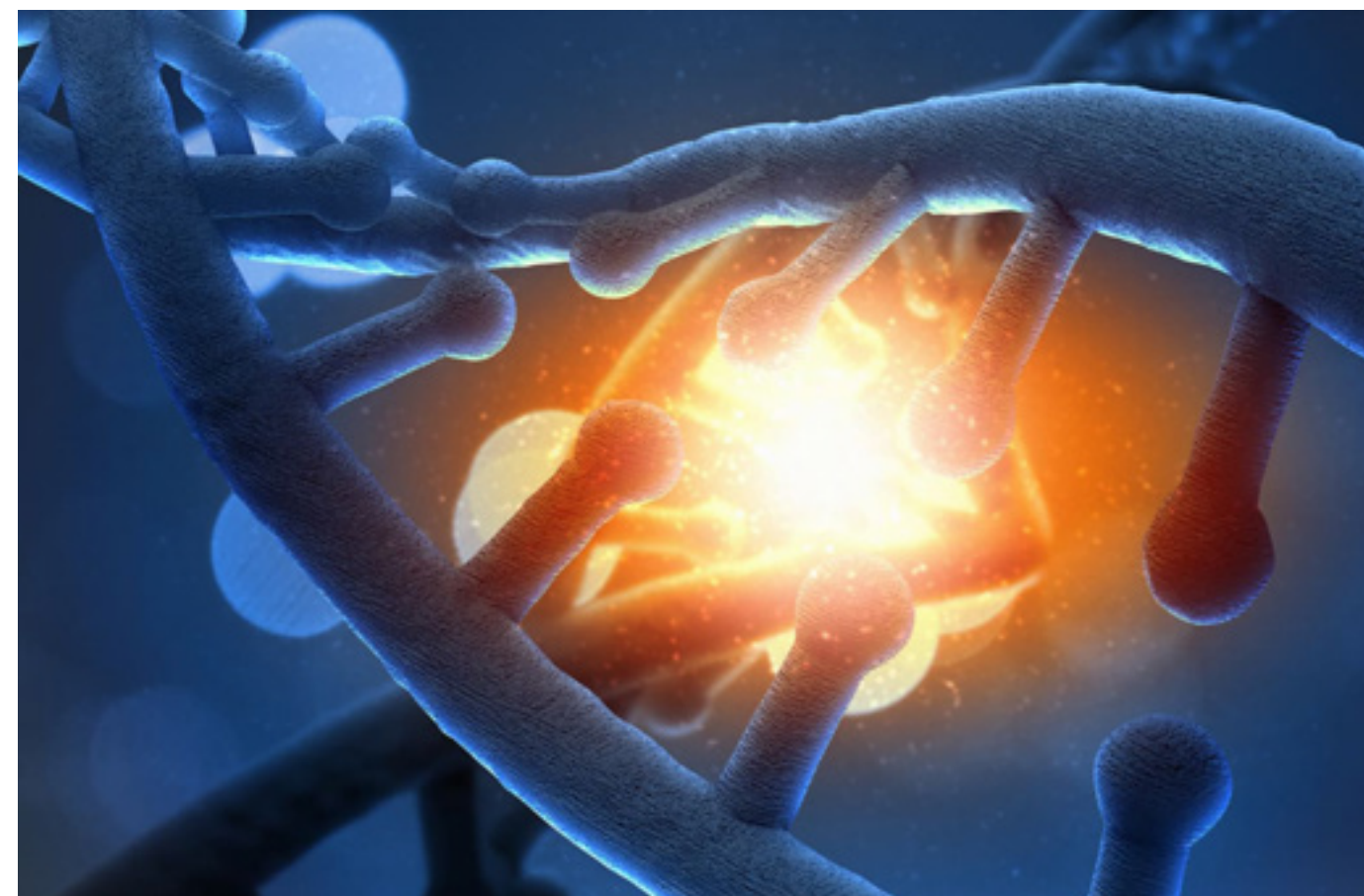
Personalized circulating tumour DNA analysis as predictive biomarker

Although immunotherapy has been shown to shrink tumours and prolong survival for patients for whom other treatments have failed, only 20 to 30 per cent of patients benefit from it, and as yet, clinicians are not able to define this subset of patients. Understanding this is crucial, since immunotherapy can have severe side effects in a small percentage of patients, and knowing whether to begin or continue would be helpful for patients weighing different treatment options.

A team of Princess Margaret Cancer Centre scientists and clinicians addressed this question with a novel study evaluating response to a specific immunotherapy drug via a customized test based on each patient's tumour profile. The study is one of the first across a broad spectrum

of tumours to show that measuring levels of circulating tumour DNA (ctDNA) could be useful to help predict immunotherapy response. The prospective study is part of a larger flagship clinical trial, INSPIRE, launched at the Princess Margaret in 2016, which has enrolled more than 100 patients with head and neck, breast, and ovarian cancers, melanoma and other advanced solid tumours.

"The observation of ctDNA clearance during treatment and its link to long-term survival is novel and provocative, suggesting that this biological marker can have broad clinical impact." – Dr. Lillian Siu, Senior Scientist and medical oncologist at the Princess Margaret, BMO Chair in Precision Cancer Genomics, and co-senior author of the study.



Clinical Research

Equity in Cancer:

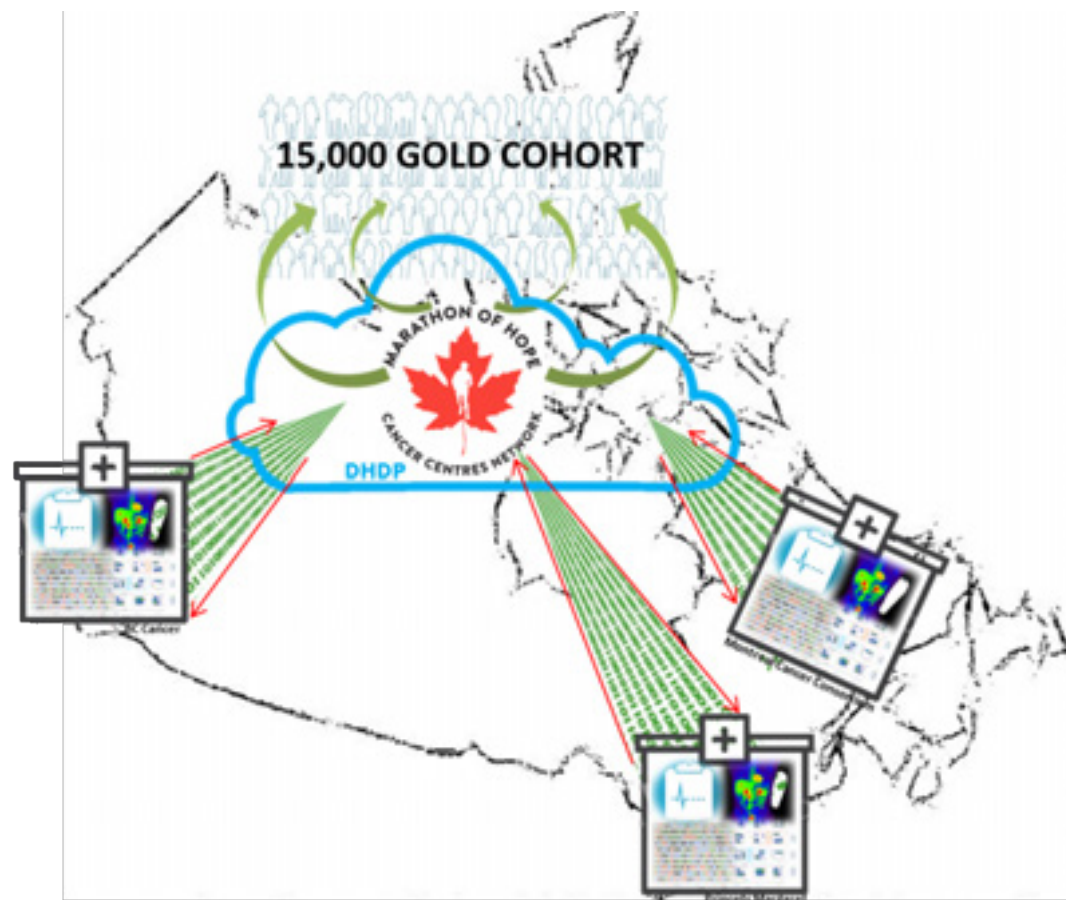
Sharing Data Across Canada for Precision Medicine

The Marathon of Hope Cancer Centres Network (MOHCCN), is a pan-Canadian initiative led by the Terry Fox Research Institute to bring together cancer centres across Canada to “unite and support observation and interventional clinical research studies on defined cohorts of patients treated with new precision medicine approaches in clinical trials, and real-world evidence studies outside of clinical trials.” The Princess Margaret Cancer Centre, BC Cancer and Montreal Cancer Consortium, are the three founding member consortia for MOHCCN.

A key deliverable of MOHCCN is to create a high quality and shareable dataset of 15,000 cases in the first five

years and 100,000 cases within the decade. Each MOHCCN case will contain a comprehensive profile of the patient’s tumour, imaging, treatment information, and longitudinal outcomes.

MOHCCN’s vision is to obtain consent from patients to share their data with the MOHCCN and have their medical data flow automatically into the Digital Health and Discovery Platform (DHDP), where it can be analyzed by MOHCCN scientists and researchers. Ultimately, the “big data” aims to support optimal precision medicine decisions for cancer patients within the Network and beyond.



RESPECT study:

Finding hidden COVID-19 cases in asymptomatic and pre-symptomatic workers

The COVID-19 pandemic continues to transform research, health care, and society. Clinical researchers and scientists from around the world have responded with great public spirit and unprecedented cooperation, and collaboration at UHN is no exception. The RESPECT Study: A Research Platform to Screen and Protect Individuals that Work within a Food Production, Healthcare, Research or Clinical Organization, led by Dr. Amit Oza, is a prime example of such team work.

The study was launched to determine prevalence of coronavirus infection within the healthcare, research and clinical care organizations with a goal to improve and accelerate testing and tracking of COVID-19 infections in asymptomatic and pre-symptomatic workers. The testing included a blood antibody test to assess past exposure, and a swab test to see if the virus was currently present and able to spread. The first phase

of the RESPECT study enrolled over 3,000 healthcare workers to date, and is still ongoing.

Respect 2.0 expanded to food production workers who work in close proximity of each other. Teams from the Cancer Clinical Research Unit (CCRU) launched a dedicated mobile research team and registered approximately 575 food production workers. RESPECT has established a centralized system to measure prevalence in healthcare and high risk workers, and deliver test results to individuals in real time for immediate action. In addition to increasing awareness on the frequency of asymptomatic COVID-19 positivity and reducing asymptomatic spread, this study also supported the development of new, faster tests to detect the virus from extracted RNA without using high demand lab reagents, which is critical given heavy demands for these in the pandemic.



In appreciation of Dr. Mary Gospodarowicz

After 15 years as the Medical Director of the Princess Margaret Cancer Centre, Dr. Mary Gospodarowicz officially retired on May 29th, 2020. Over the course of her time in this leadership role, Dr. Gospodarowicz has helped to elevate the national and global prestige of our institution. She has vastly increased our ability to deliver outstanding care to thousands of patients. She was instrumental in enabling clinical research. As she often said, we learn from every patient we treat. She managed our cancer centre throughout a time of competing interests, and complex challenges. She has represented us on some of the biggest stages in the world and her influence has helped to shape cancer treatment and public policy here in Canada and in many other countries.

Dr. Gospodarowicz values new ideas and innovation, and appreciates the tremendous value of experience. During her tenure, she helped to establish the Young Leaders in Cancer Program for UHN to nurture brilliant young minds, the Elders Program to advocate for roles for those doctors, clinicians and researchers who had spent their careers at the Centre, created Cancerpedia.ca, a digital framework for comprehensive cancer centres and established the Princess Margaret Cancer Conference, a yearly academic forum that allows our clinicians, scientists, trainees and staff, as well as professionals from outside the Cancer Centre, to share their knowledge and research. Dr. Gospodarowicz continues to impart her wisdom through her engagement as an advisor for the Global Cancer Program, Young Leaders Program, and Princess Margaret Elders.

She was the first Canadian President of the Union for International Cancer Control (UICC) from 2012 to 2014. She established the Toronto Global Cancer Control Conference, which focused on innovation and next-generation approaches to global cancer control. It shone a light on Canada's role in the global fight against cancer and helped to establish cancer control as a global developmental priority.

Her patients speak highly of her empathetic care and her commitment to honesty, even in the most difficult of situations. She believed that we shouldn't be delivering today's standard of care, but future care to our patients. She is always striving to help The Princess Margaret push the boundaries of science and clinical care. She has been, for over 15 years, our north star for cancer care.

Thank you for being a tour de force in cancer care, in Canada and throughout the world.

Welcome back Dr. Keith Stewart

Princess Margaret Cancer Centre welcomes back renowned multiple myeloma clinician and researcher Dr. Keith Stewart. Dr. Stewart rejoined as the Medical Director of the Princess Margaret Cancer Program, Vice President, Cancer, UHN, and Regional Vice President, Toronto Central South Regional Cancer Program, Ontario Health (Cancer Care Ontario).

Dr. Stewart began practicing at the Toronto General Hospital (TGH) in 1992, subsequently moving his clinical practice to The Princess Margaret in 1999. While at UHN, he became the first Research Director at TGH, began the University of Toronto McLaughlin Centre for Molecular Medicine, and conducted the first viral gene therapy clinical trials in Canada.

UHN prepared him well for the move to the Mayo Clinic in 2005, where he was the Director of the Mayo Clinic Center for Individualized Medicine. This center focuses on genome-based research and clinical implementation, customizing care to a patient's unique genetic makeup. As a scientist, Dr. Stewart has more than 25 years of sustained national funding for a laboratory research program in genomics and biology of multiple myeloma, and has led many clinical trials of new drugs.

Dr. Stewart stresses that cancer care for generations to come will require a fearless vision: detecting cancer early while it is still curable; developing high-definition, precision treatments to replace treatments with debilitating side effects; using Artificial Intelligence to discover unexpected links and patterns within cancer for better detection; and creating comfort and confidence for both staff and patients.



Clinical Programs



Dr. Amit M. Oza

Head of Medical Oncology and Hematology

MEDICAL ONCOLOGY & HEMATOLOGY

The Division of Medical Oncology and Hematology (DMOH) is dedicated to providing the most advanced therapeutic approaches to patients diagnosed with solid or hematologic malignancies, and home to internationally recognized programs in genomic medicine, immunotherapy, myeloproliferative neoplasm, and hematology programs. DMOH is also home to the largest leukemia, stem cell transplant, and malignant hematology programs in Canada. Our team includes 68 medical oncologists and malignant hematologists, 12 hematologists in our Blood Disorders Program, 24 clinical associates and associate staff, 70 clinical fellows, 10 hospitalists, 4 medical geneticists, 12 physician assistants and more than 150 practitioners, nurses, trainees, and allied health professionals. We have contributed to seminal practice-changing studies and biologic knowledge through our early phase clinical trials programs. Together, we endeavour to be global leaders in improving outcomes, and advancing care through continuous innovation and research.

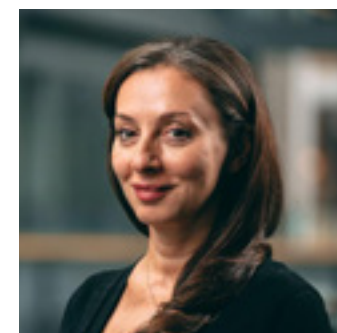


Dr. Fei-Fei Liu

Chief of Radiation Medicine Program

RADIATION MEDICINE

The internationally acclaimed Radiation Medicine Program (RMP) at the Princess Margaret Cancer Centre is the largest radiation treatment center in Canada, and amongst the top three such programs in the world. Our program is committed to patient-centred care with a focus on quality, safety, and knowledge dissemination. We improve the quality of radiation therapy worldwide through innovative research, education and cutting-edge radiation practices and technologies. RMP has the world's largest MR Program with two MR-guided radiation therapy facilities onsite (a state-of-the-art Magnetic Resonance-guided Radiation Therapy (MRgRT) facility and an MR-Linac), and the world's largest deployment of the RayStation Treatment Planning System. Our program also includes 16 linear accelerators, a Leksell Gamma Knife Perfexion unit, a Gamma Knife Icon unit, an orthovoltage unit, a PET CT, an MRI 3T simulator, and three CT simulators. In addition, RMP offers a Pediatric Radiation Therapy Program, which delivers specialized pediatric radiation for children with cancer. Our program includes 37 radiation oncologists, 27 medical physicists, 196 radiation therapists, 21 Clinical Research Program Staff, 3 Nurse Practitioners and various clinical, research, administrative, and technical support teams. Our interprofessional group of over 400 staff work together to deliver high quality and safe radiation treatment to over 9,000 cancer patients annually.



Dr. Gelareh Zadeh

Chief of Surgical Oncology

SURGICAL ONCOLOGY

Surgical Oncology is committed to providing access to leading edge surgical techniques and technologies that improve patient outcomes, with a focus on delivering comprehensive, compassionate care for our patients. With 70 dedicated cancer surgeons, our multidisciplinary surgical teams offer services 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. We have an internationally recognized interdisciplinary program dedicated to clinical and translational research, innovation, and education. We endeavour to meet the increasing demand for the surgical management of cancer, and we are committed to providing the best practice of care through collaboration, outreach, and partnership with our community.

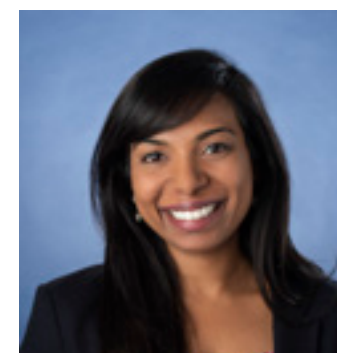


Dr. Camilla Zimmermann

Head of Supportive Care

SUPPORTIVE CARE

Supportive Care is dedicated to supporting patients and families through its programs and services to relieve physical and psychological distress and to maintain and improve quality of life throughout the trajectory of cancer and advanced illness. Supportive Care supports a holistic and comprehensive approach to treating advanced illness for patients and their families at all stages of the disease. It is comprised of Psychosocial Oncology, Palliative Care, and Cancer Rehabilitation and Survivorship. Our clinical team includes social workers, psychiatrists, psychologists, palliative care physicians, nurses, expressive arts therapists, kinesiologists, occupational therapists, physiotherapists, registered massage therapists and other allied health professionals. Supportive Care has become an internationally recognized program for research and education, developing and testing novel approaches to treatment and training learners from all over the world. Its global outreach has also been enhanced by the Global Institute of Psychosocial, Palliative and End-of-Life Care (GIPPEC).



Anet Julius

Director of Professional Practice

COLLABORATIVE ACADEMIC PRACTICE

The Collaborative Academic Practice (CAP) portfolio is rooted in the strength and contribution that each profession brings to the whole. CAP leads the synthesis of practice, education and research within the individual professions and collectively integrating practice amongst the health professions. The CAP portfolio consists of 15 health professions comprised of more than 650 people, including: Nursing, Medical Imaging Technology, Respiratory Therapy, Occupational Therapy, Physiotherapy, Radiation Therapy, Speech Language Pathology, Social Work, Spiritual Care, Clinical Nutrition, Therapeutic Recreation, Kinesiology, Anesthesia, Psychology, and Chiroprody.

Leadership Transitions

PROFESSIONAL PRACTICE, Director



Pam Savage

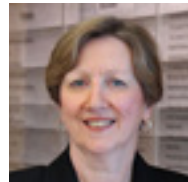
Pam Savage has retired as Director of Professional Practice. Pam started her career at UHN as a point-of-care RN in the Medical Intensive Care Unit at the Toronto General Hospital. Over the past 35 years at UHN, she held a number of positions including Clinical Educator, Clinical Nurse Specialist, and Senior Nursing Professional Practice Leader.



Anet Julius

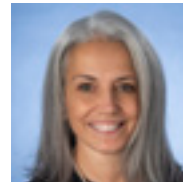
Anet Julius was appointed Interim Director of Professional Practice. She previously held the role of Senior Professional Practice Leader and was an Advanced Practice Nurse Educator at the Princess Margaret since 2012.

MALIGNANT HEMATOLOGY, Director



Judy Costello

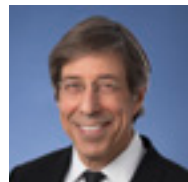
Judy Costello has retired as Director for Malignant Hematology after 33 years of progressive leadership and exemplary service to UHN. In retirement, Judy plans on continuing with her adventures in mountain trekking, visiting foreign countries, conducting Accreditation Canada surveys, and "taking every opportunity to grow."



Lisa Tinker

Lisa Tinker was appointed Interim Clinical Director for Malignant Hematology. Lisa holds a Masters of Health Management degree from McMaster University, and has held a variety of leadership roles at the Princess Margaret, including: Nurse Manager and Patient Care Co-ordinator for Ambulatory Care Solid Tumour, Nurse Educator for the Cancer Clinical Research Unit and, most recently, Nurse Manager for Inpatient Malignant Hematology.

SUPPORTIVE CARE, Head



Dr. Gary Rodin

Dr. Gary Rodin established an integrated clinical and research program in Supportive Care at the Princess Margaret, and was the Harold and Shirley Lederman Chair in Psychosocial Oncology and Palliative Care. This internationally recognized, comprehensive program ensured supportive care from across the disease trajectory, and with its research framework has been regarded as an optimal model for supportive care in comprehensive cancer treatment settings.



Dr. Camilla Zimmermann

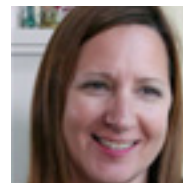
Dr. Camilla Zimmermann was appointed Head of Supportive Care. Camilla Zimmermann is internationally known for her research on palliative and supportive care, particularly in the area of early integration of palliative care for patients with cancer.

CCRU, Program Director



Pam Degendorfer

Pam Degendorfer has retired as Program Director for the CCRU after spending over 30 years at Princess Margaret. Pam's career began with the Biostatistics team where her analytical approach to research evolved into establishing the operational processes supporting clinical research as the inaugural Manager of the Drug Development Program. From there, Pam took on subsequent leadership roles within the CCRU and Ozmosis Research.



Susanna Sellmann

Susanna Sellmann was appointed as Program Director, CCRU. For over a decade, Susanna has successfully led the development, implementation and maintenance of several CCRU portfolio programs, and provided financial management supporting trials activities at the Princess Margaret and community cancer centres.

HUMAN RESOURCES, Director



Natasha Kuzmanov

Natasha Kuzmanov transitioned to the role of interim Senior Director to provide leadership to the UHN Employee Relations team and the Rehabilitation program. In her four years with Princess Margaret, Natasha has formed many strong relationships with leaders, staff and union partners always focusing on delivering the best experience for our staff and building a culture of fairness, respect and compassion.



Kristi Steed

Kristi Steed was appointed Interim Senior Manager, HR. Kristi has a proven record of success with UHN; she started her career at TWH, then moved to Altum Health and for the last two years Kristi has been supporting the Michener Institute of Education at UHN. Kristi will report to Natasha in her new role, ensuring a seamless transition.

BREAST, Section Head



Dr. David McCready

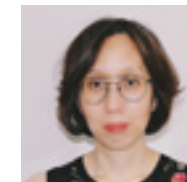
Dr. David McCready has stepped down as Section Head for the Breast site, after serving in this important leadership role for almost two decades. Under Dr. McCready's leadership the breast cancer program has seen tremendous growth and success.



Dr. Tulin Cil

Dr. Tulin Cil was appointed as Section Head of Breast Surgical Oncology in the Division of General Surgery at UHN. Dr. Cil began her General Surgery staff appointment at UHN and Women's College Hospital in 2008. Dr. Cil's main clinical focus is breast surgical oncology including oncoplastic surgery.

LEUKEMIA, Site Lead



Dr. Karen Yee

Dr. Karen Yee has stepped down as site lead for Leukemia. She is a practicing hematologist at the Princess Margaret and an Associate Professor and clinician-investigator at the University of Toronto Division of Medical Oncology and Hematology.



Dr. Vikas Gupta

Dr. Vikas Gupta is the new site lead for Leukemia, and the Director of the Elizabeth and Tony Comper MPN Program at the Princess Margaret. He is Professor of Medicine at the University of Toronto and the founding member and President of the Canadian MPN group. His scholarly work is focused on advancing transplant and non-transplant strategies for the treatment of patients with BCR-ABL negative myeloproliferative neoplasms (MPN).

MALIGNANT HEMATOLOGY, Directors



Dr. Armin Gerbitz

Dr. Armin Gerbitz joined us as a member of our senior faculty within the Hans Messner Allogeneic Transplant Program, in the Division of Medical Oncology and Hematology. In his new role, Dr. Gerbitz will oversee operations and governance of the lab for the Blood and Marrow Transplant – Immune Effector Cell Program and Cell Therapy Research Program.



Dr. Auro Viswabandya

Dr. Auro Viswabandya has taken on responsibilities of Quality Director in the Orsino Cell Processing Laboratory (CPL) and associated blood and bone marrow collection services to ensure compliance with Foundation for the Accreditation of Cellular Therapy (FACT) standards, Health Canada and other regulatory bodies. Dr. Viswabandya has demonstrated his comprehensive knowledge of the entire program and with his oversight will continue to contribute to process improvements. He will work closely with the Quality Teams for Allo-BMT, Auto-BMT and IEC Therapy.



Dr. Santhosh Thyagu

Dr. Santhosh Thyagu will lead the formation of an acute oncology service which will co-manage patients at sites outside of the Princess Margaret to improve the overall quality of care, enhance patient and provider experience and improve capacity and flow. The consult service will act as the main contact for care-providers at other sites who are managing admitted DMOH cancer patients and need to optimize their oncology care. Anticipated staffing will consist of three staff oncologists, three fellows and two to three PAs.

Leadership

PRINCESS MARGARET EXECUTIVE COMMITTEE

Keith Stewart, Medical Director, Princess Margaret Cancer Centre; Vice President, Cancer, UHN
Gelareh Zadeh, Head, Surgical Oncology
Camilla Zimmermann, Head, Supportive Care
Amit Oza, Head, Medical Oncology and Hematology
Fei-Fei Liu, Head, Radiation Medicine Program
Anet Julius, Interim Director of Professional Practice
Lesley Moody, Clinical Director, Solid Tumour & Ambulatory, Supportive Care, Gattuso Rapid Diagnostic Centre
Lisa Tinker, Interim Clinical Director, Malignant Hematology and Blood Disorders Programs
Meredith Giuliani, Medical Director, Cancer Education
Meena Merali, Director, Transformation and Strategic Partnerships
Karen Yee, Chair, Cancer Committee
Gary Rodin, Director, UHN Cancer Experience
Colleen Dickie, Director of Operations, RMP
Zsolt Hering, Director of Finance
Taymaa May, Surgical Oncologist
Meaghan Stovel McKnight, COO, The Princess Margaret Cancer Foundation
Janet Papadakos, Interim Lead for Cancer Education
Aaron Schimmer, Director, Princess Margaret Research Institute

SENIOR MANAGEMENT TEAM

Keith Stewart, Medical Director, Princess Margaret Cancer Centre; Vice President, Cancer, UHN

Lisa Tinker, Interim Clinical Director, Malignant Hematology and Blood Disorders Programs
Lesley Moody, Clinical Director, Solid Tumour & Ambulatory, Supportive Care, Gattuso Rapid Diagnostic Centre
Colleen Dickie, Director of Operations, RMP
Anet Julius, Interim Director of Professional Practice
Zsolt Hering, Director of Finance
Kristi Steed, Interim Senior Manager, Human Resources
Paul Cornacchione, Senior Director, Imaging Operations
Olavo Fernandes, Director, Pharmacy, Clinical Operations
Paul Massaroni, Site Manager, Data Science
Nazek Abdelmutti, Senior Manager, Cancer Strategy
Ashley Liu, Manager, Strategic Projects
Alex Radkewycz, Senior Public Affairs Advisor

DISEASE SITE GROUP LEADERS

Sami Chadi, Lower Gastrointestinal
Laura Dawson, Upper Gastrointestinal
Marc de Perrot, Lung
Peter Ferguson, Sarcoma
Antonio Finelli, Genitourinary
David Goldstein, Endocrine
Danny Ghazarian, Skin/Melanoma
Vikas Gupta, Leukemia
Anne Koch, Breast
Normand Laperriere, Central Nervous System & Eye
Stephanie L'heureux, Gynecology
Anca Prica, Lymphoma/Myeloma
John Waldron, Head and Neck

Cancer Care Ontario

Ontario Health – Cancer Care Ontario

In 2019, Cancer Care Ontario underwent significant change as part of the global changes within the Ontario Healthcare System. Ontario Health was formed and brought together a number of individual health agencies including Cancer Care Ontario, Health Quality Ontario, and the Local Health Integration Networks. In 2020 and into 2021, Ontario Health's focus has been on aligning health systems delivery across Ontario through five health regions. Cancer care delivery has remained unchanged

through this period of transition and continues to be overseen by the pre-existing 14 Regional Cancer Programs. As such, the 2019-2023 Ontario Cancer Plan continues to serve as a roadmap for the cancer system and guides program development in the realms of person-centred care, safety, equity, efficiency, effectiveness, and timeliness of care.

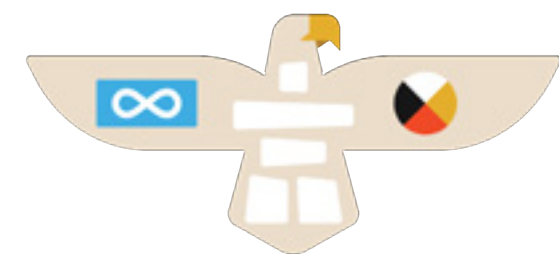


The Toronto Central Regional Indigenous Cancer Program (ICP)

In 2020, the Toronto Central Regional Indigenous Cancer Program undertook a scan of smudging practices across Toronto Central sites, and set up a working group to assess, evaluate, and operationally implement smudging procedures in each of the partnering hospitals. With strong engagement from a number of hospital staff and through guidance from community elders, two hospitals within the region successfully launched smudging policies to the benefit of Indigenous patients.

The Toronto Central Regional Indigenous Cancer Program undertook a number of partnership based initiatives over the year, with the goal of developing meaningful relationships through education and participation in ceremony. One such initiative was a partnership with the Sunnybrook Health Sciences Centre to Indigenize engagement within the hospital. Termed the Monthly Smudge and Sharing Circle Initiative, this partnership sought to improve the care of Indigenous patients, their families, and staff through participation in cultural gatherings, learning opportunities, and Indigenous

ceremony. With seven sessions and 190 attendees, the program successfully allowed for the development of meaningful relationships and opportunities for cultural awareness education.



Indigenous Cancer Program

Awards

Ahmed Al-Awamer, 2020 Innovation in Education Award

Cheryl Arrowsmith, John Dick, Trevor Pugh, Frances Shepherd, Ming Tsao, Tak Mak, Highly Cited Researchers list

Jennifer Bell, New Investigator in Psychosocial Oncology, CIHR Institute of Cancer Research

Scott Bratman, Appointed Dr. Mariano Antonio Elia Chair in Head and Neck Cancer Research

Laura Dawson, Elected as First Canadian ASTRO President

John Dick, AACR International Award for Extraordinary Achievement in Cancer Research, *Pezcoller Foundation*

CAMP HN.10 & CAMP CE.8 Trial Teams, CCTG Phase III Team Awards

Daniel De Carvalho, Top 10 Cancer Research Publications – EACR; Member Royal Society of Canada College of New Scholars, Artists and Scientists

Meredith Giuliani, AFMC Young Educators Award

Mary Gospodarowicz, ICRU Gray Medal

Sarah Hales, Excellence in Psychotherapy Supervision Award, Department of Psychiatry UofT

Shane Harding, J. P. Bickell Medical Research Grant for new faculty

Doris Howell, Canadian Association of Psychosocial (CAPO) Life Time Achievement Award

Jennifer Jones, CIHR Institute of Research, Research Excellence Award

Madeline Li, Robin Forbes, Gerald Kirsh Humanitarian Award

Tak Mak, 11th Annual Weinman award; "Distinguished Affiliated Professor" by the Technical University of Munich; Elected to Academia Europaea

Brian O'Sullivan, ASTRO Gold Medal

Vera Peters, Honoured in Canada Post's Medical Groundbreakers Stamp Series

Lillian Siu, TAT 2020 Honorary Award

Alex Vitkin, Gang Zheng, Excellence in Education award, *the Department of Medical Biophysics*

Rebecca Wong, CNIC Academic Leadership Award

Brad Wouters, 2020 John M. Yuhus Award, *Penn Department of Radiation Oncology*

Gelareh Zadeh, Elected President of The Society of Neuro-Oncology

Gang Zheng, CRC Tier 1 Chair in Cancer Nanomedicine

The Princess Margaret Cancer Foundation

2020:

Cancer Remains a Top Priority for Princess Margaret Supporters

2020 was a year for the books. The COVID-19 pandemic changed many things: the way we work, the way we live, the way we fundraise. One thing that hasn't changed, however, is our commitment to conquering cancer.

When COVID-19 hit, our team did not retreat. Instead, we innovated, evolved and remained steadfast in our efforts to raise funds that were critical in enabling The Princess Margaret to continue their life-saving cancer research and patient care.

This year also highlighted one unwavering truth: cancer remains a top priority for our supporters. Despite a particularly challenging year for many, generous donors from across the country – and the globe – stepped up in support of the Princess Margaret.

Thanks to the incredible support of Ontarians, the Princess Margaret Home Lottery had its most successful year in our 25-year history, selling a record-number of tickets for both its Spring and Fall lottery programs.

Our supporters stood by us when government restrictions forced us to cancel in-person events. Within months, our team worked swiftly to transition all of our events to virtual experiences, including some of the country's largest peer-to-peer events such as The Enbridge Ride to Conquer Cancer, The Weekend to Conquer Cancer, Journey to Conquer Cancer, Northern Pass and Road Hockey to Conquer Cancer. At a time when COVID-19 forced us to stay apart, we were touched by all the unique ways our supporters came together (virtually) in support of cancer research.

We even added new ways for supporters to engage with the Princess Margaret. We introduced the DIY Challenge, an online campaign that encourages people to do something, almost anything, to raise funds for cancer research. We entered the e-gaming space with the launch of Quest to Conquer Cancer, which in its first year, attracted 99% of first-time donors, 82% of whom reside outside of Canada! These new programs, while born out of necessity,

have enabled us to engage an entirely new community of supporters from beyond our traditional geographic and demographic boundaries – a profound reminder that the work of the Princess Margaret is benefitting lives in Canada and around the world.

As we move beyond the pandemic, we will maintain this resolve to push boundaries, drive innovation and demonstrate our courage to disrupt. While it won't be easy, we are a resilient Foundation. One that has been well positioned to weather this storm, thanks to the wisdom of our Board of Directors, the talent of our staff, and the steadfast support of our passionate supporters – without whom none of this would be possible.

We can't afford to slow down. At 228 deaths a day, cancer remains the number-one cause of death in Canada. We owe it to Canadians. We owe it to our friends and loved ones. We owe it to ourselves. Thank you for your ongoing support of The Princess Margaret Cancer Foundation. Together, we will conquer cancer in our lifetime.



New Ways to Support the PMCF!

The DIY Challenge:

The do-it-yourself (DIY) Challenge encourages Canadians to support cancer research by creating their own fundraising program, supported by The PMCF. Supporters can fundraise by doing what they love, from cooking to yoga to running. All activities are welcome! [Learn more at DIYtoConquer.ca.](#)



Quest to Conquer Cancer

Last year we sent a rallying call to gamers across the globe to embark on the Quest to Conquer Cancer. Together, we raised over \$385,000 for ground-breaking cancer research benefitting The Princess Margaret Cancer Foundation. Quest to Conquer Cancer aims to mobilize the gaming community to put their love of conquering games towards helping to conquer cancer. Quest is a year-round e-gaming program that raises funds through partnerships with gamers who host charity streams for their audiences. Learn more at [QuestToConquerCancer.ca.](#)



The Purpose Package

Introducing The Purpose Package, a new seasonal subscription box from The PMCF featuring a curated collection of goods from local Canadian makers. 100% of profits from every package supports life-saving cancer research at the Princess Margaret, making it the perfect way to make a difference. Get yours today at [PurposePackage.ca.](#)



Princess Margaret Cottage Lottery

The Princess Margaret Cancer Foundation launched its first ever Princess Margaret Cottage Lottery, a limited-edition fundraiser featuring over 5,000 summer themed prizes including 3 incredible Grand Prize lakefront cottages in Muskoka, Georgian Bay and Kawartha Lakes. Visit [PrincessMargaretLotto.com](#) to purchase a lottery ticket in support of the Princess Margaret!

Princess Margaret Cancer Society Donors

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