Project Title: Evaluation of the American College of Surgeons Surgical Risk Calculator in Older Adults with Cancer

Name of Supervisor: Dr. Shabbir Alibhai

Site: Princess Margaret Hospital

Brief description of the project:
Older adults with cancer (OAC) have increased surgical risk relative to younger adults with cancer due to frailty, polypharmacy, comorbidity, cognitive function, and decreased functional capacity. Accurately estimating surgical risk is critical for patient-centred decision making.[1] The National Surgical Quality Improvement Program (NSQIP) surgical risk calculator estimates risk for common procedures. The tool demonstrates 93% accuracy in predicting death in general surgery patients[2] and an acceptable area under the curve (0.69) for predicting complications following cancer surgery.[3] However, the predictive accuracy in older adults undergoing cancer surgery is not well established. Geriatric variables, including functional status, physical performance and falls, comorbid medical conditions, depression, social activity/support, nutritional status, and cognition, have been shown to predict surgical risk.[4,5] However, geriatric variables are not routinely assessed in oncology settings and have not integrated into NSQIP surgical risk calculations.[4] Thus, establishing the validity of the NSQIP in older adults, and understanding whether adding geriatric variables improves predictive ability, are both important.

Objective
The objectives of this study are to: i) evaluate the predictive performance of the *NSQIP score* for post-operative outcomes in older adults that have undergone cancer surgery; ii) evaluate the predictive performance of *geriatric variables* in older adults that have undergone cancer surgery; and iii) examine if incorporating geriatric variables in the NSQIP risk calculator improves its predictive performance.

Methods
A single-centre retrospective chart review of adults aged 65+ referred to the older adults with cancer clinic (OACC) between June 2015 and December 2025 that have undergone surgery and had preoperative geriatric assessment will be performed. Over 2000 patients have been referred to the OACC and an estimated 20-30% have undergone surgery. Participants will be included if their procedure has a corresponding NSQIP CPT code permitting calculation of surgical risk (over 2500 available procedures). The Brier score, C-statistic, and Hosmer-Lemeshow Test will be used to ascertain predictive accuracy, discrimination, and calibration, respectively. Means and standard deviations will be used to compare predicted versus observed risk. Complete case analysis will be used. The NSQIP and geriatric predictor variables are included in Appendix A. Surgical outcomes will include mortality, length of hospital stay, serious surgical complications, readmissions, return to OR, discharge location, and geriatric outcomes (i.e., delirium, functional decline, new mobility aid use, and pressure ulcer) charted from within 30 days following surgery. Surgical complications will be categorized as any complication, serious complication, pneumonia, cardiac complication, venous thromboembolism, sepsis, surgical site infection, or renal failure.[6]

Potential impact
This will be the one of the first external validation studies to evaluate the predictive value of the NSQIP score for surgical and geriatric outcomes in OAC undergoing surgery. It will also be one of the first studies evaluating if NSQIP accuracy can be improved by incorporating geriatric.

Role of the student: The student will update the literature search informing the study design, design data extraction forms, lead the chart review of patients' surgical data and surgical risk calculation using an online tool. They will also support the supervisors with data management and analysis and in manuscript writing and knowledge dissemination. The student will be supported to prepare and submit a first-authored conference abstract.

Project Title: Addressing Cognitive Decline in Aging Physicians: A Comparative Policy Analysis

Name of Supervisor: Dr. Nathan Stall

Site: Sinai Health System

Background: The prevalence of cognitive decline increases with aging and has crucial implications for professionals in cognitively demanding fields such as medicine.[1] While physicians are typically highly educated and trained, they are not immune to the effects of cognitive aging. With an increasing number of physicians continuing to practice later in life, concerns have grown regarding the potential impact of cognitive changes on clinical performance and patient safety.[2] In Canada, projections indicate that by 2026, approximately 20% of the physician workforce will be aged 65 or older.[3] Despite this demographic shift, Canada lacks national policies or standardized approaches to assess and support the continued competency of aging physicians.[4] Amid increasing concerns about the implications of physician aging on the quality and safety of medical care and the absence of national Canadian guidelines, there is an urgent need to assess how cognitive decline is addressed in current healthcare policies. The objective of this study is to compare existing regulatory frameworks in the United States, Canada, and other Group of Seven (G7) countries addressing cognitive decline in aging physicians.

Methods: This comparative policy analysis will employ a qualitative case study methodology, involving a review of documents from peer-reviewed and grey literature. Frameworks, policies, or standards concerning cognitive decline in aging physicians were extracted from all 50 states in the United States, all 13 Canadian provinces and territories, and from the five other G7 countries (France, Germany, Italy, Japan, and the United Kingdom). These data will be contrasted with how other safety-critical fields (judges, commercial pilots, and air traffic controllers) assess an aging workforce for competency.

Role of Student:

The student will play an integral role in supporting this comparative policy analysis. Under the supervision of a geriatrician, the student will:

1. Identify and review policy documents related to cognitive decline and competency assessment among aging physicians across Canadian, U.S., and selected international jurisdictions.
2. Extract and synthesize key policy elements and approaches across jurisdictions and safety-critical professions.
3. Develop data summaries and visualizations to support comparative analysis.
4. Contribute to the drafting of a peer-reviewed research letter or editorial.
5. Participate in project meetings, present findings, and incorporate feedback into the analysis.

References

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Project Title: Enhancing Patient Experience with Outpatient Geriatric Assessments Through an Interprofessional Approach – a Quality Improvement Project

Name of Supervisors: Dr. Grace Leung & Dr. Carolyn Tan

Project Description:
Patient-centered care is a model in which care is organized around the needs and preferences of the patient. It is recognized by the Institute of Medicine as one of the 6 crucial domains for quality health care (Institute of Medicine 2011). In a complex health system facing different issues including increasing wait times for access to care, older adults with frailty and multi-morbidity can experience fragmented, de-personalized care. A recent systematic review showed patients wished to build strong relationships with their care providers, valuing more time and attention to their individualized care (BMC Ger 2022). The Peter Cipriano Centre for Seniors Health was opened at the Sunnybrook Health Sciences Centre in Oct 2025. This centre was designed as a one-stop facility to provide seniors with coordinated access to specialized geriatric services. One of the core programs within the Cipriano Centre is the new integrated Comprehensive Seniors' Care Clinic. This clinic utilizes a team-based, integrated approach to the geriatric assessment, with interprofessional team members including nurses, occupational and physiotherapists, and pharmacists contributing to the geriatric assessment. Through this one-team approach, there is an opportunity to explore how to enhance the patient experience through a collaborative team-based approach where patients can receive individualized, patient-centered care.

Project Aim:
Using a Quality Improvement framework, the project aim is to improve patient experience in an outpatient geriatric clinic using an interprofessional team-based approach to geriatric assessments.

Student Role:
1. Review the literature on geriatric team-based models of care and patient experience
2. Participate in collecting patient experience surveys
3. Apply quality improvement skills, including measuring and analyzing data, engaging stakeholders for project involvement and implementing tests of change
4. Present results, consider early manuscript preparation

References:

1. Committee on Quality of Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: A new health system for the 21st century. The National Academies Press. https://www.ihi.org/resources/publications/crossing-quality-chasm-new-health-system-21stcentury
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BRIEF DESCRIPTION OF WESTON AND O'BORN CENTRE FOR MATURE WOMEN'S HEALTH: Weston and O'Born Centre for Mature Women's Health Research at Sinai Health is dedicated to inspiring, supporting and leading patient-centered research focusing on mature women's health in menopause and beyond.

Project Title: Exploring the unintended consequences of GLP-1RAs for menopausal and post-menopausal women

Name of Supervisor: Dr. Paula Rochon, Director of Research, Weston and O'Born Centre for Mature Women's Health Research, Mount Sinai Hospital
Co-supervisor: Joyce M Li, MSc., Research Manager II and Strategy Lead, Weston and O'Born Centre for Mature Women's Health Research, Mount Sinai Hospital

Site: Sinai Health System

Brief Description of the Project
Glucagon-like-peptide-1 receptor agonists (GLP-1RAs) including semaglutide injections (known as Ozempic) or semaglutide tablets (known as Rybelsus), were designed as supplementary therapies to diet and exercise to improve blood sugar control among adults with diabetes. They have since been described as a "cultural phenomenon", as they help people lose weight by taking an injection or a pill, making them amongst the most widely discussed and sought-after drug therapies in the world. In some countries, one in eight older adults are using these drugs.

While much research has focused on the incredible benefits of GLP-1RAs, *studying* ***potential sex- and age-specific unintended consequences that impact older adults and particularly, women***. Known adverse effects such as gastrointestinal effects presenting as nausea and vomiting, and weight loss that can lead to frailty and muscle loss, as well as harmful prescribing cascades. Despite the drug's importance for older adults, little is known about their adverse events in this age group and even less is known about women in menopause and post-menopause.

Despite widespread use of these drugs by women in menopause and beyond, research has largely ignored this group, creating a large gap in knowledge on the unique and unintended physiological and psychosocial risks that GLP-1RAs may pose in this population. This project involves **conducting a scoping review to explore the unintended consequences of GLP-1RAs for menopausal and post-menopausal women with the goal of understanding the current state of knowledge, identifying gaps and areas of future research that are needed to inform prescribing of these medications for this unique population.**

Role of the Student: The summer student will collaborate with members of the team to conduct a scoping review along with gain experience working in a hospital-based research environment on research activities including literature searches, preparing written materials such as commentaries, op-eds and abstracts, and knowledge mobilization activities (such as developing social media posts, and presentation slide decks). Additionally, they will have the opportunity to be integrated to enrichment opportunities within the Weston and O'Born Centre for Mature Women's Health Research team and Geriatric medicine at Sinai Health including attending and having the opportunity to present at team meetings along with other related interdisciplinary team activities.

Project Title: A policy document analysis of Canadian long-term care homes on the assessment and management of substance use disorders

Name of Supervisor(s): Drs. Jillian Alston and Peter Hoang

Site: St. Michael's Hospital

Brief description of the project:

Among those who require 24-hour care, long-term care homes (LTCH) are residential settings that support activities of daily living. This includes personal care (e.g., bathing) and health services (e.g., nursing care). In Canada, over 200,000 older adults and persons living with a disability are residents of a LTCH.[1] In 2023, the National Standard of Canada published the Long-Term Care Services Standard to provide a guideline to all long-term care homes in Canada.[2] This guideline recommends that all LTCH provide trauma-informed and culturally safe care, including mental illness, previous trauma, and addictions. The management of addictions is particularly important as older adults, the predominant demographic residing in LTCHs, are a rapidly growing population that experiences substance use disorders.[3,4]

Despite these standards, the implementation of these policies fall within provincial jurisdictions. This has the potential to lead to interprovincial differences in how residents are provided consistent and high-quality care.[5] Previous American studies have shown that LTCH staff feel underprepared and under-resourced in managing substance use disorders.[3] This has led to disproportionate LTCH rejections for those experiencing substance use disorders, and among those who are admitted, reduced access to medications for addictions treatment.[6,7] However, our understanding of substance use disorders in Canadian LTCHs remains understudied. This policy review aims to synthesize Canadian LTCH policies to identify the degree in which provincial policies assess, monitor, and manage substance use disorders.

Methods:

We will search government websites and online policy documents to identify the most recently available long-term care home policies for Canada's 10 provinces, 3 territories, and nationally. We will search individual national, provincial, and territorial websites to identify specific directives and legislation pertaining to long-term care. We will work with a health sciences librarian to ensure we are systematic and comprehensive in our search. We will search for keywords including: substance use (disorders), substance abuse, addictions, opioid use (disorders) or abuse, opioid agonist therapy, alcohol use (disorders) or abuse, treatment program, tolerance, withdrawal, and medication for addiction treatment. Policies from Quebec will be reviewed by a native French speaker.

We will descriptively report keyword mentions of any of the aforementioned terms, separated by province in binary form (yes/no). We will extract any policy items related to the assessment, monitoring, and treatment of substance use disorders. We will contextualize the keyword mentions to identify who, what, when, or where these policies are aimed towards (e.g., staff or resident).[8] We will compare how these policies align with the National Long-Term Care Standards.[5]

Limitations and anticipated outcomes

Our proposed study will be limited by the number of policies available across Canada. We will aim to be systematic in identifying documents and further including provincial/territorial briefs and directives. We anticipate that there will be paucity of policies aimed to support individuals living with substance use disorders in LTCHs. These results can promote updated policies to provide high quality, equitable, and patient-centred care in Canada.

Role of the student

The student will play a critical role in data acquisition and analysis. Under the supervision of a geriatrician, the student will:

1. Search for documents pertaining to long-term care policies in each provincial and territorial jurisdiction in Canada.
2. Extract relevant keywords and associated contexts
3. Prepare data visualizations and summaries of the data
4. Contribute to a peer reviewed research letter/editorial
5. Participant in team meetings, present findings, and incorporate feedback into the analysis.

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1. How many long-term care beds are there in Canada? | CIHI. Accessed December 28, 2025. https://www.cihi.ca/en/how-many-long-term-care-beds-are-there-in-canada

2. NATIONAL STANDARD OF CANADA Long-Term Care Services © THIS DOCUMENT IS PROTECTED BY COPYRIGHT.; 2023. https://healthstandards.org/standards/terms/non-commercial-terms-of-use-jan-

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Project Title:
Effectiveness of pharmacologic interventions for treatment of unintentional weight loss in older adults: a systematic review and meta-analysis

Name of supervisor(s): Eric Wong, Sharon Straus

Site: St. Michael's Hospital

Brief description of the project:
Unintentional weight loss is defined as loss of 10% of body weight over 6 months or longer [1]. It is common in older adults with a point prevalence of 13% in an ambulatory clinic setting [2] and a prevalence of 27% in community-dwelling older adults with frailty [3]. Weight loss may be due to a number of different conditions that are common in older adults, including dementia, depression, chronic disease, polypharmacy, and food insecurity [1]. Unintentional weight loss is associated with increased mortality and morbidity in older adults [4]. In a prospective cohort of patients in an outpatient clinic, 25% of the patients died after 1 year when presenting with unintentional weight loss [5]. Despite this, the effectiveness of pharmacologic management of unintentional weight loss is uncertain. This systematic review and meta-analysis aims to summarize the effectiveness of medications for unintentional weight loss in older adults from available randomized trials. Although non-pharmacologic interventions are also available, we decided to limit the scope of this review to pharmacologic options to ensure that it can be completed by the SOAR student within a reasonable time frame.

The role of the student:
The student is expected to screen for eligible studies (titles/abstract and full text), do data abstraction of included articles, and evaluate risk of bias. The student will also draft a manuscript and present interim findings at the SOAR presentations.

References
[1] Stajkovic S, Aitken EM, Holroyd-Leduc J. Unintentional weight loss in older adults. CMAJ 2011;183:443–9. https://doi.org/10.1503/cmaj.101471.
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Project Title: Bringing Geriatric Medicine to Primary Care: A Team-Based approach for Older Adults Living With Frailty

Name of Supervisors: Drs. Lindy Romanovsky and Carla Rosario

Site: Baycrest Hospital

Brief description of the project:
The North Toronto Ontario Health Team identified older adults living with frailty as a population of focus. In NT OHT, less than 10% of patients have a primary care provider (PCP) who has access to an interprofessional team, which is essential for providing comprehensive care for older adults living with multiple chronic conditions such as dementia and frailty.

Most geriatric medicine clinics have long waiting lists, and do not have a full inter-professional teams embedded in their clinics. These patients are often very complex and require a team-based approach to care that goes beyond the scope of the specialist alone. However, access to a team often happens only after they are seen by a geriatric specialist, driving crises and causing many geriatricians to work above or under scope to address these system gaps.

Therefore, our hypothesis is that early intervention and an integrated team-based care will better meet the needs of our frail older patients living in the community. Using quality improvement methodology our aim is to implement a model that brings a mobile team of specialists (geriatricians and an inter-professional team) into the family physicians' office, integrating specialized geriatric service providers into the patient's medical home (i.e., primary care clinic). Within each participating Primary Care Practice, older adults will be stratified using a validated Electronic Frailty Index (eFI) derived from Electronic Medical Record (EMR) data together with a small set of selected EMR-based frailty indicators (e.g., polypharmacy, recent ED visits or hospitalization, documented cognitive impairment or dementia, recurrent falls, caregiver strain). Patients who are moderately or severely frail, or mildly frail with additional complexity, will be prioritized from the primary care provider's practice to receive comprehensive team-based care delivered in their primary care clinic, with home visits and virtual follow-up as needed.

Role of the student:
Over the summer the student will be supported to preform:

- A literature review on integrated team-based approach and on frailty indicators.
- Develop a tool that can be used and tested in the PCP's EMR to identify patients with frailty that would benefit from this pathway.
- Data review of patients that participated in the pilot study (time permitting).