

IMPACT REPORT

2016



Cancer
Research
Society

100% research since 1945



A WORD FROM OUR CEO

MAX FEHLMANN

President and Chief Executive Officer

IN 1946, ONE YEAR AFTER OUR FOUNDING, THE CANCER RESEARCH SOCIETY AWARDED FOUR RESEARCH GRANTS OF \$600. IN 2016, THE SOCIETY CONTRIBUTED OVER \$14 MILLION AND HELPED FUND MORE THAN 170 PROJECTS ACROSS CANADA.

I'm very proud to take the reins of such a solid organization that has had, for over 70 years, such a tangible impact on the innovative research being conducted by our country's most promising scientists. Every day in labs across Canada, researchers are hard at work to help make important strides against the devastation of cancer. While they dedicate their careers to this fight, we are committed to supporting them with the financial means necessary to make important discoveries that will pave the way for the next medical advances in cancer prevention, detection and treatment.

The saying it takes a village to raise a child comes to mind. In our case, we believe it takes a country to make a difference in fight against cancer. Close to 200,000 donors across this great land have contributed to our cause in 2016. Contributions big and small from individuals, partners, volunteers, employees and board members have been instrumental in understanding how cancer works, how it occurs and how to treat it.



« I HOPE THAT AS YOU READ THE HIGHLIGHTS OF OUR IMPACT OVER THE COURSE OF THE LAST YEAR, YOU ARE PROUD AND INSPIRED TO HAVE JOINED OUR MISSION. TOGETHER, WE WILL **DEFEAT CANCER.** »



OUR **IMPACT** AT A GLANCE

THANKS TO THE GENEROSITY OF DONORS AND VOLUNTEERS SUCH AS YOU:

190,000
DONORS

44
PARTNERS

1,000
VOLUNTEERS

106
MEMBERS OF EVALUATION COMMITTEES



172 Cancer research projects, of which 20 concern underfunded cancers

4 Young, talented researchers in the Scholarships for the Next Generation of Scientists program

35 Institutions and cancer research centres from 6 provinces (AB, BC, SK, MB, ON & QC)

IN CANADA:

\$ 14.1 million

to fund research on all types of cancer, thereby contributing to the advancement of science aimed at preventing, detecting, and treating this disease.

42.4%
of the investments in regular programs, on all types of cancer



45.6%
of the investments in partnership programs, mostly on specific types of cancer

12.0%
of the investments in environment-cancer, on all types of cancer

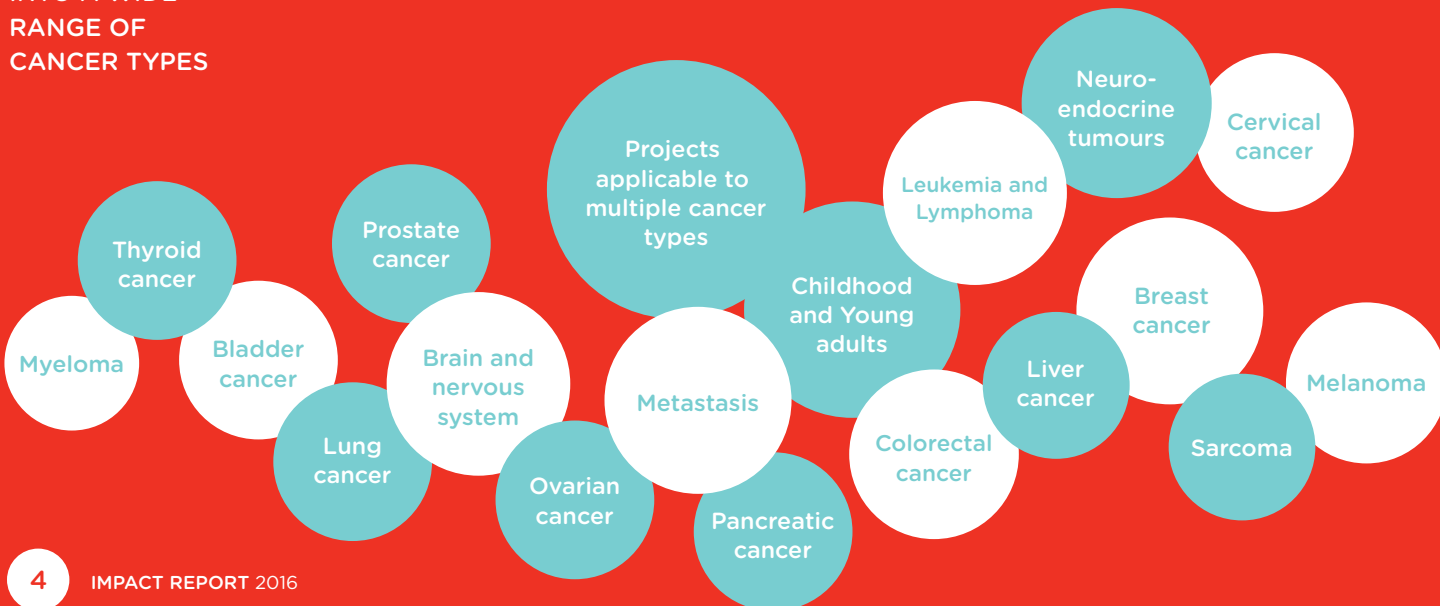
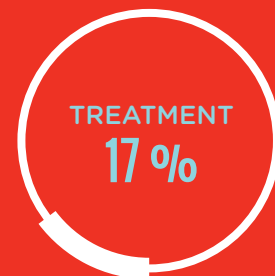
Funding the **MOST PROMISING** research

The Cancer Research Society has established a rigorous selection process that is carried out by our committees of experts so that our grants are awarded to the most promising researchers and projects across Canada.

« OVER **100 EXPERTS**
REVIEWED THE NEARLY
400 GRANT APPLICATIONS WE
RECEIVED LAST YEAR. »

We rely on peer review - the internationally accepted benchmark for ensuring quality and excellence in scientific research. Composed of scientists who are experts in the same field as the applicants, our scientific peer review committees devote considerable time and effort, on a volunteer basis, to assessing applications and making award recommendations that allow us to make the best funding decisions.

THE **FUNDING**
WE PROVIDE
COVERS RESEARCH
INTO A WIDE
RANGE OF
CANCER TYPES



Where does the **FUNDING GO** ?

The Cancer Research Society has always supported **basic or fundamental research**, which is the cornerstone of all research. Basic research **contributes** to our fundamental knowledge of cancer cells, which is essential to preventing, detecting and treating cancer.

OPERATING GRANTS

Operating grants are the primary means by which we support the most promising cancer researchers across the country. Awarded annually, operating grants provide funding of \$120,000 for two years.

▶ **VIRUSES TO ATTACK CANCER CELLS**

Robin Parks, Ottawa Hospital Research Institute

Robin Parks and his team, from the Ottawa Hospital Research Institute, are exploring the use of oncolytic viruses for cancer therapy. These **“good” viruses** are innocuous for normal cells but will **attack and kill cancer cells**. Although they have shown efficacy in the laboratory, oncolytic viruses have not yet yielded as good a response in clinical studies in humans.

Robin Parks' team is exploring methods to optimize the way oncolytic viruses work by allowing them to spread better through a tumor mass. It is hoped that their approach will ultimately lead to an improved therapy for cancer patients.

« THE PRECISION AND **PERSONALIZED CANCER THERAPIES**

THAT ARE NOW IN CLINICAL TRIALS ALL STEM FROM BASIC RESEARCH. I SINCERELY THANK DONORS FOR THEIR COMMITMENT TO FUNDING THE BASIC RESEARCH THAT LEADS TO THE NEW DISCOVERIES THAT PROVIDE THE FOUNDATION FOR THE FUTURE DEVELOPMENT OF CLINICAL THERAPEUTICS THROUGH TRANSLATIONAL RESEARCH. »

MITSUHIKO IKURA

Princess Margaret Cancer Centre,
Toronto



Robin Parks

© Ottawa Hospital Research
Institute

▶ **MAKING ANTIBODIES RADIOACTIVE TO TREAT PANCREATIC CANCER**

Raymond Reilly, University of Toronto
In partnership with the Rob Lutterman Memorial Fund

Patients with pancreatic cancer have a 5-year survival rate of 8%, the lowest of all cancer types, which is due to a lack of effective treatments. Raymond Reilly and his PhD student **Sadaf Aghevlian** at the University of Toronto want to change this. They are working on developing a better treatment based on the use of **antibodies** labeled **with a radioactive element**. They showed that this new treatment works better at killing cancer cells than non-radiolabeled antibodies.

Raymond Reilly is planning on starting clinical trials to evaluate their new treatment's effectiveness.



Raymond Reilly and
PhD student Sadaf Aghevlian

▶ **PREDICTING THE METASTATIC POTENTIAL OF TUMORS**

Nadia Jahroudi, University of Alberta
In partnership with Alberta Innovates

Nadia Jahroudi and her team at the University of Alberta made an interesting discovery: some **cancer cells become very sticky**. The protein responsible for this stickiness allows cancer cells to bind platelets, which could cover and hide the circulating tumor cells thus helping them evade destruction by the immune system. This increases their **metastatic potential**, by increasing their capacity to invade other organs and tissues.

Nadia Jahroudi is now investigating the mechanism that activates that stickiness to determine whether the majority of metastasized cancer cells share this same property in the hopes of establishing a possible marker for metastatic cancer.



Nadia Jahroudi

SCHOLARSHIPS FOR THE NEXT GENERATION OF SCIENTISTS

We strongly believe in the importance of investing in the next generation of leading scientists. Our **Scholarships for the next generation of scientists** (SNGS) support young scientists at the postdoctoral level to help them transition into a research position in a Canadian university or research center.

RECIPIENTS OF THE **\$160,000** SCHOLARSHIPS ARE FUNDED FOR THREE YEARS, WHICH HELPS THEM DURING THE LAST YEAR OF THEIR POSTDOCTORAL INTERNSHIP AND THEN SUPPORTS THEIR RESEARCH, THROUGH A TWO-YEAR OPERATING GRANT, ONCE THEY HAVE OBTAINED A FACULTY POSITION

▶ HPV AND CERVICAL CANCER

Amélie Fradet-Turcotte, Université Laval

Worldwide, 5% of all cancers are caused by human papillomavirus (HPV). This virus induces genetic mutations in infected cells leading to the appearance of cancer, most of which are cervical cancers.

Amélie Fradet-Turcotte from the Université Laval is a successful young researcher who was awarded a Scholarship for the Next Generation of Scientists in 2014. With her team, she is trying to understand how the human papilloma virus affects DNA damage responses in infected cells.

These findings have a great potential to lead to the identification of targets that could be used to counteract the resistance of cervical cancer to treatment. Although the work is concentrated on patients suffering from cervical cancer, it has the potential to be applied to other HPV-induced cancers.



« THE **SNGS GRANT** HAS BEEN INSTRUMENTAL FOR THE ESTABLISHMENT OF MY LABORATORY. IT ALLOWED ME TO RECRUIT PERSONNEL, INTERNS AND STUDENTS THAT ARE NOW PURSUING THEIR STUDIES IN MY LAB. I WILL ALWAYS BE GRATEFUL AS THIS GRANT GAVE ME THE INITIAL WINGS TO PURSUE RESEARCH AS AN INDEPENDENT INVESTIGATOR! »

AMÉLIE FRADET-TURCOTTE

STRATEGIC INITIATIVES

The Cancer Research Society also funds high-impact projects in the area of translational research and the identification of environmental causes of cancer.

▶ TRANSLATIONAL RESEARCH - FROM LAB TO BEDSIDE

Translational research **bridges discoveries made in the laboratory and the patient**. Translational research allows to develop diagnostic tests and treatments based on the **new therapeutic targets** uncovered by fundamental research.

The Cancer Research Society is currently funding three strategic initiatives in the field of translational research:



The CIHR Initiative for studying the Late Effects of Childhood Cancer Treatments

Thanks to research, more and more children are now surviving cancer. However, a large proportion of them experience serious secondary effects later in life.

The Cancer Research Society, with the Canadian Institutes of Health Research and five other partners, provided \$3 million in funding for the PETALE Study, led by Daniel Sinnett at the CHU Ste-Justine in Montreal, which focuses on survivors of acute

lymphoblastic leukemia, the most frequent cancer in children. The study has demonstrated that childhood cancer survivors suffer from problems most often encountered in older populations, indicating that treatments they received at a young age might trigger something akin to premature aging.

The team focuses its work on the relationship between treatments received, survivor genetic background and long-term effects.



Halte au cancer de la prostate.
The Force Against Prostate Cancer.

The PROCURE/Cancer Research Society Prostate Cancer Biobank

The Cancer Research Society, in collaboration with PROCURE and generous donors, provided \$4.5 million in funding for a biobank of over 2,000 patients to help identify genetic and biomolecular indicators of prostate cancer associated with tumor aggressiveness and recurrence, which should lead to new treatment avenues.

The Exactis Innovation “Personalize My Treatment” Initiative



E X A C T I S

Personalized medicine aims to match cancer patients with the best possible treatments based on the characteristics of their tumor. Access to targeted treatments and innovative clinical trials is however

challenging. To accelerate and build a pan-Canadian network for personalized medicine, the Cancer Research Society and its partners Merck Canada and New Brunswick Health Research Foundation, have provided \$4 million to fund the Exactis “Personalize My Treatment” initiative. With this project, patients across Canada will be closer to innovative treatments.

▶ ENVIRONMENTAL CAUSES OF CANCER

Pioneer in the field, the Cancer Research Society has been supporting research that investigates the environmental causes of cancer for over 20 years, leading to strides in identifying links between elements we are exposed to in the environment and the development or progression of cancer.

In addition to environment-cancer operating grants, our funding has led to the creation of three major strategic initiatives that have increased the funding for the research of environmental causes of cancer in Canada.

THE **MOST EFFECTIVE** APPROACH
TO REDUCING THE RISKS OF
DEVELOPING CANCER IS BY FAR
THROUGH PREVENTION OF THE
DISEASE. HOWEVER, IT REMAINS THE
AREA OF CANCER RESEARCH THAT
IS THE LEAST DEVELOPED AND
FUNDED.

« THERE ARE FEW RESEARCHERS IN CANADA WORKING ON THE DISCOVERY OF MODIFIABLE RISK FACTORS FOR CANCER. IF WE DO NOT SUPPORT SUCH RESEARCH TODAY, OUR CHILDREN AND GRANDCHILDREN WILL BE CONDEMNED TO EXPERIENCING THE SAME HIGH RATES OF INCIDENCE OF CANCER AS WE EXPERIENCE TODAY. SUPPORTING THIS TYPE OF RESEARCH REPRESENTS AN ENLIGHTENED GIFT TO FUTURE GENERATIONS, SO THAT WE MAY FIND THE KEYS TO

UNLOCKING THE SECRETS OF CANCER PREVENTION. »

JACK SIEMIATYCKI

Université de Montréal

The Cancer Research Society Division of Epidemiology in the Department of Oncology at McGill University

In 1988, an endowment of \$1 million was made to McGill University for the creation of the Cancer Research Society Division of Epidemiology in the Department of Oncology. Under the direction of Eduardo Franco, the Division has been very active with the publication of more than 400 peer-reviewed scientific papers in the last 20 years.

The primary research focus of the Division is to study cancer causes and prognostic factors, primarily with regards to human papillomavirus (HPV)-associated cancers. The research has been instrumental in providing essential knowledge towards proving that HPV vaccination successfully prevents the appearance of cervical cancer.

THE **RESEARCH** HAS CONTRIBUTED TO THE PREVENTION OF HPV INFECTIONS AND SUBSEQUENT REDUCTION IN THE NUMBER OF CASES OF HPV-ASSOCIATED CANCERS.



© Amélie Philibert,
Université de Montréal

Guzzo / Cancer Research Society Environment-Cancer Research Chair - Finding out what causes cancer

Founded in 2007, the Guzzo Environment-Cancer Research Chair of the Cancer Research Society at the Université de Montréal aims to explain the causes of cancer by studying potential risk factors such as lifestyle, workplace, and the environment.

THROUGH THE **NOTTE IN BIANCO** EVENT, THE GUZZO FAMILY HAS RAISED OVER \$1 MILLION TO SUPPORT THE RESEARCH PROGRAM OF THE CHAIR HOLDER, JACK SIEMIATYCKI, ON MODIFIABLE CAUSES OF CANCER.

Research and Prevention Group in Environment-Cancer program

The Research and Prevention Group in Environment-Cancer program (GRePEC) is a Cancer Research Society program funded in collaboration with the Quebec Ministry of Economy, Science and Innovation. A total of \$12 million has been awarded to three high-impact projects and for the creation of two epidemiologist faculty positions.

The three GRePEC projects focus on:

- Prostate cancer prevention
- Occupational exposures and their possible links to lung, brain and ovarian cancer development
- Relationships between lifestyle and biomarkers of prostate cancer

« AS A JUNIOR INVESTIGATOR, HAVING SUPPORT FROM THE CANCER RESEARCH SOCIETY HAS ENABLED ME TO WORK AS PART OF A WORLD-RENOWNED TEAM OF RESEARCHERS PASSIONATE ABOUT CANCER PREVENTION. OUR RESEARCH TEAM CONSISTS OF EXPERTS IN CANCER EPIDEMIOLOGY, OCCUPATIONAL HYGIENE, CLINICAL MEDICINE AND BIOSTATISTICS. THE OPPORTUNITY TO FOCUS ON THE ENVIRONMENT-CANCER RELATIONSHIP THROUGH A MULTI-DISCIPLINARY APPROACH, WHICH I STRONGLY BELIEVE IS **THE FUTURE OF SCIENCE,** WOULD HAVE BEEN IMPOSSIBLE WITHOUT THE SUPPORT OF THE DONORS OF THE CANCER RESEARCH SOCIETY. »

A portrait of Vikki Ho, a woman with long dark hair, smiling. She is wearing a dark grey turtleneck sweater. The background is a blurred indoor setting with a teal curved graphic element at the bottom.

VIKKI HO
Université de Montréal



Thank you to our
DONORS AND PARTNERS



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100% research since 1945

CancerResearchSociety.ca