

## Letter of Intent for the Lung Ambition Awards 2025



Dear Members of the Review Committee,

I am pleased to submit this letter of intent for the Lung Ambition Awards in support of our initiative to establish the Kingston Health Sciences Centre (KHSC) Older Adult Lung Oncology Program. Lung cancer remains the leading cause of cancer-related mortality in Canada, with older adults disproportionately affected. Despite making up the majority of lung cancer cases, older patients often face disparities in treatment access and outcomes. They are underrepresented in clinical trials, and many mid-sized academic institutions and community hospitals lack formalized geriatric oncology programs, limiting their ability to provide comprehensive, tailored care.

Our proposed KHSC Older Adult Lung Oncology Program will address these critical gaps by: (1) analyzing disparities in treatment decisions, supportive care utilization, and outcomes among older adults with lung cancer using local and provincial data; (2) piloting a multidisciplinary lung cancer geriatric oncology program at KHSC to improve personalized, data-driven treatment approaches and enhance care coordination; and (3) establishing a national consortium to develop adaptable frameworks for geriatric oncology programs across institutions of varying sizes and resource levels.

By integrating real-world data and a continuous quality improvement approach, this initiative will optimize treatment strategies, reduce complications, and improve survival and quality of life for older lung cancer patients. Beyond KHSC, this program will serve as a scalable model for other institutions across Canada, laying the groundwork for national and international best practices in geriatric oncology.

This initiative is well-aligned with the Lung Ambition Awards' mission to advance lung cancer care and outcomes. With the support of this award, we will implement evidence-based interventions that reduce disparities, enhance treatment adherence, and decrease lung cancer mortality in older adults. By collaborating with oncology, geriatrics, and health policy stakeholders, we aim to drive meaningful and sustainable improvements in patient care while shaping broader healthcare policies and clinical guidelines.

We appreciate the opportunity to submit this proposal and look forward to further discussions on how this initiative can contribute to the advancement of lung cancer research and care.

Sincerely,

A handwritten signature in black ink, consisting of a stylized 'Y' followed by a horizontal line and a small flourish.

Dr. Yuchen Li

February 6, 2025

Assistant Professor, Director of Quality, Department of Oncology, Queen's University  
Medical Oncologist Cancer Centre of Southeastern Ontario  
Kingston, Ontario, K7L 5P9

## **Summary of Proposed Research: Older Adult Lung Oncology Program**

### **Background:**

Lung cancer is the leading cause of cancer-related deaths worldwide, and accounting for nearly a quarter of all deaths in Canada [1]. The majority of new lung cancer diagnoses occur in older adults. It is projected that even more future lung cancer cases will be diagnosed in the older adult population, commonly defined as individuals 70 years or older. [2,3].

Disparities in outcomes between older adult and younger lung cancer patients remain a significant challenge in oncology. Evidence suggests that older adult lung cancer patients have worse survival rates, reduced adherence to guideline-recommended treatments, and an elevated risk of adverse effects from cytotoxic systemic therapies [4,5,6]. Despite the poorer outcomes observed in geriatric lung cancer patients, significant gaps remain in our understanding of how to optimize and personalize treatment for this population. Lung cancer clinical trials often exclude or underrepresent older cancer patients, resulting in a lack of robust data to guide treatments decisions [7]. Furthermore, the majority of mid-sized academic institution and community hospitals across Canada lack formalized geriatric oncology programs, which are essential for comprehensive evaluation of individual patients, identification of risk factors, and development of personalized treatment plans [8]. Finally, while some geriatric assessment tools are available, there are concerns that these tools may not fully capture the complexity and heterogeneity of geriatrics lung cancer patients [9]

### **Proposal:**

We propose the establishment of a clinical and research Older Adult Lung Oncology Program at Kingston Health Sciences Centre (KHSC), a mid-sized academic institution. This program will focus on addressing disparities in oncological care for older adults with cancer, with a particular emphasis on lung cancer. We have already secured the support of keyholders at KHSC, including members from the Department of Geriatrics, Surgical Oncology, and Medical Oncology. By developing this program, we aim to set a model for other mid-sized academic institutions and community hospitals to implement geriatric oncology programs.

### **Hypothesis:**

We hypothesize that the establishment of the KHSC Older Adult Lung Oncology Program will enhance our understanding of older adult with lung cancer patients, enable more personalized treatment approaches, improve care coordination, and reduce disparities in care and outcomes for this vulnerable population.

**Aim 1:** Analyze local and provincial data on treatment decisions, supportive care utilization, and outcomes among older adults with lung cancer

We will first conduct a retrospective study to analyze both local (KHSC) and provincial (Ontario) health administrative data to better understand disparities in treatment, supportive care utilization, and outcomes among geriatric lung cancer patients aged 70 or older compared to younger patients. The study period will cover 2015 to 2025. Our team has obtained REB for this project. All analytical work will be conducted at Cancer Care and Epidemiology (CCE) at the Sinclair Cancer Research Institute, Kingston, Ontario (<https://scri.queensu.ca/>). This aim will be led by Dr. Booth,

director of CCE, with support from Dr. Merchant, who has extensive experience in population-level data analysis.

## **Aim 2:** Establishment of KHSC Older Adult Oncology Program

In collaboration with the multidisciplinary research team, we will pilot an Older Adult Lung Oncology Program at KHSC, starting with enrolling lung cancer patients aged 70 or older seen at Cancer Centre of Southeastern Ontario (CCSEO), a part of KHSC, with the following objectives:

- A) *Bridging disparities in access to treatment, supportive services, and outcomes for older adults:* we will leverage findings from Aim 1 and integrate qualitative research through semi-structured interviews with patients and healthcare professionals at KHSC to identify barriers to accessing supportive services (including social work, psychosocial support, palliative care, and drug access navigation) and treatments. Based on our findings, the team will develop actionable strategies to address identified barriers and evaluate their impact using quasi-experimental time series quality improvement study design. This initiative will be led by Dr. Li, Director of Quality Improvement in Department of Oncology.
- B) *Geriatric assessment:* we will evaluate the feasibility, and validity, and predictive performance of existing geriatric screening tools, including the Vulnerable Elders Survey-13 (VES-13) and the G8 questionnaire within our local setting. Additionally, we will develop a KHSC-specific questionnaire tailored to our patient population and clinical workflow, evaluating its validity, reliability, and feasibility. Measured outcomes will include provider and patient acceptability, time burden, referral rates to geriatric services, treatment modification rates based on geriatric assessments, acute care utilization, and survival outcomes. This initiative will be a collaboration between the lung medical oncology team (Dr. Li, Dr. Mates, and Dr. Robinson) and the geriatric team (Dr. Haddad and Dr. Verduzco-Aguirre)
- C) *Continuous quality improvement:* To sustain the KHSC Older Adult Oncology Program, we will utilize continuous Plan-Do-Study-Act (PDSA) cycles to iteratively identify and address opportunities for improvement. Barriers and challenges will be identified through stakeholder consultations, patient and provider surveys, and direct observation of workflows. Tailored interventions will be implemented to overcome these barriers. Key performance metrics, including the proportion of patients receiving geriatric assessments, treatment-related toxicity rates, and survival outcomes, will be monitored regularly. Feedback from QI meetings will inform ongoing refinement and optimization of the program. This will be led by Dr. Li.

## **Aim 3:** Development of a Consortium for Establishing a Broad Framework for Older Adult Lung Oncology Programs

We aim to establish a consortium of experts from Canada and internationally specializing in geriatric and lung oncology. While several Canadian studies explored geriatric oncology program models, these are predominantly based in large academic centres and do not have a focus in lung cancer patients [10, 11]. Insights from our mid-sized institutions could inform over 10 mid-size academic intuitions and multitude of other community centres across the country. The primary goal of this consortium is to develop a flexible guideline framework adaptable to oncology programs of varying size (large academic centres, mid-size institutions, and community hospitals) and varying resource levels, ensuring that it is helpful for implementation of geriatric assessment interventions across diverse health settings.

## Reference:

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- 3 Government of Canada, S. C. (2022, January 4). *Lung cancer is the leading cause of cancer death in Canada*. <https://www.statcan.gc.ca/o1/en/plus/238-lung-cancer-leading-cause-cancer-death-canada>
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the Senior Women's Breast Cancer Clinic at sunnybrook odette cancer centre. *Cancer Research*, 78(4\_Supplement). <https://doi.org/10.1158/1538-7445.sabcs17-p4-10-14>

## Impact Statement

The majority of Canadians diagnosed with lung cancer are older adults aged 70 or older [1]. However, disparities in care, quality of life, and outcomes are evident when comparing the older adult population to younger patients with lung cancer in Southeastern Ontario and across the nation [2,3,4]. Despite these disparities and the poorer outcomes observed in older adult lung cancer patients, significant gaps exist in our understanding of how to optimize and personalize treatment for this population.

The proposed Kingston Health Sciences Centre (KHSC) Older Adult Lung Oncology Program aims to address critical gaps in lung cancer research and care for older adults by reducing disparities, improving outcomes, and enhancing quality of life. Through analyzing local and provincial disparities, implementing optimal geriatric assessment tools, and leveraging the quality improvement methodologies, the program will enable personalized treatment strategies and evidence-based policy changes. This program aims to have sustainability and scalability, and ultimately positioning KHSC as a national model for geriatric oncology while catalyzing advancements in lung cancer research and equitable, high-quality care.

This project is designed to drive immediate improvements in care for older adult with lung cancer while laying the groundwork for long-term advancements in oncology research and practice. In the short term, patients treated at our cancer centre will benefit from more precise and personalized treatment, reduced toxicities, and enhanced quality of life. In the medium term, the integration of validated geriatric assessment tools and quality improvement frameworks will transform how oncology care is delivered to older adults, reducing disparities and improving outcomes. Over time, the insights gained from this project will influence clinical guidelines, inform future research, and catalyze the development of geriatric oncology programs nationwide.

By bridging critical knowledge gaps, fostering innovation in personalized care, and establishing scalable best practices, the KHSC Older Adult Lung Oncology Program will significantly accelerate progress in lung cancer research and care. It will not only reduce the burden of lung cancer among older adults but also serve as a catalyst for broader advancements in geriatric oncology, ultimately ensuring that all patients receive equitable and high-quality care.

## Reference:

- 1 Lung cancer in Canada: A supplemental system ... (n.d.). <https://s22457.pcdn.co/wp-content/uploads/2019/01/Lung-cancer-in-Canada-EN.pdf>
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## **Public, Non-Scientific Summary**

Lung cancer is the leading cause of cancer-related deaths in Canada, and older adults are the most affected. However, many older patients face barriers to care, such as fewer treatment options, limited access to support services, and poorer health outcomes compared to younger individuals. Despite advances in cancer treatment, older adults are often overlooked, and many hospitals do not have specialized programs to address their unique needs.

To help close this gap, we are developing the Older Adult Lung Oncology Program at Kingston Health Sciences Centre (KHSC). This initiative will focus on improving care for older adults with lung cancer by understanding their specific challenges, providing more personalized treatment, and ensuring better access to supportive care. The program will bring together healthcare professionals, researchers, and patient advocates to find practical ways to improve care and quality of life for older adults facing lung cancer.

Beyond KHSC, we aim to create a model that can be used by hospitals across Canada. By sharing what we learn and working with experts nationwide, we hope to ensure that every older adult with lung cancer receives the care and support they need, regardless of where they live.

## Budget

<b>Budget</b>	
<b>Personnel:</b> Research assistant (50% FTE for 12 months) Experience/education: Bachelor's degree minimal, with prior experience in data analysis, research methodologies, and working with provincial health administrative database (e.g. ICES) Justification: salary for research assistant, this also includes ICES data and analytic services charges (estimated \$15,000).	\$30,000
Summer research medical student/master's student Experience/education: Medical student between their first and second year with strong interest in oncology research Justification: to assist with participant recruitment, data collection and report preparation.	\$3,500
<b>Supplies</b> Justification: for survey forms, consent materials, printing, and binding	\$500
<b>Other Expenses:</b> <b>Dissemination and Reporting</b> Justification: fees for conference and journal publication of findings	\$1,000
<b>Total Amount Requested (Canadian Dollars only):</b>	<b>\$35,000</b>

February 05, 2025

**Lung Cancer Canada  
Lung Ambition Awards Review Committee**

**RE: Statement of Departmental Support for Dr. Yuchen Li's application and project "Establishing a Geriatric Oncology Program at Kingston Health Sciences Centre."**

Dear Review Committee members,

I'm very pleased to provide this letter of support on behalf of the Department of Oncology at Kingston Health Sciences Centre (KHSC) and Cancer Centre of Southeastern Ontario (CCSEO), for Dr. Yuchen Li's proposed research project; "Establishing a Geriatric Oncology Program at Kingston Health Sciences Centre."

As the Head of the Department of Oncology, I endorse this initiative and confirm its feasibility within our institution.

The Department of Oncology at KHSC is uniquely positioned to facilitate and support this important research project. Our institution is home to state-of-the-art facilities for Cancer therapy and research, including multidisciplinary teams, and a robust research environment. We have a very strong partnership with Cancer Care and Epidemiology Unit at Queen's University. This infrastructure will enable the successful execution of Dr. Li's proposed retrospective analyses, prospective observational studies, and the implementation of the quality improvement framework outlined in the project aims.

Dr. Li is an Assistant Professor of Medical Oncology at the Department and is also the Department's Quality Lead. He has secured an effective collaboration between key stakeholders within KHSC, including the Departments of Geriatrics, Surgery, Medicine and Oncology. This interdisciplinary support will ensure seamless integration of the proposed geriatrics assessment tools into our clinical workflows and the co-development of strategies to enhance care for older adults with lung cancer.

Furthermore, our established access to provincial, regional and local health administrative databases, combined with the expertise of the Cancer Care and Epidemiology Unit, will facilitate the comprehensive data analyses necessary for this project.

Dr. Li's initiative aligns closely with KHSC's mission to provide equitable and patient-centered care. Addressing disparities in outcomes for older adults with lung cancer is a critical step toward achieving this goal, and the proposed program has the potential to position KHSC as a national leader in geriatric oncology.

We are fully committed to supporting Dr. Li's research project and will provide access to departmental resources, data, clinical facilities, and administrative support, to ensure the project's success. Additionally, the collaborative environment at KHSC will allow for ongoing stakeholder engagement and the iterative refinement of the proposed program.

I believe this initiative has the potential to transform lung cancer care for older adults and serve as a model for other institutions as it embodies the innovation, collaboration, and patient-centered focus that KHSC strives to promote.

I strongly support Dr. Li's application for this award and look forward to the impactful contributions that this research will provide to transforming and improving our patient care both locally and nationally.

Sincerely,



Khaled Zaza, MB, BCh, MSc, FRCPC  
Radiation Oncologist, Associate Professor  
Head, Department of Oncology,  
Kingston Health Sciences Centre  
Faculty of Health Sciences, Queen's University