



# 2025-2035 Pan-Canadian Lung Cancer Action Plan

Transforming the Future of Lung Cancer in Canada



Together, we will reduce lung cancer mortality in Canada by 30% by 2035.



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### **Foreword**

Lung cancer continues to be the leading cause of cancer-related death in Canada. Despite significant advancements in treatment options and methods for screening and diagnosis, much work remains to be done to reduce the number of lives lost to this disease. We recognized the need to bring together the diverse and passionate lung cancer community to create an action plan with focused, evidence-informed initiatives that will help reduce risk, improve lung cancer outcomes, accelerate innovation and unlock access to best-in-class care.

The burden of lung cancer is staggering. In 2024, it's estimated that nearly 21,000 people died from this disease. Survival rates are unacceptably low, largely due to late-stage diagnoses: about half of all lung cancer cases are diagnosed at Stage 4. Too many lives are unnecessarily cut short. Through this plan, we aim to save thousands of lives by reducing lung cancer mortality in Canada by 30% by 2035, an achievement that will reinforce Canada's commitment to the World Health Organization (WHO) Sustainable Development Goals.<sup>[1]</sup>



We must do more to improve quality of life and health outcomes for everyone affected by lung cancer.



The Canadian Cancer Society (CCS) partnered with a broad range of organizations, patient-based groups, and individuals with lived and living experience to create the Pan-Canadian Lung Cancer Action Plan. This plan reflects the voices of individuals at the frontline of care, including patients, caregivers, clinicians, researchers, health charities, and government representatives. It's built on input from people with expertise in the barriers and the opportunities to improve lung cancer care in Canada.

Central to this effort is the recognition of the gross inequities that exist in access to life-saving lung cancer prevention, treatment and care across the country, contributing to disparities in health outcomes for many underserved communities. The stigma surrounding lung cancer further exacerbates these inequities, making it harder for individuals to get the care they need and the compassion they deserve. It's time to break down these barriers to ensure access for all to expanded screening programs, innovative treatments and the highest standard of care.



The 2025–2035 Pan-Canadian Lung Cancer Action Plan marks the beginning of a new era.



The development of this Action Plan has been guided by an exceptional Steering Committee (see Appendix A) that includes people with lived and living experience, patient advocates, researchers, clinicians, leaders from not-for-profit lung cancer organizations and Indigenous Elders. We extend our heartfelt thanks to the committee for their vision, expertise and guidance in shaping this plan. The Action Plan has also been informed by input from hundreds of individuals across Canada, whose contributions have been invaluable. Together, we have created a roadmap to prevent, detect, and treat lung cancer in a timely and equitable way, while advancing lung cancer research and improving quality of life and health outcomes for all people affected by lung cancer.



We stand at the precipice of change: with our passion, commitment and shared purpose, we will transform the future of lung cancer in Canada.





Christian Finley, MD, MHP, FRCSC

Steering Committee Co-Chair Professor, Department of Surgery Expert Lead, Canadian Partnership Against Cancer Clinical Lead, Ontario Lung Cancer Screening Program



Annemarie Edwards, MBA

Steering Committee Co-Chair
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# Gratitude for the Voices of Lived and Living Experience



With this Action Plan, we hope to transform the lives of all people who are affected by lung cancer in Canada, something we can only achieve through collaboration. By participating on the Steering Committee, sharing perspectives through our surveys, speaking at and attending our Summit, people with living experience and diverse backgrounds from across Canada have helped us develop an action plan to improve lung cancer outcomes and enhance quality of life for all. Thank you to everyone who contributed their thoughts and ideas!

Several patient advocates served as members of the Steering Committee: Angus Pratt, Diane Colton and Christine Wu. These individuals generously shared their time, their experience and their expertise, ensuring that the approach to developing the Action Plan and designing the Lung Cancer Summit integrated the perspectives of individuals with firsthand experience of lung cancer: patients. By engaging with their extensive networks of people affected by lung cancer and organizations working to create a better future for lung cancer care, these advisors were instrumental in helping us reach hundreds of people across Canada to participate in two informative surveys. Thank you!

Our sincere thanks are also extended to the patients who volunteered their time and courageously shared their stories at the Lung Cancer Summit, including MaryAnn Bradley, Jan Pezarro, Vinesha Ramasamy and Winhan Wong. Thank you for your generosity, your candid insights and your inspiring vision for the future of lung cancer. You kept the Summit focused on more equitable access to care, and improving the experience and quality of life for all people affected by lung cancer. Thank you, also, to the 36 patients and 18 caregivers who thoughtfully contributed to the Summit workshop discussions, bringing patient and caregiver perspectives to light in every session. Finally, thank you to the 103 patients, caregivers and other people with living experience who responded to our pan-Canadian surveys, ensuring that the priorities and actions in this Action Plan faithfully reflect the needs and interests of people affected by lung cancer.

## Acknowledgement

### Angus Pratt



Angus Pratt is a poet, essayist, health activist and transplanted Scot who is grateful to be living on the unceded territory of the Tsawwassen, Semiahmoo, Katzie and, Kwantlen. Angus was diagnosed with male breast cancer in May 2018. In the workup for treatment, primary lung cancer was discovered. It was at Stage 3c and initially treated with aggressive chemotherapy and radiation therapy. This was followed by durvalumab immunotherapy until, after nine months, progression was observed. In the meantime, Angus had a bilateral mastectomy for his Stage 1 breast cancer. Angus was determined to be EGFR+ and was placed on

"My dream is for nobody in Canada to die from lung cancer. It will be a world where the risk is reduced, where radon is recognized as one of the causes. It will be a world where we understand the role air pollution plays in lung cancer. Where lung cancer is detected earlier. Where curative treatments are available. Where the necessary funding is available for research. Where nobody is dying from lung cancer."

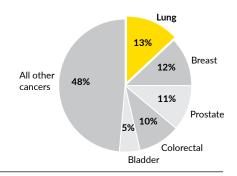
**Angus Pratt** 

targeted therapy with afatinib. He recently transitioned to osimertinib on minor tumour progression. When that failed in March of 2024, he began chemotherapy. He has participated in STARS, Learning Institute, Canadian Cancer Research Conference Patient Partner Program and AACR Scientist Survivor Program. He sits on the Canadian Cancer Society Advisory Council on Research and the Canadian Medical Association's Patient Voice.

Angus was instrumental in guiding the development of this Action Plan, suggesting methodologies for broad engagement, moderating and shaping the introductory panel involving people with lived and living experience at the Summit and providing thoughtful advice at every step of the process. Angus challenged us to do our best thinking and ensured that the patient experience was at the heart of this work. We are forever grateful for his contributions.

## **Lung Cancer by the Numbers**

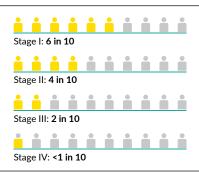
32,100 lung cancer cases were diagnosed in 2024, accounting for 13% of all cancer diagnoses in Canada.<sup>[2]</sup>





About 17% of all societal costs for lung cancer were incurred directly by patients and caregivers in 2024. [3]

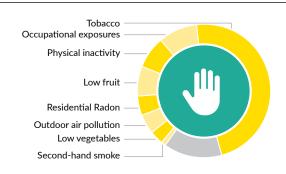
5-year predicted net survival rates decrease significantly as the stage of lung cancer progresses. [4]





About half of all lung cancer cases in Canada between 2012-2016 were diagnosed at Stage 4. [4]

About **21,600** lung cancer cases could have been **prevented** in 2015. [5]



# Transforming the Future of Lung Cancer in Canada

#### There is an urgent need to address Canada's lung cancer crisis.

Lung cancer takes more lives every year than any other cancer. In 2024, more than 20,000 people were expected to die from lung cancer. For every 10 people diagnosed with lung cancer, less than three are expected to survive beyond the first five years. [6] Lung cancer is also the most commonly diagnosed cancer in Canada, accounting for 13% of all new cancer cases. [2] Too often it's diagnosed at later stages: over half of lung cancer cases are diagnosed at Stage 4 when the cancer has likely spread to other tissues and the survival rate is lowest. [7] We need to do better for Canada.

## Stigma and systemic barriers amplify the impact of lung cancer on underserved communities.

While lung cancer affects people of all genders almost equally<sup>[6]</sup>, the stigma and systemic barriers associated with it create inequities in access to care, and differences in health outcomes, which disproportionately affect certain communities.<sup>[8]</sup> Most often, this health inequity is experienced in underserved communities – a population that is provided inadequate service and is systemically disadvantaged due to reasons including but not limited to race, age, language, geography, gender identity, sexual orientation and socioeconomic status. Underserved communities in Canada may include First Nations, Inuit and Metis Peoples,<sup>[9]</sup> newcomers to Canada, Black and other racialized people and individuals with lower socioeconomic status.<sup>[8]</sup> People with intersecting identities can experience more barriers to care and thus, greater health inequity.

"We have the obligation to ensure that all Canadians, regardless of their income, where they live or their background have access to the early detection and life-saving treatments that can make the difference."

**Christian Finley** 

Both structural (e.g. governance, policies) and social determinants of health (e.g. income, access to housing and where in Canada someone lives) influence access to lung cancer care. For example, out-of-pocket costs account for a significant portion of total expenditure on lung cancer. In particular, personal spending on Health Canada-approved prescription medications not yet recommended for reimbursement places a significant strain on patients and their families. These challenges and disparities in outcomes disproportionately affect people with lower socio-economic status and individuals and communities underserved by existing systems of care. Changes to the health and innovation ecosystem are needed to equitably improve health outcomes and achieve the goal of reducing deaths caused by lung cancer by 30% over the next decade.

The stigma surrounding lung cancer also contributes to poorer health outcomes. Since lung cancer is often viewed as a smoker's disease, people who smoke are thought to be deserving of any consequences. While a history of smoking remains the primary risk factor for developing lung cancer, the incidence of lung cancer in never smokers is increasing, with as many as 30% of new cases arising among never smokers. The stigmatization of smoking can influence a person to delay or avoid screening, be less likely to seek support with smoking cessation, misrepresent their smoking history or have their symptoms missed if they don't have a smoking history. All of these responses contribute to delayed diagnosis and reduce the chance for survival.

"A non-smoker is treated differently than someone with a smoking history. They don't get the same kind of compassion."

**Patient Partner** 

## Diminishing smoking rates and the availability of better detection and treatment options are changing lung cancer mortality for the better.

Despite these challenges, lung cancer mortality rates are decreasing more rapidly than any other cancer. Between 2015 and 2020, the lung cancer death rate decreased by 4.3% per year for males and 4.1% per year, since 2016, for females.<sup>[12]</sup> This represents the largest annual decline in mortality rates across all cancer types, and the fastest decline in lung cancer mortality reported to date in Canada.

The introduction of new diagnostic and treatment options has also contributed to this encouraging drop in mortality rates. Innovations with the potential to improve lung cancer care, such as liquid biopsy,<sup>[13]</sup> robotic surgery<sup>[14]</sup> and targeted radiation therapies,<sup>[15]</sup> are accelerating at an unprecedented pace. Sustaining and building on the declining lung cancer mortality rates require us to maintain this pace of research and innovation, and expand and strengthen policies and public education campaigns to shape behaviour, and increase awareness of lung cancer risk factors.

#### We need to do better for Canada.

The lung cancer crisis in Canada requires an action plan that brings attention to key challenges along the lung cancer continuum, and which outlines clear and actionable steps to drive change. It must address the inequities faced by underserved communities and dismantle the stigma that creates a barrier to care and compassion. And it must drive progress by engaging and empowering a diverse range of perspectives – from people with living experience, caregivers, clinicians, researchers, policymakers, funders, non-profits and health charities and industry – to change the trajectory of lung cancer in Canada.

This Action Plan endeavours to do just that. With a focus on risk reduction, early detection, effective treatment and stronger research and innovation, we will do better for Canada – we will transform the future of lung cancer for all.

#### Developing the Pan-Canadian Lung Cancer Action Plan

This Action Plan was developed with a focus on integrating diverse perspectives from individuals across Canada who have knowledge and experience of lung cancer. Over 240 people were engaged through pan-Canadian surveys to identify the greatest challenges in lung cancer care as well as possible solutions. A full day, in-person Summit was held in November, 2024 to finalize the priorities and discuss the most critical actions needed to make progress in the next 10 years.

The underlying approaches to both our surveys and the Summit were designed with a commitment to:

- Broad geographic representation.
   Input was gathered from across provinces and territories, including from urban and rural/remote settings.
- Integrating diverse perspectives.
   Interest holders with different perspectives were engaged, including people with lived and living experience, academic experts, clinicians, advocates and regulatory experts.
- Iterative review.
   An incremental and iterative approach was used to refine, test, select and validate priorities and actions.
- Evidence-informed decision-making.
   The best available evidence helped identify, prioritize and validate priorities.

Ultimately, the priorities and actions in the plan were selected because they are: **impactful** – address a critical need; **actionable** – progress can be made in the next ten years; and **inclusive** – benefits can be equitably delivered to all people affected by lung cancer.

See Appendix B for more information.



# Overview: 2025-2035 Pan-Canadian Lung Cancer Action Plan



## Reduce exposure to carcinogenic inhalants

- Improve awareness of lung cancer risk factors
- Advance comprehensive tobacco control across Canada
- Strengthen air quality standards

## Detect lung cancer earlier

- Set a national standard for lung cancer screening
- Improve access to diagnostics and build capacity
- Improve awareness of lung cancer screening eligibility and availability



**Reduce Lung Cancer Stigma** 

### **Enable Implementation**

## Improve access to timely, best in class care

- Improve access to innovative treatments
- Strengthen patient-centred care and navigation
- Monitor and report on health system performance to support continual improvement of lung cancer care

## Accelerate lung cancer research

- Increase funding for lung cancer research
- Establish national lung cancer research priorities





## **Our Cross-Cutting Commitments**

The overarching goal for this plan is to reduce lung cancer mortality by 30% in the next 10 years by transforming lung cancer prevention and care for all, regardless of geography, socioeconomic status, identity or systemic barriers. We must bring a clear-eyed commitment to improving equitable access and reducing stigma, while focusing on feasibility and implementation.

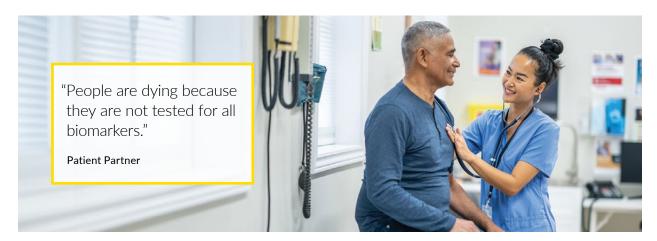
The cross-cutting principles, described below, have informed the development of the priorities and actions in this plan.

#### 1. Promote health equity:

Reduce inequities that exist in access to lung cancer prevention, screening, diagnostics, and treatment so that there will be less disparities in health outcomes.

Access barriers to lung cancer prevention, screening, diagnostics, and treatment disproportionately affect underserved communities, which leads to more late-stage diagnoses and poorer health outcomes. The concentration of healthcare services in urban centres means that people in rural and remote areas may have to sacrifice time away from family, work, caregiving, cultural safety and/or the money required to travel to access care. First Nations, Métis and Inuit Peoples, newcomers to Canada, and Black and other racialized people face additional systemic and structural barriers that further exacerbate health inequities. For example, people from these groups are more likely to experience bias, or they may have difficulty with risk-reduction modifications to diet and lifestyle if access to fresh foods is too costly or limited.

This plan aims to reduce disparities in health outcomes by adopting a tailored and relationship-focused approach that emphasizes person-centred care, culturally safe care and more equitable access to services and innovations – for prevention and throughout the lung cancer journey.



#### 2. Reduce lung cancer stigma:

Raise awareness of all causes of lung cancer to challenge misconceptions that only smokers get lung cancer, set the standard for informed conversations and promote compassion for all.

Nearly all people with lung cancer (95%) feel stigma<sup>[16]</sup> and the impact can be far reaching. It can leave people feeling shame or discredited; it can result in apprehension to be screened, report symptoms or share their smoking history; and it can lead to a reluctance to seek support, such as smoking cessation counseling. The major source of stigma surrounding lung cancer is the belief that it's a smoker's disease. While 70% of people diagnosed with lung cancer do have a history of smoking,<sup>[5]</sup> smoking rates in Canada are declining: only 10% of the Canadian population over 15 years of age currently smokes,<sup>[17]</sup> compared to 24% in 2000.<sup>[18]</sup> Moreover, the incidence of lung cancer in never smokers is rising, with 20% to 30% of new cases being diagnosed in this group. Long-term exposure to radon gas has been identified as the primary cause.<sup>[11]</sup> Addressing stigma requires changing the narrative to make it clear that anyone with lungs can develop lung cancer.

This Action Plan acknowledges smoking as a significant risk factor while helping raise awareness of other risk factors (e.g. environmental), and positioning smoking as a social determinant of health and addiction, rather than a "lifestyle choice."



#### 3. Enable implementation:

Set ambitious yet actionable goals and mobilize the necessary funding, people and partners to effectively execute and ensure successful execution of the Action Plan.

Transforming lung cancer care cannot be achieved with an ambitious vision alone – it requires a commitment to implementing concrete steps that will drive change and monitoring the progress of these steps with clear indicators. Achieving the ambitious goal of reducing lung cancer mortality by 30% also requires working with patients, caregivers, clinicians, government, academia, charities, non-profits and industry to mobilize financial resources, share expertise and living experience, raise awareness and strengthen the policy environment to optimize the success of this plan. Efforts are underway to engage government, philanthropic and industry partners to help execute this plan.

This Action Plan will advance urgent priorities through concrete, feasible actions and clear progress indicators to create a future where lung cancer outcomes are improving, with a focus on reducing inequities from coast to coast to coast.



# Priority 1: Reduce Exposure to Carcinogenic Inhalants

Raise awareness and reduce exposure to cancer-causing substances that are inhaled, including tobacco smoke, industrial emissions and other environmental pollutants.



Reducing the number of deaths caused by lung cancer begins with reducing the risk. While a history of smoking is the number one risk factor for developing lung cancer, the leading cause of lung cancer is smoking – it accounts for 72% of cases. <sup>[5]</sup> Vaping is being used as an alternative to smoking by some people trying to quit smoking, and, concerningly, by a growing number of young people. While there is currently no definitive evidence to link vaping to the development of lung cancer, the smoke from vaping products contains a number of carcinogenic compounds that are known to increase the risk of lung cancer. <sup>[19]</sup> Limiting the consumption of commercial tobacco and vaping products is critical to reducing the impact of lung cancer.

While it is encouraging to see smoking rates drop in Canada, the incidence of lung cancer in never smokers is growing at a disconcerting pace. Other cancer-causing substances – or carcinogens – that can be inhaled from industrial emissions and environmental pollutants are likely the culprit. Radon gas is one such carcinogen. Indeed, it's the leading cause of lung cancer in never smokers and people with a limited history of tobacco smoking. Radon is a naturally occurring, colourless, odourless radioactive gas that is produced in soil and migrates to the earth's surface and into the air. Different geographic areas have different levels of radon, so the risk of exposure differs across Canada. Testing and monitoring for radon and other environmental and workplace carcinogenic inhalants in high-risk settings is crucial in reducing the incidence of lung cancer.

This Action Plan outlines initiatives that will reduce our population's risk by improving awareness of the causes of lung cancer, lowering commercial tobacco consumption and strengthening air quality standards, especially in communities with higher levels of radon. Through the combined impact of widespread education campaigns, comprehensive tobacco control programs, policy changes, and increased air quality testing we can reduce the number of people who develop lung cancer in Canada.





Action 1:	Action 2:	Action 3:
Improve awareness of lung cancer risk factors	Advance comprehensive tobacco control across Canada	Strengthen air quality standards
a. Launch public education campaigns to educate about the risk factors for lung cancer	a. Raise the legal age to purchase and increase taxes on commercial tobacco and vaping products	a. Advocate for the monitoring of residential radon levels in regions with high background levels of radon
b. Increase awareness of carcinogens in consumer products with improved labelling	b. Fund smoking cessation programs	b. Advocate for improved air quality standards and mandatory air quality testing in workplace and outdoor spaces
c. Educate healthcare providers on the risks of lung cancer through medical and continuing education programs		c. Advocate for stricter PPE requirements in workplaces where exposure to inhaled carcinogens is a risk



### **Progress Indicators**

By 2035, we will see:

- Stricter laws and policies governing commercial tobacco and vaping products
- Enhanced surveillance and stronger regulations to monitor air quality in outdoor environments, homes, and workplaces
- Increased awareness of cancer-causing substances through health labeling and education

## **Priority 2: Detect Lung Cancer Earlier**

Increase understanding of the importance of lung cancer screening for early detection and improve broader availability of screening programs and diagnostic technologies.



Today, almost half of lung cancer cases are detected at Stage 4, but when lung cancer is detected early, less aggressive treatments can be used, and treatment success is far more likely. Diagnosing more patients at Stages 1 and 2 is critically important to improving outcomes and saving lives.

Since early-stage lung cancer often presents without symptoms, it can be difficult to detect before it progresses. Early detection requires screening of asymptomatic people with a high risk of developing lung cancer. However, access to established lung cancer screening programs is sporadic across the country. Alberta, British Columbia, Nova Scotia and Ontario are the only provinces with provincial lung cancer screening programs as of March 2025. Quebec and Newfoundland and Labrador have initiated pilot programs, and New Brunswick, Prince Edward Island, Manitoba and Saskatchewan are in the early stages of establishing their provincial screening programs. There are no organized lung cancer screening programs in Northwest Territories, Nunavut and Yukon. Improving access to lung cancer programs consistently across provinces, territories and Canada's diverse geographies is a critical step toward earlier and more equitable detection.

Early and accurate detection of lung cancer requires equitable access to the highest quality diagnostic tools. Today, lung cancer is most often diagnosed using a combination of imaging, biopsies and a few other procedures. While there is good evidence that low-dose CT can reduce mortality due to lung cancer by 20%, current guidelines, which are out of date, do not recommend low-dose CT for most adults. We must ensure that guidelines reflect the best available evidence while also monitoring the development of new innovations like AI tools<sup>[24]</sup> and blood-based biomarker testing,<sup>[25]</sup> which are improving diagnostic accuracy and increasing the likelihood of early-stage diagnosis.

This plan outlines three key actions that will improve early detection. It calls for national guidelines for screening with expanded eligibility criteria for never smokers at high risk of lung cancer, better access to lung cancer screening programs and public education on who should be screened and where.





Action 1:	Action 2:	Action 3:
Set a national standard for lung cancer screening	Improve access to diagnostics and build capacity	Improve awareness of lung cancer screening eligibility and availability
a. Develop national lung cancer screening guidelines with expanded eligibility criteria	a. Increase use of innovative diagnostic tools and methods in diverse communities, especially for patients in rural and remote communities and/or without a family doctor	a. Launch culturally competent public education campaigns to improve awareness of screening eligibility and program availability
b. Establish or expand access to lung cancer screening programs in every province and territory	b. Identify novel approaches to increase screening and diagnostic capacity	b. Leverage community champions and local gathering places and initiatives to increase awareness
c. Improve lung cancer risk modelling to inform location, equitable structure and scale of screening programs		c. Integrate education on lung cancer symptoms and routine screening eligibility into medical curricula and continuing education for healthcare providers



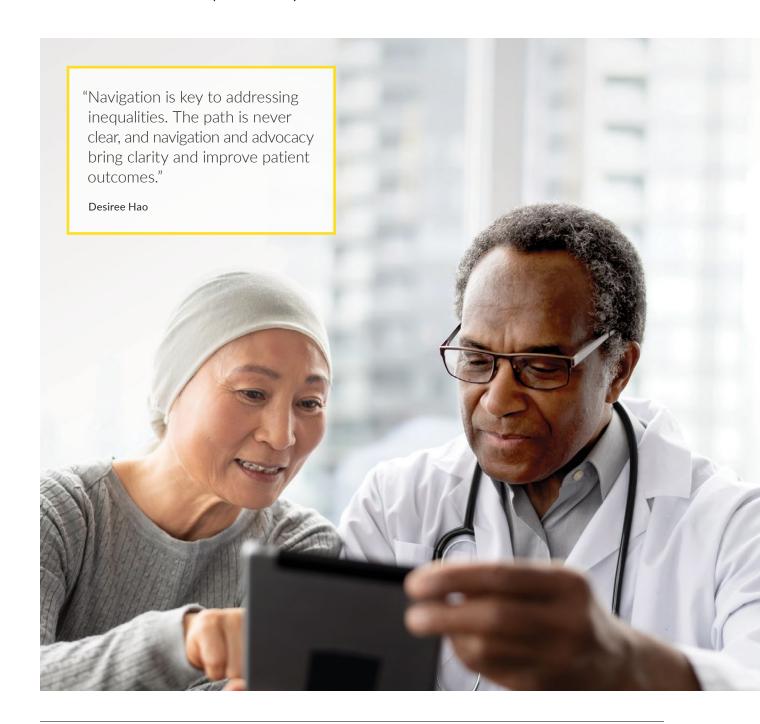
### **Progress Indicators**

#### By 2035, we will see:

- Pan-Canadian lung cancer screening guidelines updated with expanded eligibility, recommended use of the latest diagnostics (e.g. low-dose CT scanning) and targets
- Lung cancer screening programs implemented at a consistently high standard in every province and territory and accessible in rural, remote and higher risk communities
- A greater number of lung cancers diagnosed at earlier stages (Stage 1/2 instead of Stage 3/4)

# Priority 3: Improve Access to Timely, Best in Class Care

Accelerate access to the best available treatments and clinical trials to optimize patient care and outcomes.



Like many cancers, the treatment landscape for lung cancer is evolving rapidly, with promising new interventions like personalized therapies, improved imaging technologies, and advances in chemotherapy and radiation increasingly available to patients and healthcare providers. [26] Many targeted therapies, designed to treat tumours with specific genomic mutations, can be highly effective but require molecular testing to identify patients who will benefit most. [27] Unfortunately, access to and financial coverage for molecular testing vary widely across Canadian provinces. [28], [29] Access to innovative treatments for lung cancer can also be hampered by timelines for approval and reimbursement decisions. In Canada, the average wait time for accessing approved medications through public plans is two years, while private and out-of-pocket access is less than one year. [30] And there is significant variation in drug coverage and new treatment approval timelines across provinces and territories. [31] Achieving better and more equitable lung cancer outcomes critically depends on timely and consistent access to – and coverage for – testing and treatment across the country.

Similarly, access to cancer clinical trials in Canada, which is critical to advancing lung cancer innovations and can offer alternatives when the standard of care is no longer effective, varies significantly across the country. Between 2005 and 2023, Vancouver offered about 14.66 trials per 10,000 people, Calgary fewer than six, and the three territories had none. <sup>[32]</sup> This inequity not only limits life-saving opportunities but also undermines the inclusivity and quality of research by excluding certain populations.

Of course, best-in-class care is much more than access to the latest innovations. It must be responsive to the personal, historical and cultural experiences that patients – from every community in Canada – bring to the lung cancer journey. And it must infuse coordination, continuity and connection so that the often complex and overwhelming experience of cancer care is as manageable and as successful as possible.

This plan outlines key steps to improve lung cancer care in Canada. This involves enhancing nationwide access to new therapies and molecular testing, strengthening patient navigation and patient-centred care, and monitoring health system performance. We cannot achieve the best health outcomes for all without equitable access to the best possible treatments and interventions.





Action 1:	Action 2:	Action 3:
Improve access to innovative treatments	Strengthen patient-centred care and navigation	Monitor and report on health system performance to support continual improvement of lung cancer care
a. Rapidly implement new and established imaging tools and genomic and molecular testing as standard of care to improve selection of optimal treatment for patients	a. Develop and implement referral pathways to patient navigation services as a standard component of lung cancer care	a. Define and track metrics to monitor access to care and identify and address gaps
b. Streamline the path for new treatments and technologies to reach patients and accelerate reimbursement recommendations	b. Improve patient centricity in lung cancer care by integrating trauma-informed and culturally safe care practices	
c. Implement consistent and equitable access to treatment options across Canada		



## Progress Indicators

By 2035, we will see:

- Reduced wait times for diagnosis and treatment
- Genomic and molecular testing consistently implemented as the standard of care across Canada
- Expanded integration of supportive care frameworks along the lung cancer care pathway
- Accelerated access to diverse treatment options for lung cancer with reimbursement recommendations

# Priority 4: Accelerate Lung Cancer Research

Advance research and support the development of innovative treatments and diagnostic tools to enhance patient care.



Canada's scientific community is making extraordinary contributions to lung cancer research and innovation. Canadian lung cancer researchers are exploring Al-powered non-invasive lung cancer detection methods and identification of novel lung cancer signatures in never smokers, [24] creating new opportunities for early detection and more personalized treatment. Maintaining this pace of innovation - and its health impact - requires an ambitious and resourced research agenda, spanning biomedical, clinical, health systems and population research. And yet, funding for lung cancer research is not commensurate with the burden of the disease. In 2022, lung cancer research received just 6.7% of research funding in Canada<sup>[33]</sup>, despite the fact that lung cancer accounts for approximately 24% of cancer-related deaths, more than breast and colorectal cancer combined. [12] A similar trend is observed in investment in clinical trials: between 2005 and 2019, approximately \$15.5M was invested in lung cancer clinical trials in Canada, while approximately \$81M was invested in breast cancer clinical trials.[34] By extension, Canada's lung cancer research community is disproportionately small and less attractive to top talent. A stronger and better resourced lung cancer research community is essential to expanding our understanding of this disease and advancing the innovations in prevention, detection, treatment and care that are central to better quality of life and better health outcomes.

Propelling lung cancer research also critically depends on strategies, structures and systems that unlock capacity, coordinate efforts and accelerate discovery. Among the many levers to pull, there is an opportunity to ensure that interested clinicians can protect time for lung cancer research, that there are clear policies to support ethical and efficient data-sharing, and that the field is coordinated in efforts to advance research priorities shared by diverse communities, including patients.

Stigma does not spare lung cancer research. Indeed, more than 1 in 7 people in Canada believe that lung cancer is a self-inflicted disease that deserves less funding.<sup>[10]</sup> Consequently public figures and community leaders often hesitate to advocate for a disease that is associated with such negative perceptions, further hindering efforts to raise awareness and drive support for lung cancer research.<sup>[35]</sup>

This Action Plan outlines two essential steps to accelerate lung cancer research in Canada. We will increase funding for lung cancer through strategic advocacy and collaboration and establish national lung cancer research priorities to motivate and mobilize the scientific community.





Action 1:	Action 2:
Increase funding for lung cancer research	Establish national lung cancer research priorities
a. Advocate for lung cancer research funding from the tobacco settlement and from public sector funders so that investment is proportionate to burden	a. Raise awareness of the importance of lung cancer research and include patients in setting Canadian lung cancer research priorities
b. Increase capacity and investment for clinical trials of novel innovations for prevention, detection and treatment of lung cancer	b. Incentivize early career researchers and increase support for clinicians and academic scientists to expand capacity to study lung cancer
c. Strengthen public-private collaboration and coordination to maximize the impact of investments in lung cancer research	c. Advocate for policies to streamline sharing of cancer and other health data and biospecimens to strengthen collaboration

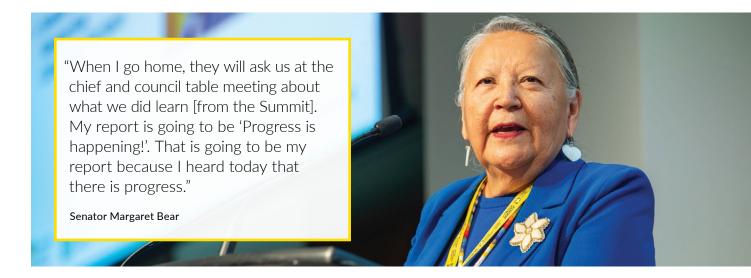


### **Progress Indicators**

#### By 2035, we will see:

- Clear lung cancer research priorities established for Canada and a growing funding base for lung cancer research
- **■** Increase in all phases of lung cancer clinical trials conducted in Canada
- **Expanded pipeline and portfolio of available innovative diagnostics, therapies and treatment options**
- Large community of researchers and clinicians conducting diverse research projects across the lung cancer continuum

### The Path Forward



The path ahead requires us to be bold in our vision to address the lung cancer crisis in Canada. The Action Plan we've developed isn't just a collection of ideas, but a roadmap to a future in which lung cancer mortality can be reduced by 30% over the next 10 years. While this goal is ambitious, it's also achievable, and it's grounded in hope.

Together, we can create a future in which lung cancer is no longer the leading cause of cancer death. It's a future in which lung cancer risks are understood, managed and avoided, and early detection is the norm. It's one in which everyone in Canada has access to the best possible prevention, detection, treatment and care, and where our world-class research is coordinated and supported in the pursuit of transformative discovery and innovation.

We envision a future where disparities are a thing of the past, and everyone, regardless of their background, has an equal chance at survival.

We recognize that no single person or organization can achieve this vision alone. It will require partnerships – across communities, organizations, and sectors – to bring this Action Plan to fruition and ensure meaningful progress for people impacted by this disease.

We're at the precipice of change and poised for action. What we do today will transform lung cancer for all tomorrow.

# Appendix A: Steering Committee and Project Team Members



This Lung Cancer Action Plan was developed through the collective efforts of a diverse and dedicated team. The Project Team, consisting of members from the Canadian Cancer Society, Shift Health and Dr. Christian Finley, led the design and implementation of the approach to the development of this plan.

The Steering Committee brought together diverse perspectives, including people with lived and living experience, patient advocates, researchers, clinicians, leaders from not-for-profit and charitable lung cancer organizations and Indigenous Elders. They provided expert guidance, ensuring that the priorities and actions in this plan reflect the voices of those who participated in the surveys and Summit. The Committee participated in five meetings between March 2024 and January 2025 to guide the development of the Action Plan.

Name	Title	Membership
Annemarie Edwards	Vice President, Cancer Strategy and Innovation, Canadian Cancer Society	Project Team and Steering Committee Co-Chair
Dr. Christian Finley	Professor, Department of Surgery, McMaster University; Expert Lead, Canadian Partnership Against Cancer; Clinical Lead, Ontario Lung Cancer Screening Program	Project Team and Steering Committee Co-Chair
Sara Lafond	Coordinator, Cancer Strategy & Innovation, Canadian Cancer Society	Project Team
Julia Nordlund	Project Manager, Cancer Strategy & Innovation, Canadian Cancer Society	Project Team
Dr. Anne Mullin	Principal & Head of Consulting, Shift Health	Project Team
Dr. Elisa Porfilio	Engagement Leader, Shift Health	Project Team
Dr. Idil Temel	Consultant, Shift Health	Project Team
Diane Colton	Patient Advocate; Founder, Unmasking the Reality of Lung Cancer	Steering Committee
Dr. Trevor Dummer	Affiliate Scientist, BC Cancer Research Institute; Professor, School of Population and Public Health, University of British Columbia; Scientific Co-Director, Canadian Partnership for Tomorrow's Health; Chair in Cancer Primary Prevention, Canadian Cancer Society	Steering Committee
Dr. Stuart Edmonds	Executive Vice President, Mission, Research and Advocacy, Canadian Cancer Society	Steering Committee
Peter Glazier	Strategic Advisor, Public Affairs, Lung Cancer Canada	Steering Committee
Dr. Desiree Hao	Professor, Department of Oncology, University of Calgary; Medical Oncologist, Tom Baker Cancer Centre; Board member, Canadian Partnership Against Cancer	Steering Committee
Headwoman Audrey Isaac	Headwoman, Ochapowace First Nation	Steering Committee
Crystal Janvier	Researcher and Analyst, Federation of Sovereign Indigenous Nations	Steering Committee
Dr. Ebru Kaya	Associate Professor, Department of Medicine, University of Toronto; Department Division Director, Palliative Medicine, University of Toronto	Steering Committee

Name	Title	Membership
Dr. Stephen Lam	Professor, Faculty of Medicine, University of British Columbia; Respirologist, BC Cancer; Director, MDS/Rix Early Lung Cancer Detection Program; Expert Advisor, Canadian Partnership Against Cancer	Steering Committee
Dr. Renelle Myers	Principal Investigator, Department of Integrative Oncology, BC Cancer Research Institute; Interventional Respirologist, Vancouver General Hospital; Clinical Associate Professor, Medicine, University of British Columbia; Medical lead, BC Cancer Provincial Smoking Cessation Program	Steering Committee
Dr. Jason Pantarotto	Radiation Oncologist, The Ottawa Hospital; Associate Professor, University of Ottawa; Provincial Head, Radiation Therapy Program, Ontario Health – Cancer Care Ontario	Steering Committee
Angus Pratt	Patient Advocate and Health Activist, Independent	Steering Committee
Michelle Rand	Interim Director, Indigenous Health Unit, Clinical Institutes and Quality Programs, Ontario Health	Steering Committee
Lisa Roelfsema	Clinical Social Worker, Trillium Health Partners; Provincial Head Psychosocial Oncology, Ontario Health - Cancer Care Ontario	Steering Committee
Dr. Ambreen Sayani	Scientist, Women's College Hospital; Assistant Professor, Institute of Health Policy, Dalla Lana School of Public Health, University of Toronto; Health Equity Expert Advisor, Canadian Partnership Against Cancer	Steering Committee
Dr. Robin Urquhart	Senior Scientist, Beatrice Hunter Cancer Research Institute; Associate Professor, Department of Community Health and Epidemiology, Dalhousie University; Scientific Director, Atlantic Partnership for Tomorrow's Health	Steering Committee
Dr. Ryan Wiley	President, Shift Health	Steering Committee
Christine Wu	Patient Advocate; Lung Cancer Empowerment Lead, Patient Empowerment Network	Steering Committee

# Appendix B: Approach to Developing the Action Plan



The Steering Committee and Core Team endeavoured to design an Action Plan that reflected the current realities of lung cancer and centred on the voices of people with lived and living experience. Working collaboratively, we designed a robust methodology that drew inspiration from the James Lind Alliance Priority Setting Partnership and modified Delphi approaches with the aim of gathering diverse input for the Lung Cancer Action Plan. At its core, the approach was grounded in a commitment to including:

- **Broad geographic representation**: Input was gathered from across provinces and territories, including from urban and rural/remote settings.
- **Diverse perspectives**: Interest holders with different perspectives were engaged, including people with lived and living experience, academic experts, clinicians, advocates and regulatory experts.
- An iterative review: An incremental and iterative approach was used to refine, test, select and validate priorities and actions.
- Evidence-informed decision-making: The best available evidence helped identify, prioritize and validate priorities.

Gathering a wide range of perspectives from across Canada required the use of different tools and engagement methods. The approach included two surveys, followed by a day-long, in-person Summit. Together, these activities helped to identify and validate the most important priorities and necessary actions for the plan.

#### **Survey 1: Priority Ideation**

The first survey gathered input from a diverse group of stakeholders from across Canada. It was designed to support the development of an initial long list of potential Action Plan priorities. Because we had a particular focus on ensuring strong representation from patients and caregivers, the survey was distributed via email, LinkedIn and Facebook with the help of the Steering Committee and various organizations, including CCS, Lung Cancer Canada, Cancer Care Manitoba, Canadian Institutes of Health Research (CIHR), Right2Survive, Canadian Association of Radon Scientists and Technologists (CARST), Canadian Association of Medical Oncologists (CAMO), Alberta Health Servies, Canadian Society of Palliative Medicine (CSPM), Canadian Association of Radiologists and Unmasking the Reality of Lung Cancer. The survey received responses from 242 individuals from every province and one territory in Canada. Survey respondents were 40% patients and caregivers, 39% healthcare providers, 4% policymakers, 3% representatives from non-profit organizations, and 2% researchers. In total, more than 2,000 suggestions were submitted for potential priorities. After consolidation, aggregation and synthesis, we arrived at an initial list of 18 interim priorities.

#### Survey 2: Priority Ranking

Following the ideation phase, a second survey was conducted to rank the long list of priorities identified in Survey 1. This second survey was shared with the Summit invitees, including patients and caregivers, clinicians, researchers, academics, policymakers, and other strategic partners and non-profits. A total of 62 responses were received, which helped identify the four top priorities to be discussed and validated at the Summit.





#### **Lung Summit Canada**

A day-long, in-person Summit was held in Toronto, Ontario on November 28, 2024. The Summit brought together 120 attendees from nine provinces, representing a diverse range of stakeholders: 20% patients and caregivers, 18% clinicians, 13% researchers, 10% industry sponsors, 8% CCS staff, 8% representatives from other charities and non-profits, 2% Indigenous leaders and 2% potential funders. The remaining attendees were members of the Project Team and volunteers. Industry sponsors were invited to hear the discussion and engage with participants but did not vote on the final priorities and actions. Similarly, neither CCS support staff nor most members of the Core Team had a voting role.

Three panel sessions – focusing on patient perspective, health equity challenges and the latest lung cancer research and innovation – helped set the stage and inspire the audience. The Core Team also presented the results of both surveys and facilitated two workshops to validate the four emerging priorities and gather perspectives on other key elements of the Action Plan. Voting participants shared their perspectives on what success looks like for each priority to guide the development of the progress indicators. They also participated in small group conversations, plenary discussions and live voting to identify the most important actions for each priority.

With the guidance of the Steering Committee, the input gathered at the Summit was iteratively refined by the Core Team to develop the Action Plan. As the priorities and actions were developed, they were cross-referenced with the perspectives from both surveys and the discussions at the Summit to arrive at a plan that reflects the perspectives of diverse voices and outlines concrete steps for transforming the future of lung cancer in Canada.







### References

- 1 World Health Organization. (2024, December 23). Non communicable diseases.
- 2 Brenner, D. R., Gillis, J., Demers, A. A., Ellison, L. F., Billette, J.-M., Zhang, S. X., Liu, J. L., Woods, R. R., Finley, C., Fitzgerald, N., Saint-Jacques, N., Shack, L., & Turner, D. (2024). Projected estimates of cancer in Canada in 2024. *Canadian Medical Association Journal*, 196(18). https://www.cmaj.ca/content/196/18/E615
- 3 Canadian Cancer Statistics Advisory Committee in collaboration with the Canadian Cancer Society, Statistics Canada and the Public Health Agency of Canada. <u>Canadian Cancer Statistics</u>: A 2024 special report on the economic impact of cancer in Canada. Toronto, ON: Canadian Cancer Society; 2024.
- 4 Ellison, L. F., & Saint-Jacques, N. (2023). Five-year cancer survival by stage at diagnosis in Canada. *Health Reports*, 34(1). https://www.doi.org/10.25318/82-003-x202300100001-eng
- 5 Poirier A, Ruan Y, Grevers X, Walter S, Villeneuve P, Friedenreich C and Brenner D on behalf of the ComPARe study team. (2019). Estimates of the current and future burden of cancer attributable to active and passive tobacco smoking in Canada. *Preventive Medicine* 122: 9–19.
- 6 Canadian Cancer Statistics Advisory Committee in collaboration with the Canadian Cancer Society, Statistics Canada and the Public Health Agency of Canada. <u>Canadian Cancer Statistics 2024</u>. Toronto, ON: Canadian Cancer Society; 2024.
- 7 Canadian Cancer Statistics Advisory Committee. <u>Canadian Cancer Statistics: A 2020 special report on lung cancer</u>. Toronto, ON: Canadian Cancer Society; 2020.
- 8 Borondy-Kitts, A. (2021). ES12.01 Patient perspective on lung cancer screening and health disparities. *Journal of Thoracic Oncology*, 16(3). https://doi.org/10.1016/j.jtho.2021.01.030
- 9 O'Grady, J. R., Ferdus, J., Leylachian, S., Bolarinwa, Y., Wagamese, J., Ellison, L. K., Siedule, C., Batista, R., & Sheppard, A. J. (2024). Lung cancer in First Nations, Inuit, and Métis peoples in Canada a scoping review. *International Journal of Circumpolar Health*, 83(1). doi: 10.1080/22423982.2024.2381879
- 10 Canadian Lung Association. (2018). Lung Disease Stigma Report 2018.
- 11 Government of Canada. (2023, November). Radon gas causes lung cancer.
- 12 Canadian Cancer Statistics Advisory Committee in collaboration with the Canadian Cancer Society, Statistics Canada and the Public Health Agency of Canada. <u>Canadian Cancer Statistics</u> 2023. Toronto, ON: Canadian Cancer Society; 2023.
- 13 Li, W., Liu, J.-B., Hou, L.-K. et al. (2022). Liquid biopsy in lung cancer: significance in diagnostics, prediction, and treatment monitoring. *Molecular Cancer* 21, 25. https://doi.org/10.1186/s12943-022-01505-z
- 14 Lazzaro, R. (2024). Advancing Thoracic Surgery with Robotics and video-assisted strategies. ONCOLOGY, 38(6), 232-234.
- 15 Araghi, M., Mannani, R., Heidarnejad maleki, A., Hamidi, A., Rostami, S., Safa, S. H., Faramarzi, F., Khorasani, S., Alimohammadi, M., Tahmasebi, S., & Akhavan-Sigari, R. (2023). Recent advances in non-small cell lung cancer targeted therapy; an update review. *Cancer Cell International*, 23(1). doi: 10.1186/s12935-023-02990-y
- 16 Banerjee, S. C., et al. (2024). Empathic communication skills training to reduce lung cancer stigma: Study protocol of a cluster randomized control trial. Contemporary Clinical Trials, 145, 107669.
- 17 Government of Canada. (2022). Smoking in Canada: What we know. Canadian Community Health Survey, 2021-2022.
- 18 Health Canada. (2000). You're not the only one smoking this cigarette. Canadian Tobacco Use Monitoring Survey (CTUMS) Annual, February–December 2000.

- 19 Shehata, S. A., Toraih, E. A., Ismail, E. A., Hagras, A. M., Elmorsy, E., & Fawzy, M. S. (2023). Vaping, environmental toxicants exposure, and lung cancer risk. *Cancers*, 15, 4525. doi.org/10.3390/cancers15184525
- 20 City of Hope. (2022, April 27). Why are lung cancer rates rising in people who've never smoked?
- 21 Cross-Canada Survey of Radon working group: a collaboration between the Evict Radon National Study, BC Centre for Disease Control and Health Canada. *Cross-Canada Survey of Radon Exposure in the Residential Buildings of Urban and Rural Communities*. Canada. Cross Canada Radon Survey. 2024. Version 1.1 Available at: www.crosscanadaradon.ca.
- 22 Canadian Cancer Society. (n.d.). How do I find a lung cancer screening program? Retrieved January 2025.
- 23 Canadian Partnership Against Cancer. (n.d.). Lung cancer screening in Canada: 2021/2022. Retrieved January 2025.
- 24 BC Cancer Foundation. (2023, November 15). Innovative early lung cancer detection is saving lives.
- 25 Cotton, L. B., Bach, P. B., Cisar, C., Schonewolf, C. A., Tennefoss, D., Vachani, A., Carter-Bawa, L., & Zaidi, A. H. (2024). Innovations in early lung cancer detection: Tracing the evolution and advancements in screening. *Journal of Clinical Medicine*, 13(16), 4911. doi: 10.3390/jcm13164911
- 26 Lazzaro, R. (2024, December 5). Revolutionizing lung cancer treatment: Advancements offer new hope. Targeted Oncology.
- 27 Schuler, M., Bölükbas, S., Darwiche, K., Theegarten, D., Herrmann, K., & Stuschke, M. (2023). Personalized treatment for patients with lung cancer. *Deutsches Ärzteblatt International*. doi: 10.3238/arztebl.m2023.0012
- 28 Melosky, B., Blais, N., Cheema, P., Couture, C., Juergens, R., Kamel-Reid, S., Tsao, M.-S., Wheatley-Price, P., Xu, Z., & Ionescu, D. N. (2018). Standardizing biomarker testing for Canadian patients with advanced lung cancer. *Current Oncology*, 25(1), 73–82. doi: 10.3747/co.25.3867
- 29 Snow, S., Brezden-Masley, C., Carter, M. D., Dhani, N., Macaulay, C., Ramjeesingh, R., Raphael, M. J., Slovinec D'Angelo, M., & Servidio-Italiano, F. (2024). Barriers and unequal access to timely molecular testing results: Addressing the inequities in cancer care delays across Canada. *Current Oncology*, 31(3), 1359–1375. doi: 10.3390/curroncol31030103
- 30 Innovative Medicines Canada. (n.d.). Access to medicine. Retrieved January 2025.
- 31 Lung Cancer Canada. (n.d.). Lung Cancer Canada Brief for Federally Funded Research. Retrieved January 2025.
- 32 Abdel-Rahman, O. (2023). Geographic disparities in access to cancer clinical trials in Canada. *American Journal of Clinical Oncology*, 46(11), 512–516. doi: 10.1097/COC.000000000001039
- 33 Canadian Cancer Research Alliance (CCRA). (n.d.). Ranked results: Tools: "Top 10" researched cancer sites (\$ and %). Retrieved January 2025, from https://www.ccra-acrc.ca/tools/ranked-results/
- 34 Canadian Cancer Research Alliance. (2022). <u>Fifteen Years of Investment in Cancer Research in Canada</u>, 2005–2019. Toronto: CCRA.
- 35 American Lung Association. (2014, April). Addressing the Stigma of Lung Cancer.





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