



Canadian  
Cancer  
Society

# Our research impact

Thanks to you, the Canadian Cancer Society is the largest national charitable funder of cancer research in Canada. We invest in research for more than 100 types of cancer and support all research areas, from prevention to personalized treatments, and from laboratory studies to clinical trials. **Our vision is a world where no Canadian fears cancer.**

[cancer.ca](http://cancer.ca)

# Why fund research?

In the 1940s, only about 25% of Canadians diagnosed with cancer survived for at least 5 years after their diagnosis. Thanks to research, today the survival rate is more than 60%. We now know so much more about what causes cancer, how it develops and spreads, how to treat it successfully and how we can improve the quality of life of people living with cancer. But there is still more work to do.

Cancer research is expensive and takes a long time because cancer is not just a single disease – it is many different diseases, each with its own complexities. At the Canadian Cancer Society (CCS), we believe research is the best way to accelerate progress so that more cancers can be prevented and more people will not just survive cancer, but live longer and fuller lives.

“We’re at the brink of taking cancer and measuring survival not in years, but in decades. We’re close. We just have to keep going.”

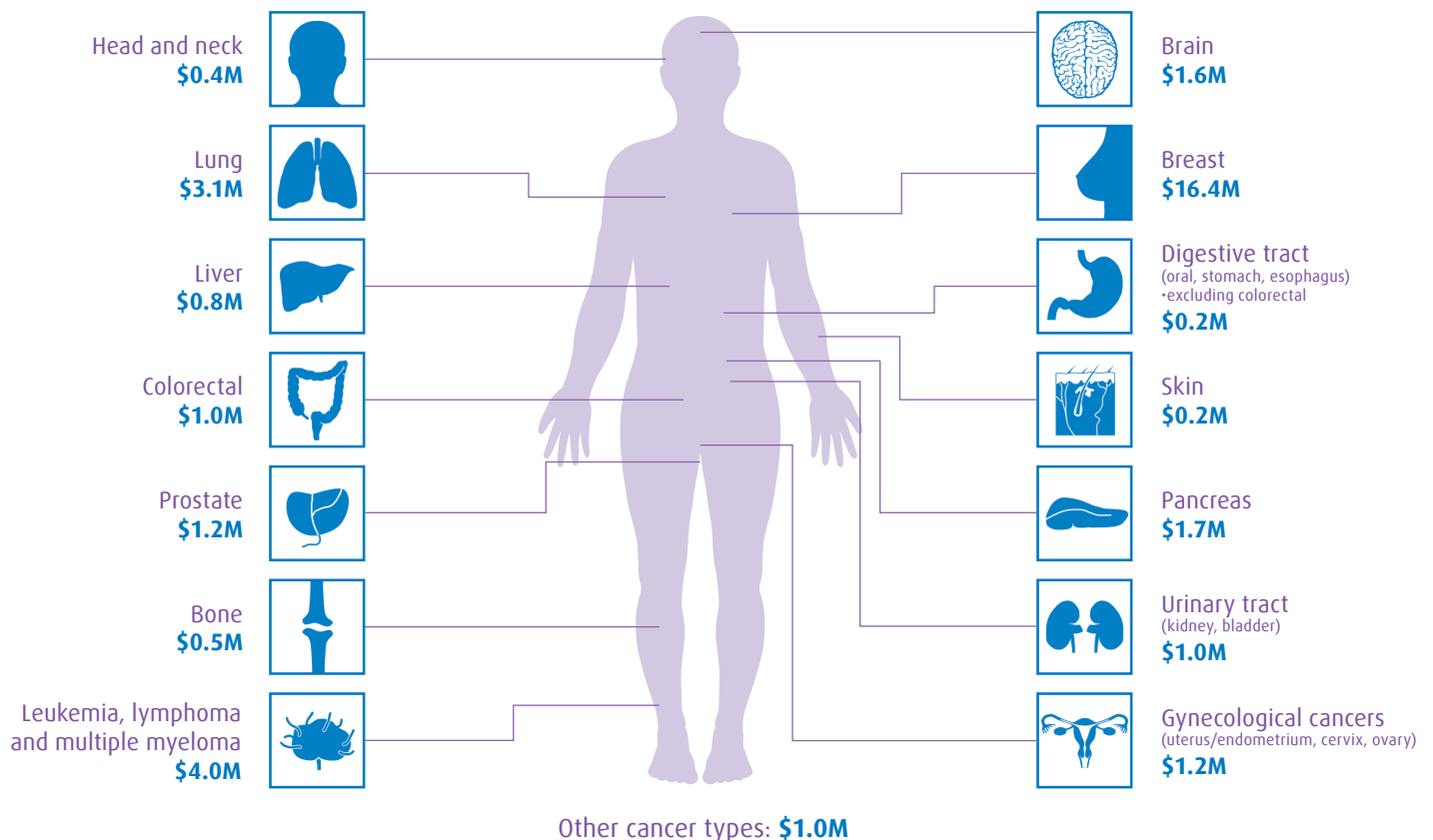
**Dr Mick Bhatia**  
CCS-funded researcher  
McMaster University

## Our investment

In 2017, CCS invested \$46.5 million in the best cancer research in Canada. In fact, we invest more than any other national charity in research on brain, breast, lung, pancreatic and colorectal cancers, plus many other types.

The projects we fund are chosen through a gold-standard, peer-review process that draws on the expertise of nationally and internationally renowned cancer experts.

### Investment by cancer type



Research targeting specific cancers: **\$34.3M** + research applicable to multiple/all cancers: **\$12.2M**

**= \$46.5M**

# Research innovation

Thanks to our donors, CCS-funded researchers are at the forefront of some of the most exciting areas of cancer research today. They are pioneering immunotherapies that harness the power of a patient's own immune system to destroy cancer cells and using genetic information to design safer and more effective therapies tailored to each patient. Here are a few examples of high-impact research discoveries that would not be possible without your support.

The results of this trial are expected to spare tens of thousands of women each year from chemotherapy's serious side effects



## Sparing women from chemotherapy

Canadian Cancer Trials Group, Queen's University

A clinical trial funded in part by CCS through the Canadian Cancer Trials Group found that 7 in 10 women diagnosed with a specific and common type of early stage breast cancer do not need chemotherapy in addition to hormone therapy. Using a genetic test, researchers identified women who were at

medium risk of cancer relapse. Until now, it wasn't clear whether chemotherapy along with hormone therapy offered any added benefit for these women. This study showed that women who received both hormone therapy and chemotherapy had very similar rates of survival, cancer recurrence and spread compared to women who received hormone therapy only. The results of this trial are expected to spare tens of thousands of women each year from chemotherapy's serious side effects without affecting their chances of staying cancer-free.

## Understanding and preventing brain metastases

Dr Sheila Singh, McMaster University

Nearly 4 in 10 people with cancer will experience their cancer spreading to their brain, or brain metastases. When this happens, the disease is much more difficult to treat. Dr Sheila Singh and her team developed an innovative way to study brain metastases at the pre-metastatic stage (when the cancer cells have spread but not yet formed a tumour). Little is known about this stage - there aren't many effective ways of studying brain metastases in the lab, which makes discovering new treatments very challenging. The researchers found that a drug called apomorphine stopped brain tumour formation by specifically targeting pre-metastatic cancer cells. This CCS-funded study is the first thorough study of the pre-metastatic stage, and it represents a critical breakthrough in our understanding of how cancer spreads to the brain and how to prevent it from happening.



The researchers found that a drug called apomorphine stopped brain tumour formation by specifically targeting pre-metastatic cancer cells

The very poison that makes these mushrooms fatal can also be used to kill cancer cells



## Harnessing the power of the death cap mushroom

Dr David Perrin, University of British Columbia

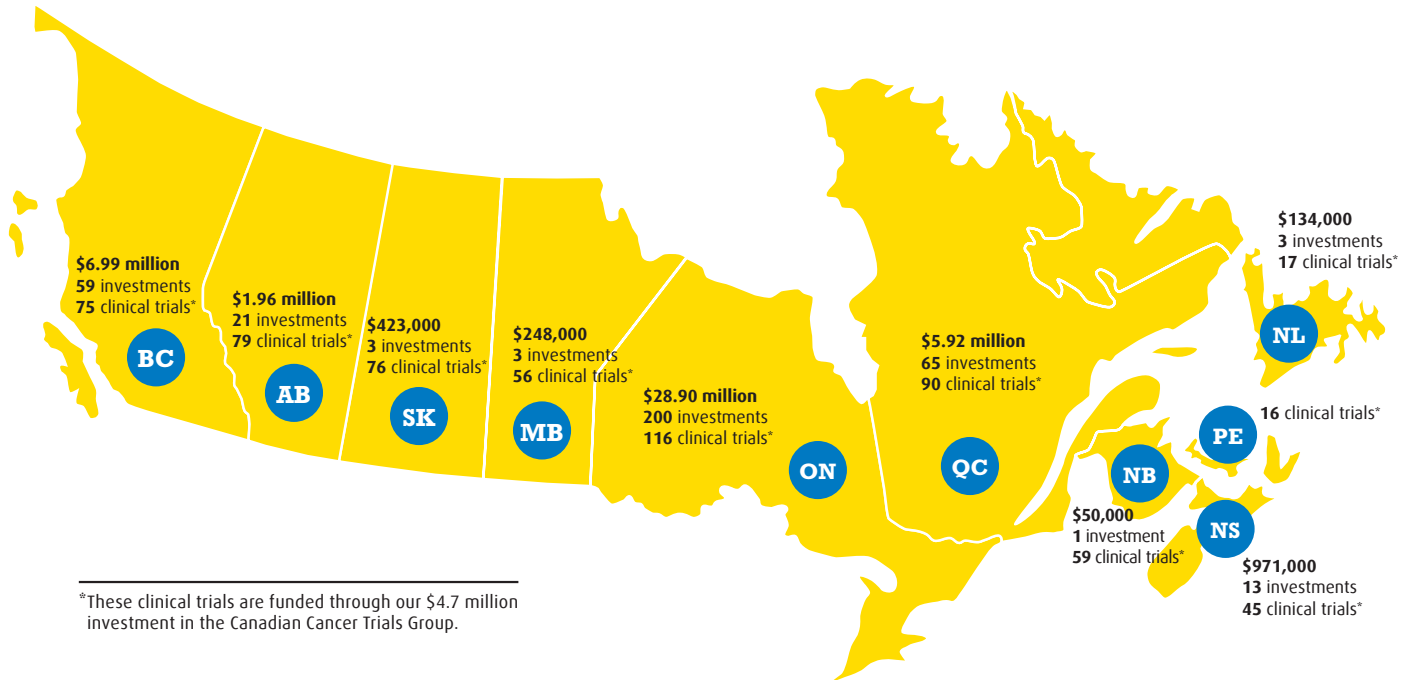
Small, white and unassuming, death cap mushrooms account for 90% of mushroom-related deaths worldwide. But the very poison that makes these mushrooms fatal can also be used to kill cancer cells. With CCS support, Dr Perrin and his team have become the first in the world to create amanitin,

a potent mushroom toxin, in the lab. While amanitin has shown promise in cancer studies, progress has been slowed by the time-consuming process of harvesting the toxin from wild mushrooms and its liver-damaging side effects. This breakthrough will pave the way for large-scale manufacturing of the toxin for research and clinical studies. Dr Perrin is also building on his discovery to create new and safer versions of amanitin that can be targeted specifically to cancer cells to avoid the toxic side effects.



# Our 2017 nationwide research investment

Our impact is far-reaching and nationwide. Because of your support, we are able to invest in research that holds the most promise for all Canadians, no matter where in the country it takes place.



\*These clinical trials are funded through our \$4.7 million investment in the Canadian Cancer Trials Group.



“If I had been diagnosed 10 years earlier my prognosis would have been terminal, but instead I had a 90% chance of survival. It’s because of donors who funded research that I am alive and cancer-free today.”

Matthew McKinnon, brain cancer survivor and CCS volunteer



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## Thank you

Nearly 1 in 2 Canadians is expected to be diagnosed with cancer in their lifetime. With your continued support, we can detect cancer earlier, treat it better and help survivors live long and healthy lives. Our work is not possible without you.

To learn more about research or to make a donation, visit [cancer.ca](http://cancer.ca) or call 1-888-939-3333.