Medicine
UNIVERSITY OF TORONTO | Geriatric Medicine

**Project Title:** Feedback Quality of Geriatric Medicine: Analyzing Entrustable Professional Activities in a Competency-Based Curriculum Using Mixed Methods

**Supervisors:** Dr. Grace Leung & Dr. Dov Gandell

**Site:** Sunnybrook Health Sciences Centre

**Project Description**:
In 2019, the Royal College Geriatric Medicine training curriculum transitioned to Competence by Design, incorporating the use of Entrustable Professional Activities (EPAS) to deliver formative, specific and actionable feedback in a timely manner[1]. During the integration of EPAs, faculty completed professional development on delivering high quality feedback. EPAs are now routinely used to provide feedback to geriatric medicine residents at the University of Toronto.

Despite the use of EPAs over the past several years, less is known about the quality of feedback provided to geriatric medicine residents. In 2024, an evaluation of the quality of feedback from two geriatric medicine cohorts, 2019 – 2020 and 2021 – 2022, was completed. Quality of feedback was measured by timeliness, task orientation, actionability and polarity. Results showed that the quality of feedback delivered to geriatric medicine was high, but there was a declining quality of feedback over time.

Given that earlier work suggested quality of feedback declined with time, the aim of this project will be to:

(1) Continue evaluating the quality of feedback through the review of EPA forms from more recent geriatric medicine cohorts to determine trends in quality of data.
(2) Incorporate qualitative feedback from geriatric medicine residents and faculty to explore factors which may impact the ability to provide high-quality EPA feedback.

**Student Role:**

(1) Review the literature on quality of EPA feedback in the Competence By Design curriculum.
(2) Assess quality of feedback delivered via EPAs from the year 2022-2023 and to prepare descriptive statistics
(3) Participate in obtaining qualitative feedback from geriatric medicine residents and faculty, two focus groups, and reviewing data for thematic elements.
(4) Present results, consider early manuscript preparation

**References:**

(1) Competence By Design Terminology. https://deptmedicine.utoronto.ca/sites/default/files/Intro%20to%20CBD%20Internal%20Medicine.pdf

**Project title**: Predicting alternative level of care (ALC) risk among older adults participating in inpatient rehabilitation at Providence Healthcare

**Supervisors**: Drs. Sharon Marr (primary supervisor), Jennifer Watt (co-supervisor)

**Site:** St. Michael's Hospital

**Project description**

When a patient is designated as requiring an alternative level of care (ALC) in an inpatient care facility, they typically require a lower level of care (e.g., home care services in the community or admission to a long-term care home [LTCH]), but there are not sufficient resources available to provide this care so the patient must wait in an inpatient care facility until this care becomes available to them. There is a growing need for healthcare institutions to reduce the number of ALC days. In 2021, the Hospital ALC Leading Practices Guide estimated that 60% of ALC-designated people in Ontario were over 65 years old. As of November 2024, over 65% of patients admitted to Providence Healthcare (an inpatient rehabilitation that is a part of Unity Health Toronto) with an ALC designation were awaiting LTCH admission. It is critical to identify older adults at risk of an ALC designation in inpatient rehabilitation facilities to improve patient-important and health system outcomes, ensuring older adults receive evidence-based care at the right time and place. To identify older adults at risk of an ALC designation, we will describe key risk factors from information that is routinely collected at the time of admission to Providence Healthcare (e.g., history of cognitive impairment, functional status, family or friend caregiver support, comorbidities, languages spoken) that are associated with an ALC designation, in general, and specifically, for admission to a LTCH. We will use these risk factors to derive a risk score, which will be validated and implemented at Providence Healthcare with a future study.

**Student role**: This is an ideal project for a student interested in health services research and improving older adults' quality of care (relevant to future family physicians, geriatricians, physiatrists, and clinician researchers). The SOAR summer student will collaborate with a team of clinicians, healthcare managers, and researchers to learn methodological and statistical approaches for predicting ALC days among older adults in inpatient rehabilitation, abstract data from patients' charts to build a cohort of patients that can be used in predictive modeling, provide input into analyzing abstracted data, write a manuscript summarizing results (as first author), present results at a scientific meeting (e.g., Canadian Geriatrics Society annual scientific meeting), and participate in the Keenan Research Summer Student Program at St Michael's Hospital. We will obtain research ethics board approval from Unity Health Toronto prior to the SOAR summer student's start date.

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**Project Title:** Data-Driven Insights for Enhancing Geriatric Care at UHN

**Name of Supervisor(s):** Dr. Richard Norman, Geriatrician (Main Supervisor)

**Site:** Mount Sinai Hospital/UHN

**Brief Description of the Project:**
The University Health Network (UHN) is committed to improving the quality of care for older adults through its Older Adult Strategy. This project aims to harness existing patient data to uncover actionable insights that can drive targeted interventions, streamline care pathways, and enhance patient outcomes. Specifically, the project will analyze key metrics such as hospital readmission rates, average length of stay, and care transitions to identify trends and opportunities for improvement. The findings will contribute to evidence-based policy recommendations and support the integration of high-quality geriatric care across UHN.

**The Role of the Student:**
The student will play a critical role in the data analysis process. Under the supervision of a geriatrician and a multidisciplinary team, the student will:

1. Extract, clean, and organize relevant datasets from UHN's clinical and administrative systems.
2. Conduct statistical analyses to identify patterns and correlations in patient outcomes.
3. Prepare clear and concise data visualizations and summaries to support decision-making.
4. Contribute to the development of a final report, including recommendations for enhancing the Older Adult Strategy.
5. Participate in team meetings, presenting findings and incorporating feedback into analyses.

This project offers the student a unique opportunity to gain hands-on experience in geriatric health research, develop analytical skills, and contribute to meaningful improvements in care for older adults.

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**Project Title:** Climate Change and Its Impact on the Health and Well-Being of Older Adults

**Supervisor:** Dr. Nathan Stall, Geriatrician, Sinai Health System

**Site:** Mount Sinai Hospital/UHN

**Project Summary:**
The simultaneous challenges of climate change and a rapidly aging population disproportionately affect older adults, particularly women. Extreme weather events and food insecurity exacerbated by climate change have significant health and well-being impacts on this demographic. Despite this vulnerability, older adults are often excluded from climate change discussions and policy-making.

The UN Decade of Healthy Aging highlights that healthy aging and longevity are unattainable without a healthy planet. Older adults face unique risks, including heightened susceptibility to heat stress, reduced heat tolerance due to medications, and increased vulnerability to cold weather, especially in rural areas. Limited access to affordable heating and cooling systems, along with inadequate air conditioning in long-term care homes, raises the risk of climate-related health issues. Poor air quality further exacerbates pre-existing health conditions.

Currently, there is no dedicated strategy to support older adults during extreme weather events, which are becoming more frequent due to global warming. Individuals in poor health, with mobility limitations, sensory impairments, or those residing in care facilities, are at heightened risk of severe physical and mental health consequences. This underscores the urgent need for targeted research to protect older adults from the mounting threats posed by climate change.

**Role of the Student:**
The student will collaborate with Dr. Stall in researching the impact of climate change on the health and well-being of older adults. Key responsibilities include conducting literature searches and synthesizing data. The student will also have the opportunity to engage with enrichment activities at Sinai Health, such as attending and presenting at the Weekly Aging Team Meeting and participating in interdisciplinary activities. Additionally, the student may assist in preparing abstracts or written analyses for publication.

**Brief description of women's age lab:**
Women's Age Lab is the first research centre focusing on the health and well-being of older women. The Women's Age Lab aims to improve the lives of older women using science to transform care and practice, ultimately driving health system and social change.

**Project Title**: Optimizing Prescribing for Older Women and Men

**Supervisor name:** Dr. Paula Rochon, Founding Director of Women's Age Lab at Women's College Hospital
Co-supervisor: Joyce M Li, MSc. (Senior Research Lead, Women's Age Lab, Women's College Hospital)

**Site:** Women's College Hospital

**Brief description of the project**
The Canadian and global population is aging rapidly, and the risk of adverse drug events associated with polypharmacy, especially in older adults, is a priority in Canada and internationally. Older adults are often prescribed multiple medications, increasing their risk of adverse drug events, particularly women. Reducing risk of adverse drug events associated with problematic polypharmacy in older adults is a priority in Canada and internationally. Prescribing cascades are a key type of problematic polypharmacy and occur when a health provider misinterprets the adverse effect of a drug as a new condition, subsequently prescribing a second drug to address the adverse effect. Given that prescribing cascades and polypharmacy can have harmful effects on health, particularly for older women, our goal is to optimize prescribing practices and reduce medication harm among older adults in Canada and internationally by leveraging the research and clinical expertise through the iKASCADE international collaboration.

As part of a CIHR Dissemination grant, we will be hosting a series of three hybrid meetings with research leaders and experts in older adults and optimizing prescribing from six countries (Ireland, Belgium, Italy, Israel, USA, Canada). Through these meetings, our objectives are to: 1) Reflect on the value of an international research collaboration 2) Develop and disseminate information to improve prescribing and reduce medication harm in older adults and 3) create a plan for a research grant proposal to continue this international work on drug safety for older adults through a sex and gender lens. Applying a sex and gender-based analysis plus (SGBA+) framework ensures that sex, gender, and key intersections are considered. This has crucial implications in understanding medication appropriateness and the promotion of more equitable healthcare outcomes for older women and men.

**Role of the student**
The role of the student will be to support the Women's Age Lab team 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 Women's Age Lab at Women's College Hospital including attending and having the opportunity to present at the Weekly Aging Team Meeting along with other related interdisciplinary team activities.

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**Tile of the project:** Enhancing Driving Safety in Dementia: Usability and Acceptability of Naturalistic Driving Monitoring Systems

**Names of co-supervisors:**
Dr. Gary Naglie (Division of Geriatric Medicine, University of Toronto)
Dr. Sayeh Bayat (Department of Biomedical Engineering, University of Calgary)

**Site:** Baycrest Hospital

**Brief description of the project:**
A major challenge in dementia care is determining the point at which driving safety becomes significantly compromised for drivers with dementia. Although dementia directly affects fitness to drive, diagnosis of dementia alone is insufficient to withdraw driving privileges, as some patients in the mild stage of dementia may be able to safely drive for a period of time. On-road tests are considered the "gold" standard for assessing fitness to drive among people with dementia. However, these assessments are limited by their controlled conditions, lack of standardization, high costs, and low acceptability. Additionally, these assessments capture only a single, short period of time and often fail to capture the nuances of real-world driving behaviour, and they are costly, limiting accessibility for many individuals and their families.

To address these limitations, the field is shifting towards naturalistic driving assessments using global positioning systems (GPS), in-vehicle sensors, and continuous video monitoring. These technologies allow researchers to collect real-world data on driving patterns over extended periods, providing a more accurate picture of how dementia affects driving behaviour. This project aims to examine the usability and acceptability of these naturalistic driving monitoring systems among older adults with mild cognitive impairment (MCI) or mild dementia who currently drive. The devices will be installed in participants' vehicles for an 8-week monitoring period, capturing their driving patterns in real-world conditions.

In addition to monitoring, participants will complete three standardized questionnaires: one to collect demographic and contextual information, a second to assess familiarity with technology and attitudes toward privacy, and a third to measure the acceptability and ease of use of the monitoring systems. By focusing on the perspectives of drivers with cognitive impairment, which is an underexplored area, this study will provide valuable insights into the feasibility and user-centered design of these technologies. The findings will inform future research, potentially improving decision-making frameworks for driving safety in individuals with cognitive impairment.

**The role of the student:**
The student will:

- Assist our Research Assistant with identifying eligible participants.
- Facilitate the administration of standardized quantitative questionnaires to collect data on privacy attitudes, technology acceptability and usability.
- Under supervision, prepare and analyze data using statistical modeling, examining key relationships between demographic variables, privacy attitudes, and technology usability and acceptability.
- Contribute to the preparation of study findings for dissemination, including reports, presentations, and potential manuscripts.

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**Project Title:** Utility of primers in completing comprehensive geriatric assessments amongst junior medical learners
**Supervisor:** Dr. Evelyn Cheung

**Site:** St. Michael's Hospital

**Background (Introduction):**
Geriatric Medicine focuses on caring for older adults, many of whom have complex medical needs. Learners often find comprehensive geriatric assessments (CGA) overwhelming and challenging as they encompass multiple domains and require a breadth of knowledge. Handouts may serve as valuable tools to guide these assessments.

A literature search revealed that there is currently no existing literature addressing this topic. Most University of Toronto affiliated hospitals provide learners with a CGA template outlining the sections included in a CGA. During their rotation, learners receive teaching sessions on various geriatric syndromes. However, some sessions are scheduled towards the end of the rotation, and learners may miss them due to being post-call or on vacation. Consequently, this can hinder optimal learning.

**Goals and Objectives:**
Assess and evaluate whether distributing handouts as a primer on common geriatric syndromes, with a focus on history-taking and physical examination, improves learners' comfort in performing CGAs and enhances their learning experience.

**Project Outline:**
A week before each four-week rotation, the program assistant (an employee of Unity Health) sends an orientation email to learners. This email includes information about the study. During the orientation session, which is conducted by physicians not involved in the study, the physician informs learners about the study.

The program assistant distributes a needs assessment survey to learners (medical students, core internal medicine residents, non-internal medicine residents, and PGY-4 geriatric residents within the first three months of their training) at the end of each rotation. Physical copies of the survey are provided and collected by the program assistant. The survey asks learners to rate their comfort in performing a CGA and whether they believe handouts would have been helpful.

Once 12 surveys have been collected, the program assistant includes the handouts in the orientation email for subsequent rotations. These handouts provide detailed information on assessing common diseases they may encounter during the rotation. At the end of the rotation, learners complete a follow-up survey to rate their comfort with performing a CGA and provide feedback on the usefulness of the handouts. Data analysis will compare pre- and post-intervention scores and include qualitative analysis of learner feedback.

**Role of the Student:**
This project began in late 2023. The needs assessment surveys have already been collected, and the second phase of the study commenced in August 2024. The student's responsibilities include:

1. Collecting surveys from learners
2. Performing qualitative and quantitative analysis on survey results
3. Interpreting survey results
4. Preparing a manuscript summarizing the study's findings.

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**Project Title**: The FRIENDS Study -*Francophone Seniors: Research on Isolation, Engagement, and Nurturing Decreased Solitude.* To understand the baseline loneliness rate in Afro-Caribbean francophone seniors living in Toronto and assess the feasibility of recruiting participants for a future intervention aimed at mitigating loneliness.

**Supervisors**: Dr. Mireille Norris MD, FRCPC, MHSc (Internist/Geriatrian), Co Principal Dr. Sabrina Kolker MD, MSc, CCFP (Family Physician), Dr. Jacques Lee MD, FRCPC (Emergency Physician)
**Site:** Sunnybrook Health Sciences Centre

**Brief description of the project:** Social isolation and loneliness (SIL) are widespread issues among seniors, with 30% of Canadians aged 70 and older experiencing SIL, rising to 50% during the COVID-19 pandemic. These conditions negatively impact mental and physical health, significantly reducing quality of life and increasing risks for dementia, disability, and premature mortality. The health risks of SIL are comparable to smoking and greater than obesity, contributing to approximately 45,000 deaths annually in Canada.

Previous research has demonstrated that peer-based support can mitigate SIL. However, previous programs have been conducted exclusively in English, limiting its applicability to linguistic minorities, who are particularly vulnerable to social isolation and related adverse outcomes.

Linguistic minorities, including French-speaking seniors, face compounded challenges due to language barriers and limited social networks. These groups are more likely to experience poor health outcomes and longer hospital stays compared to dominant language groups. Given these inequities, the proposed study aims to adapt and test the HOW RU? intervention within the French-speaking senior community, focusing on Afro-Caribbean Francophones and other subgroups at Centre d'Accueil Héritage (CAH) and Centre Francophone de Toronto (CFDT).

The study will assess the baseline rate of loneliness among francophone seniors and the feasibility of recruiting participants for a peer-support program tailored to their cultural and linguistic needs. Engaging with the community, the intervention will be designed to address specific challenges faced by francophone seniors, ensuring its relevance and accessibility. Key outcomes include evaluating the barriers to participation, intervention acceptability, and effective methods for recruitment and engagement.

**Role of the student:**
1. Meet regularly (weekly with Principal and co-principal investigator)
2. Collaborate with the research team to recruit patients, interview patients and peer supporters and create questionnaires.
3. Participate in recruitment tracking to record the number of seniors approached, and who ultimately participate in the study. The student will help keep detailed logs to document key metrics.
4. Be interested or know how to use Nvivo for qualitative data collection.
5. Transcribe/edit transcriptions with help of Otter.ai.
6. Use End note for reference list creation.
7. Perform bibliographic searches ex. Canal and build skills to create a literature review summary.
8. Prepare a poster to share study results.
9. Prepare an abstract to disseminate results at a suitable conference.

**The medical student should be bilingual and interested in equity inclusion and diversity. They will benefit from working with 3 supervisors.**