



Merck Canada and MaRS Announce Winners of the Lung Cancer Innovation Challenge

Challenge participants presented solutions aimed at improving patient outcomes and reducing time between diagnosis and treatment for lung cancer patients

Challenge winners include the Kingston Health Sciences Centre and the Princess Margaret Cancer Centre, with solutions to help improve timely access to specialized care in rural South Eastern Ontario and accelerate lung cancer diagnosis and treatment through liquid biopsy

KIRKLAND, QC, April 28, 2021 – Merck Canada and MaRS Discovery District (MaRS) are proud to announce the winners of the Lung Cancer Innovation Challenge: the Kingston Health Sciences Centre (KHSC), competition winner and the Princess Margaret Cancer Centre, runner up winner. The competition, which launched in January 2021, challenged Ontario-based innovators to identify, implement and scale solutions that could help enhance the lung cancer patient journey by seeking to reduce the length of time between diagnosis and treatment, and enable improved treatment outcomes, especially for priority patient groups such as rural and lower socioeconomic populations.

In 2020, approximately 30,000 new cases of lung cancer were diagnosed in Canada and more than 21,000 people died of the disease.¹ Alarmingly, the survival rate for lung cancer is among the lowest of all types of cancer and approximately half of all cases are diagnosed at stage 4, further worsening chances of survival.^{1,2}

“From diagnosis to treatment, lung cancer patients face a huge number of access barriers, which may ultimately impact their health outcomes. Today this has been even further exacerbated due to the COVID-19 pandemic,” said AnnA Van Acker, President and Managing Director at Merck Canada. “As a patient-centric biotech company with a passion for and a focus on saving and improving lives, we know we need to play our part in finding solutions for patients, and that is why we partnered with MaRS on the Lung Cancer Innovation Challenge. We are very grateful and feel inspired by all participants who brought forth unique and innovative solutions. Together, we have the power to transform lung cancer care for the better!”

“We have been incredibly inspired by all of the solutions presented during the challenge,” said Alex Ryan, SVP, Partner Solutions at MaRS. “As North America’s largest innovation hub, our focus at MaRS is on empowering new ideas that drive change, and this challenge has really showcased the best of local talent and of ingenuity. We hope that these winning solutions will grow and act as a blueprint to help improve outcomes for Ontario lung cancer patients.”

Lung cancer’s impact is particularly acute in Ontario, where an estimated 35 per cent of Canada’s new lung cancer cases in 2020 were diagnosed.³ However, on a positive note, Ontario is also a hub for best-in-class life sciences talent, with incubators, research organizations, private enterprises and academic institutions. More than half of Canada’s Research and Development spending in the life sciences sector happens in Ontario and the

province has been a driver for major breakthroughs in healthcare.⁴

“Ontario is a world-class centre for talent and innovative ideas,” said Vic Fedeli, Ontario Minister of Economic Development, Job Creation and Trade. “The challenge has been a great opportunity for Ontario-based innovators to showcase their skills and demonstrate the power of collaboration across different perspectives with the common goal of supporting lung cancer patients.”

“Now more than ever, we need innovation and new ideas to better our healthcare system,” said Nina Tangri, Parliamentary Assistant to the Ontario Minister of Economic Development, Job Creation, and Trade. “On behalf of the Ontario Government, I would like to thank Merck Canada, MaRS and all of the participants for joining forces to launch this competition and to help improve outcomes for lung cancer patients.”

Competition winner – The Kingston Health Sciences Centre

\$100,000 prize

KHSC runs the Lung Diagnostic Assessment Program, a rapid assessment clinic for patients with suspected lung cancer in South Eastern Ontario. The team won the competition with their solution to launch an outreach clinic in the Lennox and Addington County General Hospital, a community hospital located in a rural region of South Eastern Ontario.

Through the outreach clinic, patients referred to the program for evaluation of a suspected diagnosis of lung cancer and who live in Napanee or further west in Ontario will have the opportunity to select the community hospital as the site at which their first consultation with a respirologist can take place, versus needing to travel to the KHSC. Patients will undergo initial diagnostic and staging investigations locally where possible with more complex and sophisticated procedures being coordinated centrally through KHSC where required.

“Our team is composed of a multidisciplinary group of individuals with expertise in quality improvement and epidemiology, and we’re constantly looking for opportunities to collaborate and improve through innovation,” said Dr. Geneviève C. Digby, Respirologist, Clinical Lead for the Diagnostic Assessment Programs at KHSC and team representative. “Together, we’ve launched several innovative system solutions to address local delays in lung cancer care during the diagnostic phase. We would like to thank this challenge for giving us a platform to present our proposal for this new outreach program, which will help more Ontarians diagnosed with lung cancer get timely access to specialized care.”

Competition runner-up - The Lung Cancer Site Group at the Princess Margaret Cancer Centre

\$50,000 prize

The Lung Cancer Site Group at the Princess Margaret Cancer Centre - one of the top five cancer research centres in the world - came in second place with their proposal to help significantly reduce the time between diagnosis and treatment for patients with advanced non-small cell lung cancer. Their solution proposes the use of a liquid biopsy versus the conventional diagnostic pathway of molecular testing of tumour tissue after imaging and biopsy.

The team proposes that this “blood-first” approach could enable faster turnaround time for molecular results, as blood samples can be processed while patients await their diagnostic tissue biopsy. Molecular information from liquid biopsies can help diagnose and discover molecular targets faster than with standard tissue biopsy and tissue testing, which could allow

patients to start treatment faster than through the conventional diagnostic pathway.

“Our team at the Princess Margaret Cancer Centre is passionate about getting the right treatment to the right person as soon as possible,” said Dr. Natasha B. Leighl, Thoracic Medical Oncology Site Lead, Princess Margaret Cancer Centre and team representative. “We are testing whether our solution to incorporate liquid biopsy into our Lung Cancer Rapid Assessment and Management Program will help get patients to treatment faster, with fewer delays and avoiding extra tests. This could change the way we diagnose lung cancer in Ontario, and have a positive impact for patients.”

Please go [here](#) for more information and to learn more about the winning solutions.

About Merck

For more than 125 years, Merck, known as MSD outside of the United States and Canada, has been inventing for life, bringing forward medicines and vaccines for many of the world's most challenging diseases in pursuit of our mission to save and improve lives. We demonstrate our commitment to patients and population health by increasing access to health care through far-reaching policies, programs and partnerships. Today, Merck continues to be at the forefront of research to prevent and treat diseases that threaten people and animals – including cancer, infectious diseases such as HIV and Ebola, and emerging animal diseases – as we aspire to be the premier research-intensive biopharmaceutical company in the world.

About MaRS

MaRS is North America’s largest urban innovation hub. A registered non-profit, MaRS supports high-growth startups and scale-ups tackling key issues in health, cleantech, fintech and other sectors. In addition, MaRS convenes all members of the tech ecosystem to drive breakthrough discoveries, grow the economy and make an impact by solving real problems for real people — in Canada and around the world.

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References

¹ Canadian Cancer Society. Canadian Cancer Statistics: A 2020 special report on lung cancer. Available from: https://www.cancer.ca/%7E/media/cancer.ca/CW/cancer%20information/cancer%20101/Canadian%20cancer%20statistics/Canadian-cancer-statistics-2020-special-report_EN.pdf?la=en. Accessed on April 5, 2021.

² Canadian Cancer Society. Canadian Cancer Statistics: A 2020 special report on lung cancer. Available from: https://www.cancer.ca/%7E/media/cancer.ca/CW/cancer%20information/cancer%20101/Canadian%20cancer%20statistics/Canadian-cancer-statistics-2020-special-report_EN.pdf?la=en. Accessed on April 5, 2021.

³ Cancer Care Ontario. Ontario Cancer Statistics 2020. Available from: <https://www.cancercareontario.ca/en/statistical-reports/ontario-cancer-statistics-2020/key-findings>. Accessed on April 5, 2021.

⁴ Invest Ontario. Pharmaceutical. Available from: <https://www.investontario.ca/pharmaceuticals>. Accessed on April 5, 2021.