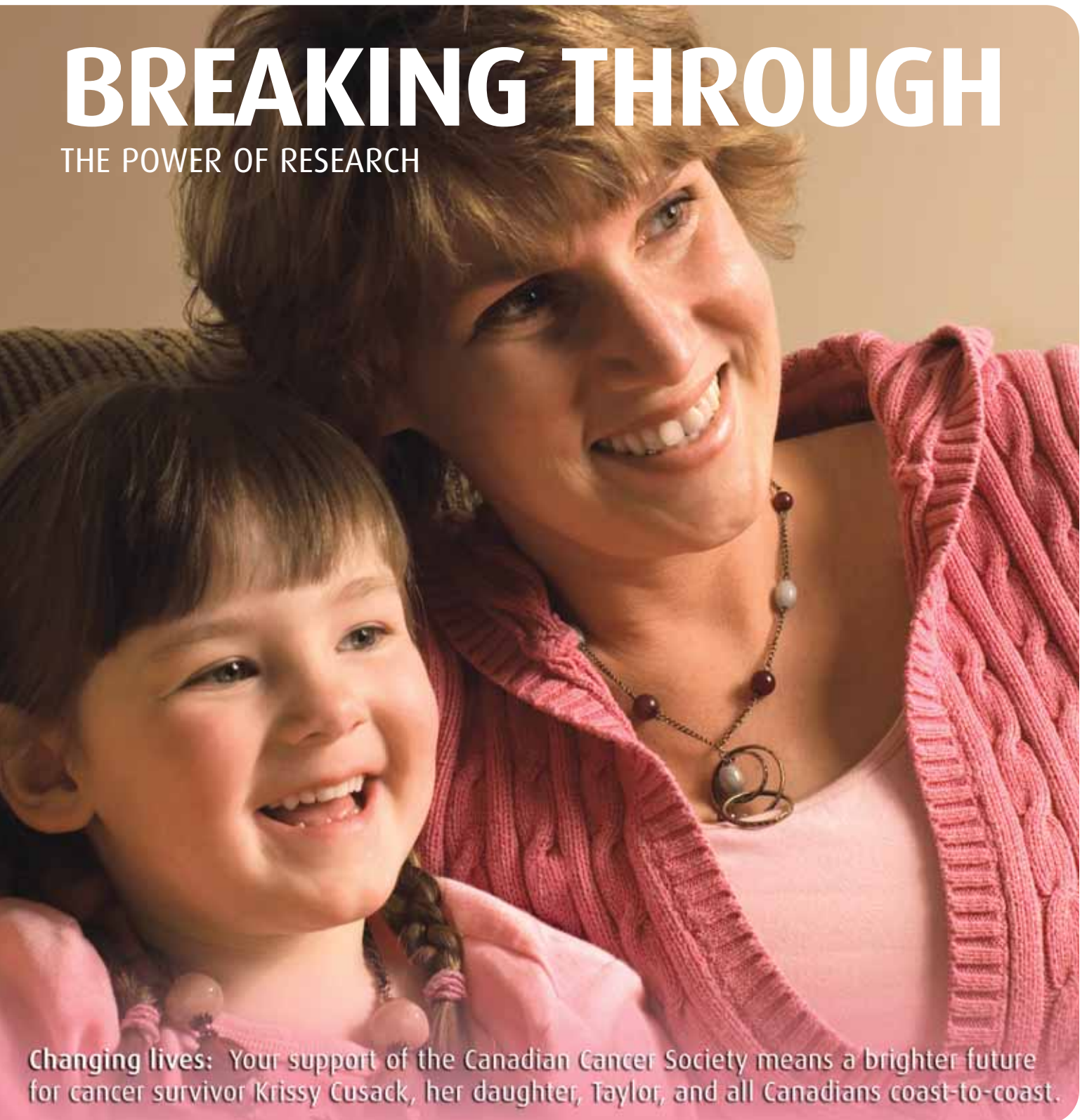




Canadian Cancer Society  
Société canadienne du cancer

# BREAKING THROUGH

THE POWER OF RESEARCH



Changing lives: Your support of the Canadian Cancer Society means a brighter future for cancer survivor Krissy Cusack, her daughter, Taylor, and all Canadians coast-to-coast.

Let's Make Cancer History 1 888 939-3333 | [www.cancer.ca](http://www.cancer.ca)

# Cancer research: The impact we're making

As Canada's leader in the fight against cancer, the Canadian Cancer Society is funding research that is making a difference for people in communities across Ontario. Society researchers are breaking through on many fronts – meaning today, we're learning how to prevent some cancers, while more people survive the disease.

## MAKING A DIFFERENCE

The advances we've made over the past two decades have transformed our understanding of how cancer develops and how to treat it.

### AS A RESULT:

- Almost 60\* per cent of people diagnosed with cancer today will survive the disease.
- Death rates for childhood cancers have fallen by more than 50 per cent since the 1950s.
- Overall cancer death rates have declined for both men and women.
- The breast cancer death rate in Canada has fallen by 25 per cent.
- The prostate cancer death rate has declined by 2.7 per cent annually since 1994.

\*Average five-year relative survival rates.

## DID YOU KNOW?

- We have funded over \$1 billion in cancer research in Canada.
- A research project can cost up to \$150,000 per year, which supports technicians, trainees and provides the necessary supplies.
- Canadian researchers are making a bigger impact with their research dollars than researchers from any other country, according to a study published in a leading scientific journal.

## PROGRESS MADE

Cancer is complex and is actually at least 200 different diseases. Each year, Canadian Cancer Society-funded researchers are making discoveries that help us to better understand all types of cancer.

### THIS HAS LED TO:

#### Better prevention

We know that at least 50 per cent of cancers are preventable through healthy living and policies that protect the public.

#### Increased survival

Many cancers including testicular, Hodgkin lymphoma and thyroid have high survival rates and low levels of recurrence, meaning that patients are essentially cured of their disease.

#### Improved treatments and a better quality of life for people living with cancer

Surgery is now more accurate and less invasive; chemotherapy is fine-tuned to lessen side effects and reduce the chance of cancer recurrence and radiation therapy is targeted specifically to cancer cells.

## CANCER RESEARCH MILESTONES

1970	1980	1990	2000	TODAY
Screening with Pap smear decreases cancer deaths	Stem cell discovery changes approach to bone marrow transplants	Society-funded researcher wins Nobel Prize	Breast cancer recurrence reduced by almost 50 per cent	New lung cancer treatment increases survival by 15 per cent

# Surviving cancer

Krissy Cusack had several reasons for choosing to participate in a Canadian Cancer Society clinical trial after being diagnosed with breast cancer: her then one-year-old daughter, Taylor, who may one day be forced to go through a similar experience; and the chance to help other women with the disease.

*“I just looked at the fact that if people didn’t do clinical trials, there would be no advancement,” says Cusack.*

Just 32 years-old when she was diagnosed with the disease, Cusack enrolled in a Canada-wide clinical trial which found a more effective treatment for preventing breast cancer from recurring. Her husband, Jeff, was supportive of her decision to sign up.

*“At first he was very scared because we have a young daughter,” she says. “But when I’d be having a rough time, he’d say ‘it’s okay, just get through this day and tomorrow will be better.’”*

The trial discovered that the breast cancer chemotherapy drug treatment, called CEF, is more effective at preventing recurrence of the disease than another common treatment, called AC/T.

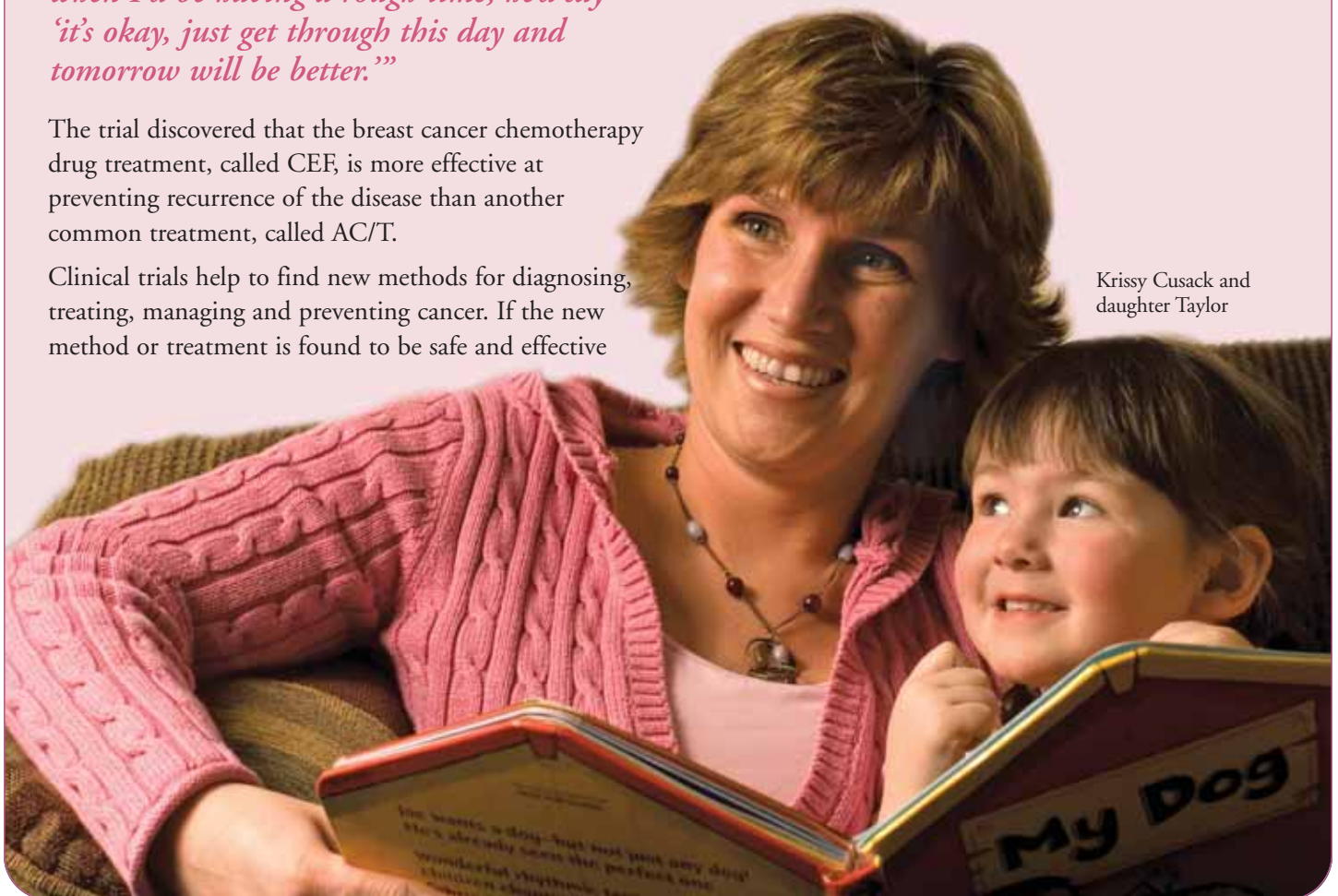
Clinical trials help to find new methods for diagnosing, treating, managing and preventing cancer. If the new method or treatment is found to be safe and effective

in clinical trials, then it can be made available more broadly to cancer patients. Even the most promising scientific findings must first be proven in clinical trials before they can be used as standard treatment.

The Society contributes more than \$5 million per year to clinical trials in Canada, mainly through its support of the National Cancer Institute of Canada Clinical Trials Group.

Today, Cusack is thriving, enjoying every minute with her family and selling daffodils in support of the Society – to give back so others can benefit.

*“They’re always making advances and working to make things better.”*



Krissy Cusack and daughter Taylor

# Research across Ontario

As Canada's leader in the fight against cancer, the Canadian Cancer Society is funding research that is making a difference in communities across Ontario. Thanks to the continued generosity of donors, the Society is enabling researchers, decision-makers and healthcare practitioners to work together to improve all aspects of cancer care. Here is a small sample of Society-funded research projects in Ontario:



## LONDON

*Dr. Lina Dagnino*

is studying the role of the ILK protein in skin cell development and movement which may be important in the formation of invasive skin cancers, such as melanoma, the more deadly form of skin cancer. Dr. Dagnino's research could shed light on this critical gap in knowledge, leading to better therapies for fighting skin cancer.



## HAMILTON

*Dr. Patricia Liaw*

is working with co-researcher Dr. Mark Levine, to examine how certain anti-cancer agents trigger adverse blood clotting effects – the second-leading cause of death in cancer patients. Drs. Liaw and Levine expect their research to lead to better treatments designed to help prevent blood clots in patients receiving anti-cancer drugs.



## TORONTO

*Dr. David Malkin*

is studying a group of families with a rare condition called Li-Fraumeni Syndrome (LFS). LFS predisposes children and young adults to develop brain, bone, breast and soft tissue cancers by as much as 50 per cent. Dr. Malkin's research will lead to a better understanding of the cause of these cancers and a method to predict when to start cancer screening so that treatment will be more effective.

● denotes Ontario communities with research projects, clinical trials, research training grants and/or specialized research centres supported by the Society



## KINGSTON

*Dr. Peter Greer*

is studying a gene that appears to have roles in both the prevention and the development of breast and colon cancer. When functioning normally, this gene stops tumour growth, but when it doesn't work it causes normal cells to turn into cancer cells. Through this research, Dr. Greer hopes to better understand how breast and colon cancers develop, with the aim of finding ways to prevent or treat these cancers.



## OTTAWA

*Dr. John Bell*

is studying how viruses can help to starve cancer cells by cutting off the blood/nutrient supply. For several years, researchers, including Dr. Bell, have been studying specific viruses and their ability to specifically kill cells. Dr. Bell's team anticipates that this research will open up new strategies in using viruses to fight cancers.



## THUNDER BAY

*Clinical trials*

Fourteen Society-funded clinical trials are taking place in Thunder Bay, offering the local community access to cutting-edge research. Clinical trials give people with cancer the opportunity to receive the newest types of treatment and help find new methods for preventing, diagnosing, treating and managing cancer.

# Powering research

When you donate to the Canadian Cancer Society, you are helping fund some of the leading scientists in the country. We use a rigorous national review process, managed by our research partner, the National Cancer Institute of Canada, to ensure that only the best research receives funding. This process is considered the **gold standard** in Canada and one of the best in the world.

## THE RESEARCH REVIEW PROCESS

Each year, researchers across Canada apply for Canadian Cancer Society funds through the National Cancer Institute of Canada. Proposals are reviewed and scored by teams of scientists, with input from community members. The final decision is based on which highest ranking proposals can be supported with the funds available.

*Every year, around 75 per cent of high scoring applications go unfunded because funds aren't available.*

## THE RESEARCH WE FUND

Society-funded research can be divided into three categories:

Basic laboratory research

Clinical research

Behavioural, psychosocial and population-based research

## Basic laboratory research

Dr. Steven Gallinger



**Refers to any discovery research that takes place in a laboratory. This research is crucial because it uncovers new knowledge that could lead to better prevention and new treatments.**

### Genes may affect colorectal cancer risk

Dr. Steven Gallinger is searching for genetic clues to help identify those at high risk of developing colorectal cancer.

With funding from the Canadian Cancer Society, Dr. Gallinger and his team are focusing their investigation on a gene called MYH. Research has already determined that mutations in this gene are fairly common and can cause one rare form of colorectal cancer.

“We looked at thousands of people to see what percentage have MYH mutations,” says Dr. Gallinger, who is both a clinician and a senior scientist based in Toronto. “The results aren’t very useful for the cancer patients but they will be very useful for their families because we’re searching for a strong inherited predisposition.”

Family history accounts for about 15 per cent of colorectal cancer cases per year. Colorectal cancer is the second leading cause of cancer deaths in Canada. In Ontario, about 7,800 people are diagnosed with colorectal cancer each year.

*“If someone knows that they have this mutated gene, they’ll need to go for more frequent screening,” says Dr. Gallinger.*

The Society recommends that people at average risk of developing colorectal cancer undergo screening tests at least every two years beginning at age 50.



## Clinical research

Dr. Rena Buckstein

**Patient-based research that typically takes place in hospitals and tests new methods for diagnosing, treating, managing and preventing cancer.**

### Testing a much-needed new treatment

Dr. Rena Buckstein is conducting a clinical trial that is testing a much-needed new treatment for an aggressive form of non-Hodgkin lymphoma, called peripheral T-cell lymphoma, which has a poorer prognosis than other lymphomas.

*“New treatments are desperately needed given the poor outcomes with chemotherapy, which is the current standard of care,” says Dr. Buckstein.*

Dr. Buckstein’s study is one of the first to test an antibody that binds to T-cell lymphoma cells. This trial will determine the most effective dose and the safest method of administering the antibody – at which point the antibody can be tested in conjunction with traditional chemotherapy.

Patients have been enrolled from cancer centres across Ontario, including Toronto, London and Hamilton.

Every year, approximately 6,800 Canadians are diagnosed with non-Hodgkin lymphoma and 10 to 15 per cent of them have peripheral T-cell lymphoma.

## Behavioural, psychosocial and population-based research

Dr. Loraine Marrett



**Evaluates people’s attitudes and behaviours to determine how to reduce the risk of cancer, as well as ways to improve the quality of life for people living with cancer.**

### Shedding light on skin cancer prevention

Canadian Cancer Society-funded researcher Dr. Loraine Marrett wants to shed new light on sun safety, sun awareness and skin cancer prevention in Canada.

In the summer and fall of 2006, Dr. Marrett’s team facilitated a coast-to-coast telephone survey of close to 9,000 Canadians over the age of 16, asking them about their sun behaviour, habits and knowledge.

*“This information will provide a greater understanding of what people are doing in the sun and what myths exist,” says Dr. Marrett. “If, for example, a particular group thinks that a tan is sexy, then this will help develop and target messages and programs.”*

This new data will complement a similar survey from 1996, ensuring that Canadian sun safety strategies are current.

“It’s important to update it to see if we’ve made any progress in our attempt to educate Canadians about sun safety,” she says.

Skin cancer is the most common form of cancer in Canada, accounting for one-third of all new cancer diagnoses, yet it is preventable. Although most skin cancer is treatable, with an excellent prognosis, some cases, in particular melanoma, can be fatal.

## What we do

The Canadian Cancer Society is a national, community-based organization of volunteers, whose mission is to eradicate cancer and enhance the quality of life of people living with cancer.

Thanks to the work of our volunteers and staff, and the generosity of our donors, the Canadian Cancer Society is leading the way in the fight against cancer.

### The Canadian Cancer Society:

- funds research on all types of cancer
- offers comprehensive and credible information on cancer, risk reduction and treatment
- provides support for people living with cancer, family members and friends
- advocates for healthy public policy

## To learn more about cancer, to volunteer your time or to make a donation:

Visit our website at [www.cancer.ca](http://www.cancer.ca).

Call our toll-free bilingual information service at 1 888 939-3333.

E-mail us at [info@cis.cancer.ca](mailto:info@cis.cancer.ca).

To view this booklet in French, please visit [www.cancer.ca](http://www.cancer.ca).



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