

The Princess Margaret Cancer Foundation  UHN

CARRY THE FIRE



**CREATING A WORLD
FREE FROM THE
FEAR OF CANCER**

LIGHTING THE WAY FORWARD THROUGH DISCOVERY

Since opening its doors in 1958, Princess Margaret Cancer Centre has established itself as a global leader in cancer diagnostics, research, and treatment. Our world first discoveries formed the basis for bone marrow transplants and the field of regenerative medicine, and the pioneering of immunotherapy – using the body’s own immune system to identify and destroy cancer cells – through our discovery of the T-cell receptor. We also eliminated radical mastectomies as a standard of cancer care for for millions of people worldwide with breast cancer, through the world’s first lumpectomy combined with radiation.

Despite many advancements, however, the number of cancer cases is rising worldwide, with a concerning increase among younger generations. By 2050, it is projected that new cancer cases will surge globally by 77%, with millennials facing the most significant increase, underscoring the critical importance of the work of The Princess Margaret.

The Golden Age of Cancer Research

We are in an unprecedented moment for cancer research and clinical innovation.

Never before have we had the depth of scientific understanding and the breadth of highly effective therapeutic options – combined with the promise of rapidly advancing technologies such as artificial intelligence and genetic sequencing.

“ Cancer researchers are calling this a golden age. There has never been a better time to double down and transform cancer outcomes for the patients and their loved ones who are counting on us – not just at Princess Margaret Cancer Centre, but across Canada and beyond.”

– **Dr. Miyo Yamashita**
President and Chief Executive Officer, Princess Margaret Cancer Foundation



IMAGINE

A world where we catch cancer early and stop it in its tracks before it takes hold. Where we can focus on our physical, emotional, and mental health while monitoring signs of recurrence. Without worry, without fear.

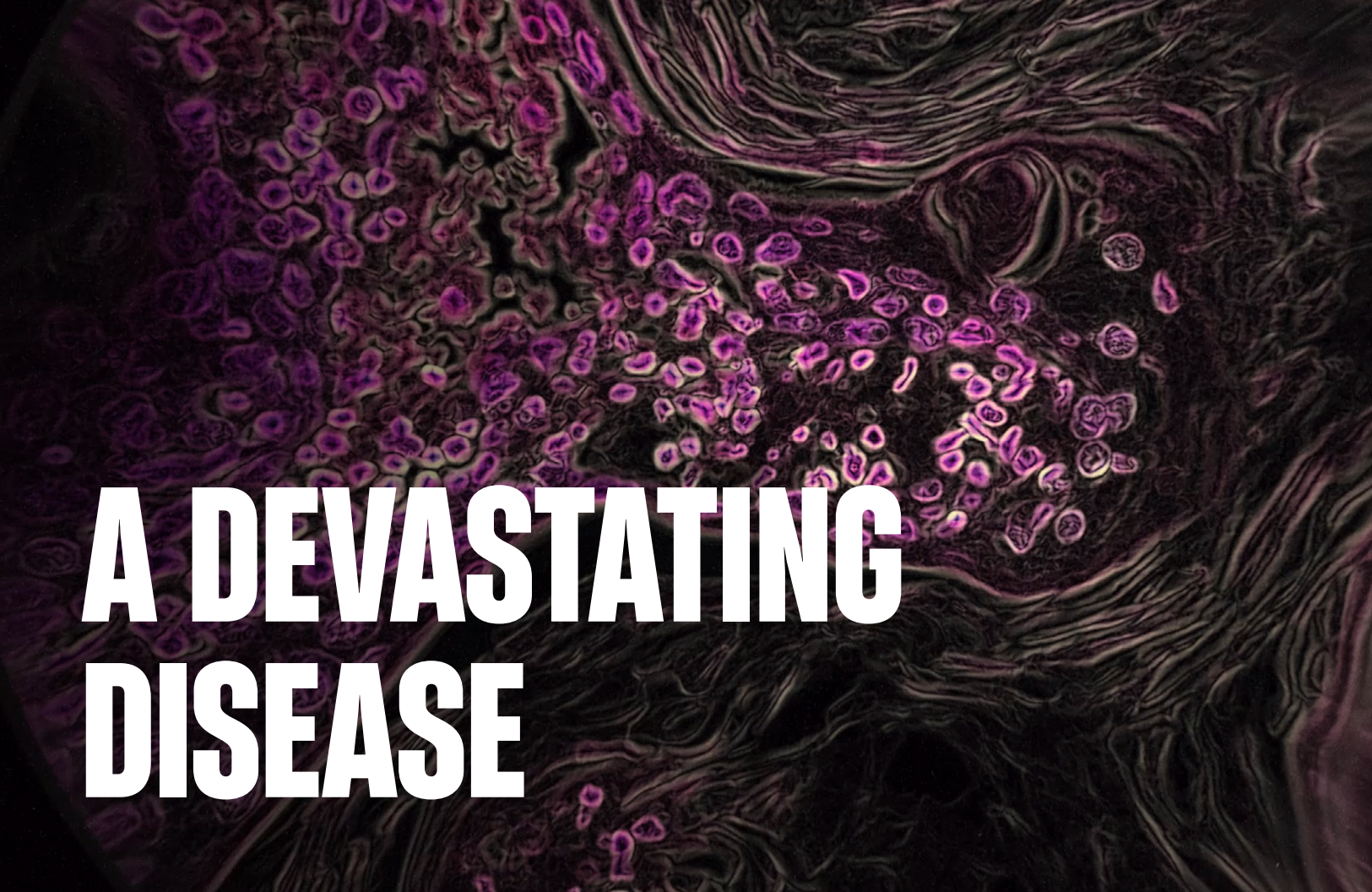
A world where we take back the power – turning cancer into a disruption instead of a devastating diagnosis.

We are closer than ever before.

“ The Princess Margaret is a global powerhouse in both cancer clinical care and multidisciplinary research – from discovery science to translational research and clinical trials, advancing standards of care worldwide.”

– **Dr. Keith Stewart**
VP, Cancer and Director,
Princess Margaret Cancer Program

Together, we’re creating a world free from the fear of cancer.



A DEVASTATING DISEASE

Scientists are calling cancer the defining health issue of our time

Cancer is complex. It's a group of hundreds of diseases that are influenced by lifestyle, environment, and genetics. Cancer is full of challenges, but we believe that through collaborative research, clinical innovation, comprehensive care, and engaged philanthropy, we can overcome it together.

We have each been touched by cancer. 2 in 5 Canadians will be diagnosed in their lifetime – that's almost half of everyone we know. And rates are on the rise here and around the world – among all age groups and with a troubling increase in younger generations.

As concerning as these trends are, we are also in a moment of unparalleled potential, with scientists calling this a golden age in cancer research.

As Canada's only multidisciplinary treatment centre dedicated solely to cancer and a world leader in research, innovation, and care, Princess Margaret Cancer Centre is uniquely positioned to deliver on the promise of creating a world free from the fear of cancer.

Now more than ever, we need to come together as a community of supporters and philanthropic champions to invest in a brighter future for all cancer patients and their loved ones.

“ The world needs us to step forward at this pivotal moment to drive a new era of impact.”

– **Jochen Tilk**
Chair, The Princess Margaret Cancer Foundation Board of Directors

YOUR TRANSFORMATIVE SUPPORT

We are at a pivotal moment for cancer research and care

Decades of philanthropic funding, research progress, and clinical innovation have led to a deep understanding of cancer and uncovered effective ways to confront it.

At the same time, artificial intelligence, genome sequencing, and other technologies have become both more affordable and incredibly powerful – enabling us to harness key cancer insights for large-scale impact.

Unlike ever before, we can combine our in-depth knowledge of molecular biomarkers, radiation therapy, immunotherapy, robotic surgery, mental health, and much more with unprecedented technological capabilities.

Today, with your support, we have a historic opportunity to transform cancer outcomes.



CREATING A WORLD FREE FROM THE FEAR OF CANCER

Building on our pioneering advances and ongoing impact across three key areas – early detection, innovative treatments, and comprehensive support – we have a vision to transform the experience of cancer on a fundamental level.

Together, with your support, we can take the fear out of a cancer diagnosis.

EARLY DETECTION

We will drive large-scale diagnostic screening to prevent cancer before it happens.

Up to 90 percent of common cancer diagnoses are curable if detected early, but cure rates drop significantly if caught at later stages. Today, close to 50 percent of cancers are still detected at later stages when the chances of survival are much lower.

The Princess Margaret has made key advancements in diagnostics, made possible thanks to philanthropic support – from setting new mammography standards based on our findings of the link between breast density and cancer risk and performing liquid biopsies to catch different kinds of cancer before they appear in imaging, to large-scale genetic sequencing to detect hereditary cancers.

We are now leading pivotal large-scale clinical trials for minimally invasive, affordable, and scalable diagnostic tools. With your support, we will set the stage for population-level screening – and a dramatic improvement in cancer outcomes.



New technologies such as universal genetic testing and liquid biopsies can find cancer sooner than ever before, cancers that might have otherwise been undetected until it was too late. **By using these new approaches, we increase our ability to provide earlier intervention and improve patient outcomes.**

– Dr. Raymond Kim
Medical Director, Cancer Early Detection

FUNDING OPPORTUNITIES

With support from the Princess Margaret Home & Cottage Lotteries we can catch cancer early, before it takes hold.

OurGenes Research Program

Launching large-scale genetic testing for breast and ovarian cancer risk

Our genes can reveal our risk of developing certain cancers. BRCA1/2 mutations, for example, signal a substantially high risk of developing breast and ovarian cancer. Understanding our risk can help us monitor and treat cancer early.

Leveraging our in-depth understanding of genetic markers, along with advanced sequencing technologies, we are now setting out to offer free whole exome sequencing to 100,000 cancer patients over a five-year period. Patients will gain access to their genetic information, while the findings will help guide their monitoring and care.

This initiative will be part of the Helix Research Network, a consortium of 10 hospitals across the U.S., with a target

to sequence one million patients. The Princess Margaret will be the first and only Canadian institution to join this groundbreaking effort. Building on its established expertise in genetic testing, including programs such as the UNIFY trial at the M. Lau Breast Centre and the Bhalwani Familial Cancer Clinic – where genetic testing for breast cancer patients has successfully identified risk and informed tailored care – this new program represents an ambitious next step.

With crucial support, the OurGenes Research Program has the potential to expand early detection by developing a successful model along with a robust research program to inform large-scale genetic cancer screening, leading the world in early detection cancer diagnosis.

Early Detection Blood Testing

Liquid biopsy cancer screening for hereditary and high-risk individuals

Conventional cancer screening can be cumbersome, uncomfortable, and difficult to scale at a population level. In contrast, a simple blood test with the power to detect a variety of cancers and identify their location in the body would be a game-changer.

Building on the development of this liquid biopsy technology, led by scientists at Princess Margaret Cancer Centre, a new study is rolling these tests out to individuals with hereditary or familial cancer syndromes such as Li-Fraumeni. Testing for cancers such as pancreatic, brain, and endometrial, which are often missed by conventional screening, the trial will evaluate the performance of the tests while allowing

clinicians to detect cancers long before they appear in imaging. With over 2,800 blood samples collected from nearly 2,000 participants, early findings of this Cell-free DNA in Hereditary and High-Risk Malignancies (CHARM) study show promising results. As a next step, the team plans to launch a large-scale clinical trial to refine the liquid biopsy technology and assess its broader clinical applicability.

Combining our expertise, diversity of our patient population, this initiative has the potential to save lives while reshaping cancer screening worldwide – not in the distant future, but within the coming years.

EARLY DETECTION GIVES LUANA HOPE FOR THE FUTURE



L-R: Luana Locke, Julia Sobotka, Dr. Raymond Kim, Dr. Trevor Pugh.

A breakthrough in early detection has changed the course of Luana's life.

At the age of 25, while pregnant with her first child, Luana Locke was diagnosed with breast cancer. That diagnosis triggered genetic testing which revealed even more devastating news. She had a rare hereditary disorder, Li-Fraumeni Syndrome (LFS), that comes with an almost 100% chance of developing cancer again.

Breakthroughs in early detection at The Princess Margaret are the reason Luana has now survived cancer six times. Each time, the cancer was discovered in its earliest stages and successfully treated. "My attitude toward survival has shifted significantly because of The Princess Margaret," said Luana. Currently, she is happily cancer-free.

Dr. Raymond Kim, Medical Director, has been Luana's physician for the past 10 years.

"Early detection has the profound potential to find cancer sooner than ever before," he said. "By using new approaches and technologies such as liquid biopsies, we can provide earlier intervention in

a much less invasive way, develop more precise treatments plans, and extend the lives of people facing cancer."

Liquid biopsies, which only require a simple blood draw, are set to transform outcomes for thousands of cancer patients around the world. This innovative technique, pioneered at The Princess Margaret, works by detecting tiny fragments of cancer DNA that have been shed by tumours into a patient's bloodstream.

Thanks to this revolutionary breakthrough, Luana's story has been able to move from one of uncertainty, to one of hope and optimism. "I've been blessed to have the doctors that have treated me – Dr. Kim, in particular," said Luana.

Dr. Kim also notes the important role that fundraising plays in his work. "Early detection would not be possible without support. Our lottery supporters not only fund critical initiatives, but they inspire me and my team to work hard every day, knowing we have the resources to make a difference."

INNOVATIVE TREATMENTS

We will advance better, more tailored therapies to improve outcomes, enhancing precision, and efficacy while reducing side effects.

We have a strong record of world-leading advances in surgery, radiation, and medical oncology – all thanks to visionary philanthropy.

From the discovery of stem cells, which enabled bone marrow transplants, to the launch of immunotherapy, the first use of radiation therapy to cure Hodgkin's Lymphoma, the first chemotherapy treatment for hormone-resistant prostate cancer and innovative therapies for multiple myeloma, glioblastoma and lung and colon cancers – we continue to enhance the power and precision of cancer treatment.

We are at the forefront of innovation in cancer treatment. We are expanding our potential in theranostics, which combines diagnosis and therapy to target cancer cells with precision. We are developing new immunotherapy treatments to equip our own bodies to defend against cancer. And we are harnessing artificial intelligence (AI) in real-time surgery and radiation planning.

Propelled by lottery supporters, we will design increasingly targeted, personalized, and effective cancer therapies, leading the world in the development of new standards of cancer care.

“ Groundbreaking results happen when the best scientists in the world can pursue their curiosity together in a collaborative community.

Philanthropic support makes this possible, fueling the many game-changing discoveries made at The Princess Margaret.”

– Dr. Aaron Schimmer
Research Director,
Princess Margaret Cancer Centre



FUNDING OPPORTUNITIES

Together, we can create better, more tailored therapies, enhancing their precision and power, while reducing side effects.

Theranostics Centre

Advanced molecular imaging combined with precision radiotherapy to detect and eliminate cancer

Theranostics represents a transformative frontier in cancer treatment, combining advanced imaging, therapy, and monitoring to deliver precise, personalized care for a variety of cancers, including advanced disease.

Central to this innovation are radioactive drugs targeting cancer cells with pinpoint accuracy. These dual-purpose agents enable detailed imaging to map cancer's spread and deliver highly focused treatments that spare healthy tissues, reducing side effects and improving quality of life. This approach offers hope to patients with aggressive, late-stage cancers who may not qualify for conventional treatments.

Theranostics has the potential to become the new standard of care, shifting the paradigm of cancer

therapy from a one-size-fits-all approach to tailored, patient-centred treatments.

Princess Margaret Cancer Centre has already demonstrated success in theranostics for prostate, neuroendocrine, and liver cancers. With our deep expertise in nuclear medicine, radiation oncology, and translational research, we are uniquely positioned to become a leader in this field.

Your support for a new Theranostics Centre will help expand access from 250 to 800 patients annually by 2028, providing cutting-edge care and hope to those with complex cancers. Together, we can dramatically improve outcomes and transform lives.

Advancing Immunotherapy

New Cellular Therapies Centre to expand access to life-saving immunotherapy treatments

Since pioneering the field of immunotherapy through the cloning of the T-cell receptor in 1984, Princess Margaret scientists have led the way in harnessing the body's immune system to fight cancer. Following the launch of Canada's first clinical trial using tumour-infiltrating lymphocytes (TILs) in 2013, our researchers have focused on enhancing the precision of adoptive cell therapies. These "living drugs" are evolving into highly targeted tools, with Dr. Naoto Hirano's team currently developing a next-generation CAR-T therapy.

The Princess Margaret's Tumor Immunotherapy Program (TIP) has become Canada's recognized leader in this vital field, driving innovations that improve cancer treatment and patient outcomes.

A new Cellular Therapies Centre will expand the delivery of life-saving treatments, including CAR-T therapies and stem cell transplants.

This new facility will be designed to provide timely, personalized care for patients with a range of cancer types, including leukemia, lymphoma, and multiple myeloma. This progress is made possible through the continued generosity of our community of lottery supporters.

New AI-Guided, Real-Time Surgical GPS

Harnessing AI in real-time surgery to enhance precision

Since it opened in 2013, The Princess Margaret's Guided Therapeutics (GTx) Program has set the standard for image-guided surgery and treatment.

In most hospital operating rooms, surgeons only have access to a patient's 3D images taken before their operation, which provide a map of the locations of the tumour and critical anatomical structures, such as blood vessels and nerves. But as soon as surgeons begin operating, that map quickly becomes outdated.

The GTx brings imaging technology inside the operating room to continually update the surgical map while the patient is on the operating table. Working in tandem with an advanced surgical navigation system that tracks the surgeon's tools, it acts like a surgical GPS.

In an effort to enhance accuracy even further, the team is harnessing photonics to "tag" tumour tissues with fluorescence, allowing surgeons to distinguish between healthy and cancerous tissues clearly. Leveraging AI to ensure accurate real-time 3D imaging, the team is currently testing and optimizing the approach to remove more of the tumour, reducing the need for extensive post-operative treatments.

With support, we can translate this promising work to the operating room to improve outcomes while reducing side effects.



Biomedical engineering co-op students have been working in the GTx-Lab under the supervision of Dr. Michael Daly.

L-R: Rooaa Shanshal, Matthew Siracusa, Dr. Mike Daly, Hikaru Kurosawa

COMPREHENSIVE SUPPORT

Putting the needs of patients and their loved ones first, we will ensure they have vital emotional and mental health support.

Cancer patients are three to four times more likely to experience anxiety and depression than the general population, and 60% of patients find the mental health challenges of cancer harder to cope with than the physical side effects of the illness or treatment. Caregivers also struggle – often experiencing greater psychological distress than their loved ones with cancer.

At The Princess Margaret, we are global pioneers in integrating supportive care into daily cancer care as an essential component – equally important to surgery, radiation, and medical oncology. We know that supportive care results in better cancer outcomes, improved well-being, reduced distress, and greater satisfaction in care.

With the vast majority of our supportive care programs and research funded by philanthropy, we have led a range of innovative interventions, including our Psychosocial Oncology Program, Caregiver Clinic, and Managing Cancer and Living Meaningfully (CALM), a therapeutic program for patients with advanced cancer currently delivered in 15 countries.

We are committed to expanding our comprehensive supportive care to ensure that every patient and their loved ones get the mental and emotional care they need – while setting new standards for cancer mental health on a global scale.

FUNDING OPPORTUNITIES

By supporting the Princess Margaret Home & Cottage Lotteries you are joining us in putting the needs of patients and their loved ones first, providing comprehensive support as they navigate the complexities and emotional anguish of a cancer diagnosis.

Cancer Mental Health Institute

Ensuring comprehensive and compassionate mental healthcare for cancer patients

A cancer diagnosis is a traumatic event for patients and their loved ones. While still reeling from this shocking news, patients are immediately faced with the realities of undergoing treatments, navigating a complex healthcare system, and confronting end-of-life concerns. This upheaval can also greatly exacerbate existing mental health challenges for patients.

Supportive care results in better cancer outcomes, improved well-being, reduced distress, and greater satisfaction in care. Thanks to generous philanthropic

support, The Princess Margaret has pioneered a range of innovative interventions in cancer mental health, including our Psychosocial Oncology Program, Caregiver Clinic, and Managing Cancer and Living Meaningfully (CALM), a therapeutic program for patients with advanced cancer.

With current resources, The Princess Margaret is able to provide supportive care to over 8,000 patients annually.

We are seeking philanthropic partners to deepen our research and expand our services, ensuring that every one of the 90,000+ patients seen at The Princess Margaret annually is offered mental healthcare appropriate to their age, cancer stage, and personal circumstances.

The new Cancer Mental Health Institute would include crucial investments in:

People

Research Chair in Cancer Mental Health

Leading high-impact supportive care trials to deliver new interventions in cancer mental health and train the next generation of supportive care specialists with a focus on cancer mental health.

Fellowships in Cancer Mental Health

Providing specialized training and education for the next generation of cancer mental health experts while deepening our collective understanding of cancer mental health and how to serve the unique needs of each patient.

Programs

Adolescent & Young Adult (AYA) Oncology Program

The AYA Oncology Program provides personalized supportive care, peer support, group therapy, education, and resources for adolescents and young adults with cancer. Areas include fertility, sexual health, body image, school and work transitions, social isolation, and end-of-life distress. With lottery support, we aim to increase new patients supported from 400 to 1,200 per year to meet the increasing demand of the program

Bridging the Care Gap from Childhood to Adolescence

Cancer in children creates enormous distress for patients and their adult caregivers, a stress that is exacerbated when patients transition from a children's hospital to an adult healthcare setting. Currently, there are no formal mechanisms in place to help patients and families make this transition. Philanthropic investment will enable us to provide a seamless continuum of care for 17- to 18-year-old patients transitioning to The Princess Margaret through a partnership with SickKids Hospital.

Caregiver Clinic: Supporting the 'Invisible Backbone' of our Cancer Care System

Research by our Psychosocial Oncology team has found that caregivers often have greater psychological distress than their loved ones with cancer. With funds from lottery ticket supporters we can increase our support for caregivers and adapt our evidence-based Managing Cancer and Living Meaningfully (CALM) resource for caregivers of advanced cancer patients because caregivers experiencing distress have a direct impact on patient well-being.

Sexual Health Clinic:

Reducing Stigma Around Sexual Health

A first at The Princess Margaret and unique in North America, the Sexual Health Clinic addresses sexual dysfunction, a common yet distressing occurrence in cancer care. Lottery funding will enable us to help patients navigate complex psychosocial issues such as relationships, body dysmorphia and internalized stigmas.

Cancer Mental Health Innovation Fund

Funds from lottery will accelerate the pace of discovery in mental health interventions, including drug trials as well as trials of non-drug interventions such as specifically designed psychotherapy, screening and targeted management of symptoms, and customized exercise programs.

Healing spaces

Cancer Mental Health Clinic

Currently, there is no dedicated space at The Princess Margaret for psychosocial oncologists to see patients. Support for a new, purpose-built facility that will put patients' needs first by providing a confidential and calming environment with 10 counselling rooms and a new psychosocial therapy space.

The Princess Margaret Lodge

Princess Margaret Cancer Centre Lodge, a residence located at 545 Jarvis Street, provides out-of-town patients receiving life-saving care at The Princess Margaret with a place to stay at a reasonable cost. Lottery support will enhance cancer mental health programming for patients at the Lodge, bridging the gap and providing the right care at the right time.

CARRY THE FIRE TO TRANSFORM CANCER OUTCOMES

Cancer is personal. It has touched every one of us – whether directly or through our friends and loved ones. In response, we are compelled to do something meaningful.

Cancer is too much for any of us to face alone. Only by coming together can we create a world free from the fear of cancer.

Lottery supporters fuel our progress, providing vital support to advance early detection, innovative treatments, and comprehensive support.

At this unprecedented moment in cancer research and clinical innovation – where scientific progress converges with the potential of artificial intelligence and genetic sequencing – we have a unique and urgent opportunity to drive change.

We invite you to play a leading role in transforming cancer outcomes and improving the lives of cancer patients and their loved ones everywhere – today and for future generations.



Our world-leading experts are at the forefront of new discoveries and breakthroughs in cancer prevention, early detection, diagnostics and treatment, improving outcomes for patients here in Canada and around the globe.

– **Kevin Smith**
President & CEO,
University Health Network

Contact us to learn more:

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THE WORLD NEEDS THE PRINCESS MARGARET



The Princess Margaret gave me my life back.

– **Jen Pogue**
Cancer Survivor

About The Princess Margaret Cancer Foundation

The Princess Margaret Cancer Foundation is Canada's largest and leading cancer charity. We're dedicated to raising funds for Princess Margaret Cancer Centre, one of the world's leading cancer research and treatment centres, known for its breakthrough discoveries that transform patient outcomes. Together, we Carry The Fire for cancer patients everywhere in our mission to create a world free from the fear of cancer. Through philanthropy, fundraising events, and our world-leading home lottery program, we're changing how the world understands, prevents, diagnoses, and treats cancer, benefitting patients at The Princess Margaret, throughout Canada, and around the world.

The Princess Margaret
Cancer Foundation  **UHN**

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