Canadian Cancer Society

Largest-ever Canadian clinical trial tests “poop pills” to improve immunotherapy for lung cancer

Backed by the Canadian Cancer Society and Weston Family Foundation, the LUNA-2 microbiome capsule research study will be the largest of its kind in Canada

LONDON, ON – May 20, 2026

For nearly half of people diagnosed with lung cancer, immunotherapy can slow the disease but not stop it. Funded through a $4 million joint investment from the Canadian Cancer Society (CCS) and the Weston Family Foundation, a new clinical trial aims to change that.

By testing new strategies to prevent, detect, treat and care for people affected by cancer, clinical trials are essential to driving research progress that can save and improve lives. The LUNA-2 trial will pair immunotherapy with fecal microbiota transplantation (FMT) with the goal of safely increasing treatment effectiveness. If successful, it could provide new treatment options for people with lung cancer, helping them live longer and with fewer side effects.

Lung cancer is the most commonly diagnosed cancer in Canada and the leading cause of cancer death. Currently, only about 27% of people survive longer than 5 years after diagnosis. Although immunotherapy is an important part of lung cancer treatment, it doesn’t work for everyone. For these people, enhancing the effectiveness of immunotherapy could have a profound and life-saving impact.

Conducted by the Canadian Cancer Trials Group (CCTG) and led by researchers at London Health Sciences Centre Research Institute (LHSCRI) and Lawson Research Institute of St. Joseph’s Health Care London (Lawson), this new clinical trial will be the largest-ever of its kind in Canada. The trial will test FMT – delivered through capsules, or “poop pills,” containing carefully screened gut microbes from healthy donors – alongside standard chemotherapy and immunotherapy to boost their effectiveness. In studies for other cancers this approach has shown great promise in improving treatment success and reducing side effects.

The made-in-Canada phase II clinical trial will enrol 160 people with non-small cell lung cancer. Experts from Lawson will produce the capsules, and experts from LHSCRI will oversee patient care. Success with the LUNA-2 trial would open the door to larger studies and could change the way future treatments are designed.

This is the second time CCS and the Weston Family Foundation have teamed up to support a major FMT clinical trial. Last year, CCS launched the Pan-Canadian Lung Cancer Action Plan, which aims to reduce lung cancer mortality in Canada by 30% by 2035. By increasing funding for lung cancer research, this investment delivers on a key priority of the plan. It also builds on the Weston Family Foundation's 9-year history of supporting Canadian researchers leveraging the microbiome to improve outcomes for people facing cancer.

From researchers and funding partners to donors and supporters, it takes a society to take on cancer. To learn more about clinical trials and support cancer research, visit cancer.ca.

Quotes

"For people with lung cancer that isn't responding to standard treatments, time matters. LUNA-2 represents what's possible when philanthropic partners, researchers and patients come together to test bold ideas — and bring hope for longer, better lives."

— Dr Stuart Edmonds, Executive Vice President, Mission, Research and Advocacy at the Canadian Cancer Society

"Funding cancer clinical trials isn't just an investment in research, it's an investment in time, hope and better outcomes for Canadians. By advancing microbiome science through clinical trials and partnering with the right national organizations, we can unlock new pathways for prevention and treatment, accelerating discovery and ensuring breakthroughs reach those who need them most."

— Christian Bauta, Chair of the Weston Family Foundation

"The LUNA-2 clinical trial has been developed entirely in Canada, complete from the FMT product generation in London, Ontario to the conduct of the trial all across Canada. It is expected to generate unprecedented insight into how modifying the microbiome can enhance anti-tumour immunity, mitigate toxicity, and ultimately improve outcomes for lung cancer patients."

— Dr Pierre-Olivier Gaudreau, CCTG Senior Investigator

"With LUNA-2, we're testing a carefully designed, made-in-Canada approach to improve how the immune system responds to treatment by harnessing the gut microbiome. This trial is about translating promising science into a practical option that could meaningfully improve outcomes and quality of life for people with lung cancer."

— Dr Saman Maleki, Scientist at London Health Sciences Centre Research Institute (LHSCRI)

Canadian Cancer Society

"This clinical trial represents a leap forward in using FMT to create new pathways of personalized medicine. We have developed a world-first formulation of FMT, specific to cancer immunotherapy - a unique approach to care and a Canadian innovation that puts patients at the vanguard of medical discovery."

— Dr Michael Silverman, Scientist at Lawson Research Institute (Lawson) of St. Joseph's Health Care London

The researchers and collaborators

The LUNA-2 trial is led by a highly experienced, multidisciplinary team of experts working with the Canadian Cancer Trials Group (CCTG) who will administer the trial nationally. The researchers include:

Dr Saman Maleki, scientist at London Health Sciences Centre Research Institute (LHSCRI) and associate professor of oncology, pathology and laboratory medicine and medical biophysics at Western University and an Ontario Institute of Cancer Research (OICR) scientists.

Dr Jacques Raphael, study chair, scientist at LHSCRI, thoracic medical oncologist at LHSC's Verspeeten Family Cancer Centre and associate professor of oncology at Western University.

Dr Michael Silverman, clinician-scientist, medical director of the FMT program and infectious diseases expert at St. Joseph's Health Care London and Western University.

Dr Pierre-Olivier Gaudreau, thoracic medical oncologist, clinician-scientist and senior investigator of the CCTG Lung Disease Site Committee (Queen's University).

Dr Keyue Ding, senior biostatistician at CCTG (Queen's University).

Dr Penelope Bradbury, staff medical oncologist at the Princess Margaret Cancer Centre, associate professor of medicine at the University of Toronto and co-chair of the CCTG Lung Disease Site Committee.

Dr Alex Sun, radiation oncologist at Princess Margaret Cancer Centre and co-chair of the CCTG Lung Disease Site Committee.

Dr Seema Nair Parvathy, microbiologist, scientific director of the FMT program, Lawson Research Institute.

Canadian Cancer Society

About the Canadian Cancer Society

The Canadian Cancer Society works tirelessly to save lives, improve lives and drive collective action against cancer. Together with patients, volunteers, donors and communities across the country, we raise funds to invest in transformative cancer research, we provide a caring support system for everyone affected by cancer and we advocate to governments to create a healthier future for all. It takes a society to take on cancer – and the Canadian Cancer Society is leading the way.

Help us make a difference. Call 1-888-939-3333 or visit cancer.ca today.

About the Weston Family Foundation

At the Weston Family Foundation (formerly The W. Garfield Weston Foundation), more than 60 years of philanthropy have taught us that there is a relationship between healthy landscapes and healthy people. That's why we champion world-class health research and innovation with the same passion that we support initiatives to protect and restore biodiversity on Canada's unique landscapes. Our spark, shepherd, scale approach to research ensures the best ideas have the best chance of success. We take a collaborative approach to philanthropy, working alongside forward-thinking partners to advance Canada and create lasting impacts. We aspire to do more than provide funding; we want to enable others to find transformational ways to improve the well-being of Canadians.

For more information, please contact:

Mick Schubert
Manager, Research Communications
Canadian Cancer Society
587-643-0306