

Academic Review 2020–2024

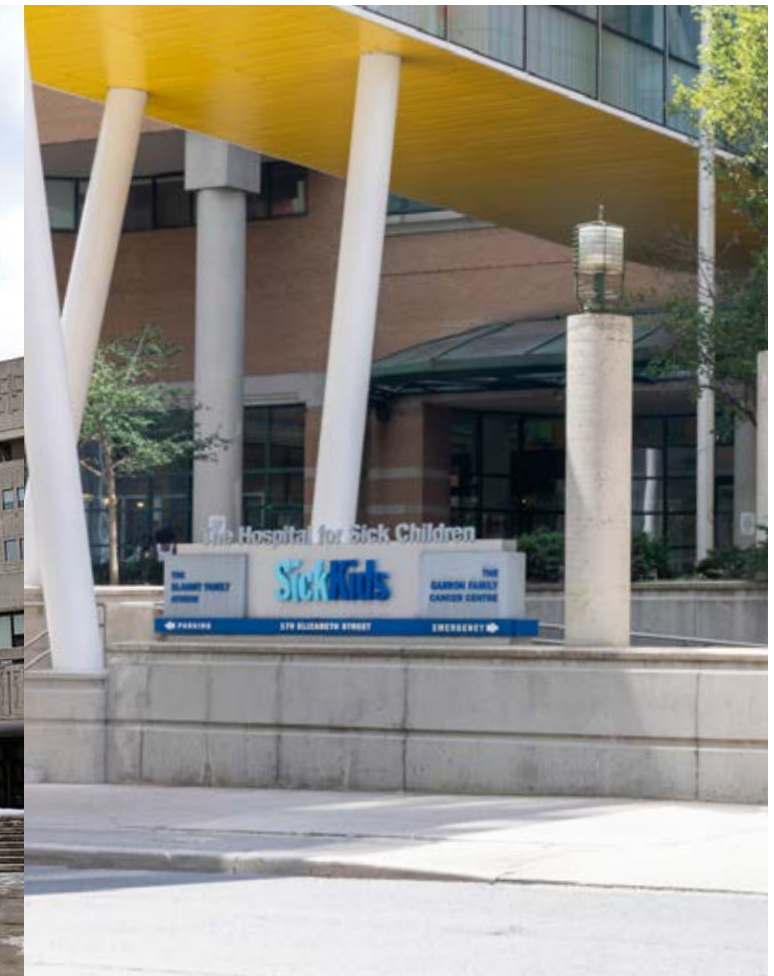
Centre for Quality Improvement and Patient Safety

Self-study



Table of Contents

Director's Message and Executive Summary.....	4
Introduction	8
Recommendations from Previous Academic Review	26
Education	32
Research	54
Financial Structure	74
Internal and External Relationships.....	82
Long Range Planning	108
Report of Learners	110
Testimonials	114
Appendix	122





Director's Message and Executive Summary

Two months into my new role as the Director of the Centre for Quality Improvement and Patient Safety (CQUIPS), the world changed dramatically. In March 2020, when the COVID-19 pandemic was declared, we halted all routine activities to focus our Centre's resources on supporting pandemic response efforts.



Brian Wong
CQUIPS Director

The pace of change required to stay ahead of the rapidly accelerating pandemic was unprecedented. Many CQUIPS leadership and core members served as front-line clinicians, directly caring for patients with COVID-19. In addition to these clinical roles, our CQUIPS team leveraged their quality improvement and patient safety (QIPS) expertise to implement changes rapidly to address the urgent needs of the health system. Personally, I worked as a general internist alongside colleagues on the dedicated COVID unit at Sunnybrook, providing critical care to people infected with COVID-19 for many weeks over an 18-month period.

Experiences during the first waves of the pandemic were transformative for me as both a clinician and

a QIPS scholar and leader. I witnessed deep-rooted societal inequities as racialized patients were admitted to our COVID unit in disproportionately high numbers. We worked under challenging conditions, facing medication shortages and ICU capacity strains that put patients' lives at risk. These experiences underscored our health system's inability to effectively mitigate, adapt to, and recover from everyday shocks and stresses, let alone the extraordinary strain of the COVID-19 pandemic. These insights undoubtedly influenced our renewed strategic plan released in November 2020 and shaped the direction of CQUIPS over the past four years.

Titled "Quality for a Changed World," our strategic

plan foregrounded a renewed vision for CQUIPS "Everyone striving for better health outcomes for all". This vision underscores the collaborative spirit needed to ensure the highest quality care for all the people we serve. As part of this strategic plan, we set ambitious goals to deliver exceptional value as both a health system partner and a world-class hub for QIPS teaching and learning. We aimed to advance the field by leading cutting-edge QIPS research and growing our community through renewed investments in communications and network building. Inspired by early experiences with the COVID-19 pandemic, the themes of equity and health system resilience served as the guiding threads weaving together our research, learning, and networking activities.

Tackling inequities initially seemed like a daunting task for our team at CQUIPS. We acknowledged that we were not experts in this area and recognized the extensive work that had already been done by others. Approaching this challenge with deep humility and a desire to learn, we understood that meaningful progress in equity required first educating our entire team. Together, our leadership team, full-time staff, course directors and several core members completed a 6-month longitudinal equity training program to create a shared understanding of social justice and inclusion-related concepts that inform health equity-oriented QI work.

Over the subsequent four years, equity became interwoven into everything we do—how we prioritize our research activities, what concepts we choose to teach, and our inclusive approaches to engaging others and inviting involvement in Centre activities.

Equity has truly become part of the fabric of our work at CQUIPS.

We also expanded beyond our research and education activities to engage in large-scale change initiatives as a valued health system partner. A notable initiative illustrative of this shift is the Long-Term Care Plus (LTC+) program. Prompted by the urgent need to increase support provided to long-term care (LTC) homes and avoid emergency department transfers during the COVID-19 pandemic, CQUIPS co-founded LTC+ to build health system resilience and improve care

coordination and integration. Employing a hub-and-spoke model, LTC+ was implemented across six hospitals and 54 geographically associated LTC homes in Toronto totalling nearly 10,000 LTC beds. Due to the program's success and impact, Ontario Health and the Ministry of Long-Term Care provided funding to expand LTC+ to support 75 LTC homes in the Ontario Health-Toronto region. Beyond its operational success, CQUIPS also played a pivotal role in generating research outputs by evaluating this innovative model of care. Other notable CQUIPS

partnerships to support health system resilience include our collaborations with East Toronto Health Partners, Choosing Wisely Canada and the Patient-Partnered Center for Diagnostic Excellence.

In addition to our strategic focus in these new areas, we continued to grow and evolve our

education and research activities. Educating future leaders, clinicians, practitioners, and scholars in QIPS remained a core priority for CQUIPS. Our Centre's impact on QIPS capacity building is unparalleled; in 2024, we surpassed 600 alumni from our four

We also expanded beyond research and education activities to engage in large-scale change initiatives as a valued health system partner.

Equity has truly become part of the fabric of our work at CQUIPS.

advanced QIPS education programs. Our alumni, hailing from across Canada and the United States, form a robust network of QIPS leaders working within and across diverse healthcare systems.

During the pandemic, we adapted all our education programs to a virtual format, extensively modifying course content and developing interactive teaching methods suited for online learning. This transition not only maintained our course enrollment but also established the groundwork for our new virtual learning hub, CQuIPS+, which enabled us to engage a wider audience and grow our influence. The CQuIPS+ Masterclasses were a notable enhancement to our educational offerings, providing QIPS professionals with opportunities for additional training in specialized areas such as qualitative methods, academic writing, and data management. Since 2021, we have run 26 CQuIPS+ virtual Masterclasses involving 213 participants from more than 60 organizations across North America. Furthermore, we established a new fellowship in partnership with Choosing Wisely Canada (CWC) to cultivate a diverse new generation of QI scholars and leaders, graduating 28 fellows over the past three years.

Our research activities grew in parallel to our educational ones. Aspiring to be a leading international QIPS research centre, we prioritized research that aligns with our strategic focus on equity and health system resilience. Consequently, our research addresses complex, systemic challenges, necessitating innovative approaches and broad collaboration. Between January 2020 and March 2024, CQuIPS researchers published 325 papers, ranking us among the most productive QIPS research

institutes worldwide. Overall, CQuIPS research articles have been cited 20,884 times, with an h-index of 85 and an i10-index of 595 per Google Scholar. CQuIPS researchers have secured 96 peer-reviewed grants totaling over \$40 million since January 2020, with over half funded by national or international agencies such as the Canadian Institutes of Health Research (CIHR) and the Agency for Healthcare Research and Quality (AHRQ) in the United States. In 2023, CQuIPS assumed oversight of the SQUIRE international QI writing guidelines, making us the international standard bearer for QI and cementing our Centre’s reputation as a global leader in QIPS research and scholarship.

Community building also emerged as a significant priority for CQuIPS. During the COVID-19 pandemic, we observed numerous instances where the Toronto Academic Health Sciences Network (TAHSN) mobilized collective action to address rapidly emerging health system needs. Inspired by this, we aimed to strengthen connections and foster collaboration by establishing a new Community of Practice (CoP) for QIPS within TAHSN. Launched in June 2022, the CoP quickly established itself as an engaged and thriving QIPS community across TAHSN. Now with over 500 members, the CoP has facilitated new and evolving collaborations among TAHSN organizations, such as a multi-site QI initiative focused on implementing an artificial intelligence algorithm to measure hospital delirium rates.

Additionally, the CoP has promoted standardized approaches to common QIPS concerns, exemplified by the coordination of training for 17 hospitals to

600+
learners

103
members

60+
organizations where
our learners work

325
papers published by
CQuIPS researchers

20,884
citations of
CQuIPS articles

\$40M
of peer-reviewed
research grants

adopt a common Serious Safety Event classification system. I am particularly proud that CQuIPS has played a leading role in nurturing and sustaining this flourishing QIPS CoP by providing direct project management, communications, and administrative support.

Over the past four years, we have supplemented our base funding by generating new revenue through education, research and in particular, new consulting activities and partnerships. For example, we formed QIPS consulting relationships with healthcare organizations such as St. Mary’s Hospital and Scarborough Health Network and forged new partnerships with national organizations such as the Canadian Blood Services and Choosing Wisely Canada. The expanded funds allowed us to grow our team and appoint a research lead and an education lead, and hire a full-time communications specialist, QI specialist, project coordinator and research assistant. We positioned our Centre as a critical health system partner during the COVID-19 pandemic and now lead major regional initiatives to transform care delivery and outcomes in collaboration with TAHSN organizations and Ontario Health. The return on investment has been staggering and far reaching.

Despite the tremendous work and numerous accomplishments, we feel there is more we can do to deepen our efforts and expand our impact over the next five years. Intensifying CQuIPS’ efforts to address inequities through QIPS education, research, and practice remains a key priority. We will soon finalize a new framework for TAHSN hospitals and other institutions to provide guidance on ways to integrate equity considerations throughout the various phases of a QI project. Central to this work will involve more meaningful partnerships with patients and community members in our commitment to advancing equity-focused initiatives. To this end, we will seek external consultation and conduct a review of our Centre’s activities and priorities to develop a clear strategy for more meaningful patient engagement across our QIPS education, research, and networking

activities. We will also expand CQuIPS’ position as an integral health system partner and leverage our experiences and collaborations working with healthcare organizations and Ontario Health Teams to implement new models of care, build QI capacity across sectors, and pursue new opportunities focused on care integration.

I am tremendously grateful for the dedication and boundless passion that our Centre’s leadership team, members, learners and alumni have exhibited over the past four years. In preparing this self-study in advance of our academic review, we summarize the numerous accomplishments and initiatives spearheaded by our team and reflect on where we have been and what work still needs doing. I look forward to the next chapter as we continue to strive for better health outcomes for all.



Brian M. Wong, MD FRCPC
CQuIPS Director

Introduction

Our vision: Everyone striving for better health outcomes for all.

Our mission: To accelerate and deepen the work of people and organizations that are passionate about enhancing quality and patient safety.





Introduction

The Centre for Quality Improvement and Patient Safety (CQUIPS) is an Extra-Departmental Unit (EDU) “C” of the University of Toronto, Temerty Faculty of Medicine. CQUIPS was established in 2009 through a funding partnership between the Temerty Faculty of Medicine, and two partner hospitals, Sunnybrook Health Sciences Centre (SHSC) and The Hospital for Sick Children (Sickkids). Following the success of the 10-year CQUIPS External Review, Women’s College Hospital (WCH) was added as a third funding hospital partner in 2020, bringing an additional dimension to CQUIPS with an emphasis on ambulatory, community and virtual care, which complements SHSC and SickKids’ focus on acute and pediatric care, respectively.

During our first 10 years, CQUIPS prioritized capacity building through education and training. The Centre developed programs that equip healthcare providers, administrators, and leaders with knowledge and skills to design, execute, and evaluate quality improvement and patient safety (QIPS) initiatives. CQUIPS leadership and core members led a variety of impactful research programs, producing papers and obtaining grants in greater numbers than any comparable Canadian centre and on par with prominent international centres.

In 2020, the Centre renewed its strategic plan and updated its core vision and mission, identifying health equity and health system resilience as areas of thematic focus. While maintaining a strong commitment to education and training, the Centre also grew its research activities by working collaboratively with current and new partners to ensure that our scholarly activities are informed by health system needs.

CQUIPS BY THE NUMBERS

16 Leadership Team	103 Core and Affiliate Members	1194 General Members	629 Program Alumni
512 CQUIPS+ Registrants	504 TAHSN QIPS CoP Members	1238 LinkedIn CQUIPS Page Followers	225 2023 Symposium Attendees

Strategic Plan: Quality for a Changed World

In 2020, after the onset of the COVID-19 pandemic, CQUIPS undertook a planning process to create a renewed strategic plan. Entitled “Quality for a Changed World”, the plan’s vision, mission and strategic goals were shaped by the events of the pandemic (see Appendix 1.1). The pandemic exposed the fragility of our health system which, especially when under duress, failed to provide the quality of care that people deserve and expect. Notably, this lack of resilience to sudden changes and disruptions had a disproportionate effect on members of our society who are most in need of fairness and equity.

It became clear that CQUIPS must work to both improve outcomes and reduce inequities, which is why health equity and health system resilience have been placed at the heart of our activities over the last five years. This thematic focus is consistent with our founding rationale – to address urgent health system needs and improve the quality of care our patients receive. These thematic areas of focus align with the University of Toronto and Temerty Faculty of Medicine’s commitment to equity, diversity, Indigeneity, inclusion and accessibility (EDIIA).



As part of our strategic plan, we identified three main goals:

1. Deliver exceptional value by aligning and integrating our QIPS work with health system priorities to catalyze change that improves patient outcomes and experiences.
2. Advance the QIPS field by partnering with internal and external groups and organizations to expand our Centre’s program of research and scholarship and advance equity through QIPS research, education and practice.
3. Grow our community by establishing a QIPS learning network that fosters connections and collaboration within and across organizations and cultivating and nurturing a new and diverse generation of QI scholars and leaders.

To fully realize our strategic goals and achieve health system impact, we struck a better balance across our scholarship, learning and networking activities, and integrated these domains more deliberately in our work. Our strategic enablers – sustainable and diverse revenues, a community committed to excellence and learning, and renewed and extended strategic partnerships – were critical to our success.

Organizational Structure

CQuIPS Director
Brian Wong

Program Manager
Leahora Rotteau

Executive Committee

Dean of Medicine: Patricia Houston
Sunnybrook CEO: Andy Smith
SickKids CEO: Ronald Cohn
Women's CEO: Heather McPherson

IHPME Director: Audrey Laporte
DoM Chair: Gillian Hawker
Dept of Anesthesia Chair: Beverley Orser
Dept of OBGYN Chair: John Kingdom



Organizational Structure, Governance and Leadership Team

The CQuIPS leadership team consists of the director, program manager, associate directors, portfolio leads and full-time staff. The director and program manager oversee Centre operations. The three associate directors represent, and provide a direct link to, the three partner hospitals and contribute high-level strategic leadership. The portfolio leads and full-time staff operationalize CQuIPS activities within four portfolios: 1) Education and training; 2) Research and scholarship; 3) Networks and communication; and 4) Consulting and partnerships. As outlined in our strategic plan, we redistributed resources to place equal emphasis on education, research and networking activities, with consulting work and partnerships acting as key enablers of growth and impact.

For each of the Centre's portfolios we implemented a leadership dyad to oversee strategic, creative, and administrative activities. Each portfolio leadership dyad reports to the director and program manager. This governance structure ensures strategic alignment of each portfolio to the Centre's broader mission and vision and facilitates coordination and integration of portfolios to maximize growth and impact.

Leadership team (listed in alphabetical order by last name)



Bourne Auguste
Course Director and
Equity Theme Co-Lead



**Camille Borromeo
Denbigh**
Networks and
Communications
Portfolio Lead



Tara Burra
Education Portfolio Lead
and Equity Theme
Co-Lead



Joanne Goldman
Scientist and Healthcare
Improvement Fellowship
Co-Director



Lisha Lo
Research and Education
Coordinator



Mercedes Magaz
Quality Improvement
Specialist and Consulting
Portfolio Lead



Amanda Mayo
Associate Director,
Sunnybrook Site Lead



Sherri Mizrachi
Project Coordinator



Olivia Ostrow
Associate Director,
SickKids Site Lead
and Course Director



Upasana Panda
Research Assistant



Marie Pinard
Associate Director,
WCH Site Lead and
Course Director



Leahora Rotteau
Program Manager and
SQUIRE Co-Lead



Kaveh Shojania
Senior Scholar and
SQUIRE Co-Lead



Patricia Trbovich
Research Portfolio Lead



Mohita Vedhi
Education Coordinator



Brian Wong
Centre Director and
Course Director

CQuIPS Executive Committee

CQuIPS has an Executive Committee that meets 1-2 times per year and provides strategic guidance and advice to the director. Chaired by the dean of the Temerty Faculty of Medicine and consisting of seven members, the committee's mandate is to approve Centre mission, vision and goals, evaluate progress and strategies towards achieving those goals, and approve changes to the Centre's budget and governance structures. We updated the committee's membership in accordance with feedback provided in our 2018 academic review (see response to reviewers on page 26).

Executive committee members:

- Patricia Houston, Interim Dean, Temerty Faculty of Medicine (Chair)
- Ronald Cohn, President and CEO, SickKids Hospital
- Heather McPherson, President and CEO, Women's College Hospital
- Andy Smith, President and CEO, Sunnybrook Health Sciences Centre
- Audrey Laporte, Director, Institute of Health Policy, Management and Evaluation
- Gillian Hawker, Chair, Department of Medicine
- Beverley Orser, Chair, Department of Anesthesia
- John Kingdom, Chair, Department of Obstetrics and Gynecology

CQuIPS Partner Hospitals

CQuIPS greatly benefits from its partner hospitals. Each site has an associate director who provides a direct link to their respective hospital, contributes high-level strategic leadership for CQuIPS and supports Centre initiatives and activities. Other QIPS leaders and experts from partner hospitals collaborate on CQuIPS research, education and QI activities, extending our Centre's capacity to deliver on our strategic mission and vision and grow our program's impact. Sunnybrook provides office space for our full-time staff and in-kind support for finance, legal and human resources. SickKids provides office and teaching space for our in-person Certificate Course, Fellowship Program and in 2023, the in-person Annual Symposium.

During the COVID-19 pandemic, Sunnybrook CEO, Andy Smith and Women's College Hospital CEO, Heather McPherson were strong advocates for CQuIPS' involvement in the regional response to COVID-19. Their ongoing support and sponsorship have also been instrumental for the establishment of the TAHSN Quality Improvement Community of Practice (TAHSN QIPS CoP). By actively endorsing CQuIPS with other health system leaders, they have opened doors and created opportunities for our Centre.

Hospital for Sick Children (SickKids)

CQuIPS has provided QI mentorship, consultation and methodological support for a number of SickKids QIPS initiatives, such as the SickKids Choosing Wisely campaign as well as the Caring Safely program. In 2024, Olivia Ostrow provided QI consultation and expertise to the SickKids Centre for Global Child Health in support of the Shaw Centre for Paediatric Excellence (SCPE) and led an introductory QI workshop to support organizational QI development efforts in Barbados for pediatric healthcare.

CQuIPS leads the Co-Learning Curriculum in Quality Improvement Course for the Department of Paediatrics (see page 48 for more details), with Olivia Ostrow serving as the Course Director and Beth Gamulka serving as the Associate Course Director. Approximately 14 Paediatric divisions have participated annually since 2020, with faculty and residents working together to implement QI projects to improve quality at SickKids. Additional QI capacity building is achieved at SickKids through annual enrollment in CQuIPS education programs. Since 2020, 27 SickKids faculty, staff and trainees have completed advanced QIPS training through CQuIPS.

Several SickKids QIPS leaders have made important contributions to CQuIPS educational activities, including Beth Gamulka (Associate Director, Co-Learning Curriculum in QI), Lindsay Clarke (Design Thinking session for EQUIP), Sasha Litwin (Design Thinking Masterclass for CQuIPS+) and Erica Patterson (Annual Symposium planning committee member). Trey Coffey and Alene Toulany (former CQuIPS Associate Directors) are core members and remain active research collaborators with members of our Centre's research team.

“

Our partnership has resulted in numerous successful quality initiatives and the emergence of several current and future QI leaders in Pediatrics.

Lennox Huang
Chief Medical Officer,
Vice-President Education,
Medical and Academic Affairs,
The Hospital for Sick Children

Sunnybrook Health Sciences Centre (SHSC)

Over the past four years, CQuIPS has increased its involvement in organizational QI work in partnership with the Quality and Patient Safety (QPS) department at Sunnybrook. During the pandemic, Sunnybrook's Department of Quality and Patient Safety provided in-kind project management support for CQuIPS and Long-Term Care Plus (LTC+) (see page 94) to rapidly implement a novel fracture care pathway. More recently, CQuIPS researchers are partnering with the SHSC Office of Patient Experience to design and implement a novel approach for collecting narrative patient feedback data about care experiences with a particular lens towards equity and patient safety.

CQuIPS also supports capacity and community building activities at Sunnybrook. The Centre jointly hosts the yearly Quality Quest competition with the QPS department and Practice-Based Research and Innovation at Sunnybrook. This "Dragon's Den" style event provides project funding, data through Decision Support and CQuIPS coaching to winners so they can complete a QIPS project at Sunnybrook. CQuIPS also partnered with Adina Weinerman, Medical Director of QPS, to pilot an early career development program to increase scholarly output of Sunnybrook based QI activities. Since 2020, 35 Sunnybrook faculty, staff and trainees have completed advanced QIPS training through CQuIPS.

Several Sunnybrook leaders directly support the Toronto Academic Health Sciences Network (TAHSN) QIPS Community of Practice (CoP) (see page 86). Brigitte Hales, SHSC Director of QPS, is a member of the QIPS CoP steering committee and co-leads the Patient Safety workstream. More recently, Tamara Birkenheier, Director of Legal Services and Chair of TAHSN Legal, is co-leading an initiative to streamline and standardize data sharing processes to enable multi-site QIPS work.

“

CQuIPS brings academic rigor, collaborative spirit and a track record for getting the job done, elevating their impact beyond that of any other academic unit at the University of Toronto.

Andy Smith
President and CEO, Sunnybrook
Health Sciences Centre

Women's College Hospital (WCH)

Women's College Hospital has leveraged CQuIPS educational programs to help build organizational QI capacity. Specifically targeting nursing and health discipline staff, WCH has invested in providing opportunities for staff to participate in CQuIPS programs, preparing them for the successful execution of QI initiatives and to acquire fundamental QI skills including how to lead change. This approach is strengthened by a deliberate linkage with the Registered Nurses Association of Ontario's (RNAO) Best Practice Spotlight Organization (BPSO) knowledge translation strategy, which aims to improve healthcare outcomes by implementing evidence-based best practices across healthcare organizations. Since 2020, 13 WCH staff from diverse clinical backgrounds and programs have completed advanced QIPS training through CQuIPS. The partnership with CQuIPS also presented unique opportunities for WCH team members to develop QIPS expertise, such as serving as a QI coach in the Certificate Course, participating in multi-site initiatives, planning community-building activities such as the Annual Symposium, and providing QI consulting for other organizations.

CQuIPS team members also collaborated with clinicians and administrators at WCH to rapidly implement the Long-Term Care Plus (LTC+) program during the first wave of the COVID-19 pandemic (see page 94 for more details). The LTC+ program made important contributions as part of a coordinated regional response to COVID-19 within the LTC sector, and in 2023, received funding from Ontario Health and the Ministry of Long-Term Care to expand its services to support 75 LTC homes in the Ontario Health-Toronto region as part of a re-imagined LTC clinical support model of care.

“CQuIPS has played an important role in WCH's efforts to serve as a pivotal connector with the health system. Our shared leadership role in the LTC+ initiative and its success are a testament to our thriving partnership.

Jennifer Price
Vice President, Clinical Programs
and Corporate Nursing and
Professional Practice Executive
Women's College Hospital

CQuIPS Membership

CQuIPS members are vital to our Centre's success. They support our vision and mission and advance the QIPS field through their engagement in Centre-based research, education and QI activities. Their lived experiences – both professional and personal – allow them to bring a broad range of perspectives and ideas to our activities.

In 2021, we reviewed and updated our Centre's membership processes and guidelines to clearly define the level of contribution required to meet the criteria for our different categories. As part of our membership refresh, we have also set 2-year terms, recognizing that member activities change and evolve over time.

CQuIPS members receive a range of benefits, including the opportunity to have their work profiled or shared through CQuIPS channels, seek QIPS advice and support from our team, and be listed on our website. See Appendix 1.2 for our membership criteria.

Core members

Core members have a leadership role with CQuIPS, serving as a course director or core faculty for education programs or leading research and/or other professional activities embedded within CQuIPS. We currently have 13 core members, listed below:

- Nely Amaral, Senior Director, Nursing Practice and Clinical Quality, Sinai Health
- Chaim Bell, Physician-in-Chief, Sinai Health
- Trey Coffey, Associate Chief Medical Officer for Quality and Medical Affairs, SickKids
- Edward Etchells, Division Director, General Internal Medicine, Women's College Hospital
- Chandra Farrer, Quality Manager and Advanced Practice Physiotherapist, Women's College Hospital
- Beth Gamulka, Assistant Professor, Paediatric Medicine, SickKids
- Sonal Gandhi, Associate Professor, Medical Oncology, Sunnybrook Health Sciences Centre
- Jessica Liu, Division Director, General Internal Medicine, University Health Network
- Eric Monteiro, Associate Professor, Department of Otolaryngology-Head and Neck Surgery, Sinai Health
- Kelly Smith, Michael Garron Chair in Patient Oriented Research, Michael Garron Hospital
- Christine Soong, Medical Director of Quality and Safety, Sinai Health
- Alene Toulany, Associate Professor, Adolescent Medicine, SickKids
- Adina Weinerman, Chief Patient Experience Officer and Medical Director, Quality and Patient Safety, Sunnybrook Health Sciences Centre

“CQuIPS is synonymous with the highest degree of excellence in academic quality improvement. Being part of the CQuIPS family holds great value and enhances my academic career.

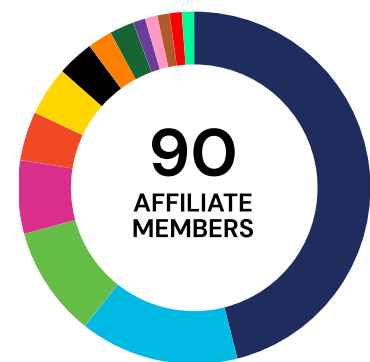
Christine Soong
Medical Director, Quality and Safety,
Sinai Health

Affiliate Members

Affiliate members actively support CQuIPS education, research or other professional activities, including through coaching and guest presenting or collaborating on a research or QI project. There are currently 90 affiliate members who work across 27 organizations. Many are physicians who work across multiple academic departments, including the departments of medicine, paediatrics, psychiatry, family medicine, obstetrics and gynecology and orthopedic surgery. Other professional backgrounds represented include nursing, healthcare management, medical laboratory technology, speech language pathology, research, legal and quality and safety.

See Appendix 1.3 for a full list of Affiliate Members.

Affiliate Members by Professional Background



- Medicine: 41
- Paediatrics: 13
- Quality and Safety: 9
- Nursing: 6
- Lab Medicine: 4
- Psychiatry: 4
- Obstetrics and Gynecology: 3
- Family Medicine: 2
- Orthopedic Surgery: 2
- Healthcare Management: 1
- Lab Technology: 1
- Legal: 1
- Research: 1
- Speech Language Pathology: 1

Affiliate Members by Organization	#
Baycrest	1
CAMH	1
Grand River Hospital	1
Holland Bloorview	1
Humber River Health	1
Lakeridge Health	1
McMaster University	1
Michael Garron Hospital	1
Montreal Children's Hospital	1
North York General Hospital	1
Ontario Health	1
Public Health Ontario	1
Quality thru Improvement	1
SickKids	15
Sinai Health	5
Sunnybrook Health Sciences Centre	17
The Royal Victoria Regional Health Centre	1
Trillium Health Partners	4
Unity Health Toronto	13
University Health Network	12
University of Calgary	2
University of Manitoba	1
University of Toronto	2
University of Western Ontario	1
Waypoint Centre for Mental Health Care	1
Women's College Hospital	3
Total	90

Emeritus Members

We created this category to recognize members who have made a significant impact on the Centre but are less involved in day-to-day activities. Emeritus members are invited members only. The two Emeritus members are Ross Baker (former Director of Research) and Anne Matlow (inaugural Associate Director, SickKids site).

General Membership

We maintained our general membership category for individuals whose "QIPS work and interests are aligned with those of the Centre". They receive regular updates as part of the broader CQuIPS community. As of June 2024, there are over 1194 general members.

“ My participation in CQuIPS has expanded my professional opportunities through development of leadership skills in quality improvement and fostering collaboration with other improvers.
 Chandra Farrer
 Manager, Quality, Safety and Patient Experience,
 Women's College Hospital



Major Milestones

2020

Brian Wong named CQuIPS Director

Women's College Hospital joins as 3rd partner hospital

Amanda Mayo, Olivia Ostrow and Marie Pinard named Associate Directors

Halted all routine CQuIPS operations with emergence of COVID-19

Established Long-Term Care Plus (LTC+) program

Converted all CQuIPS education programs to virtual format

Hired a Communications Lead and launched new Centre branding

Announced our renewed strategic plan "Quality for a Changed World"

2021

Appointed inaugural CQuIPS Research and Scholarship Lead

Received CIHR grant to evaluate the LTC+ program

Launched CQuIPS+ virtual learning hub

Partnered with Canadian Blood Services to create a national toolkit to increase organ donation

Established the CQuIPS Healthcare Improvement Fellowship

Collaborated with East Toronto Health Partners to create a community-based QI capacity building program

2022

Appointed inaugural CQuIPS Education Lead

Hired CQuIPS QI Specialist to lead consulting program

Launched the TAHSN QIPS Community of Practice

Supported launch of the Choosing Wisely Canada Using Labs Wisely program

Added a Choosing Wisely Canada stream to the CQuIPS Fellowship

2023

Awarded the Phil R. Manning Grant from the Society for Academic Continuing Medical Education

Sponsored a SPARK student (Sunnybrook Program to Access Research Knowledge for Black and Indigenous Medical Students)

Hired our first fulltime Research Assistant

Assumed oversight of the SQUIRE international writing guidelines

Hosted in-person CQuIPS Symposium for the first time in five years

2024

Received CIHR grant for a study related to equity considerations in safety monitoring systems

Surpassed 600 graduates of CQuIPS advanced QI training programs

QIPS, Research, Legal and Privacy developing an expedited TAHSN data sharing process to enable multi-site QI work

Preparing a draft equity framework for QI projects for TAHSN hospitals

Commitment to EDIIA

“Quality improvement without equity is a hollow victory.”

Kedar S. Mate
CEO, Institute for Healthcare Improvement

Equity is one of the six core aims of quality and is identified as one of CQuIPS’ strategic areas of focus.

We work to prepare QIPS leaders and clinicians to apply equity, diversity and inclusion lenses to their improvement work. Our leadership team engage in continuous learning from experts in community and partner organizations who are doing work in this field to gain a deeper understanding of health equity issues. Throughout this self-study document, we describe the ways that we have addressed EDIIA in all aspects of our Centre’s activities, including QI research, education and practice. Notable examples of how CQuIPS demonstrates its commitment to EDIIA include:

Equity-based CQuIPS leadership team training:

Our entire leadership team and course directors completed a 6-month, longitudinal equity training program, co-designed by members of our team and a Senior Advisor for the Temerty Faculty of Medicine’s Office of Inclusion and Diversity. The goals of the program were: (1) To create a shared understanding of social justice and inclusion-related concepts that can inform equity-oriented QI work; (2) To co-create approaches to incorporate health equity into the work of CQuIPS leaders, members and the broader QI community; (3) To advance the “Health Equity” theme of the CQuIPS Strategic Plan such that EDIIA considerations become a routine part of “how we do business in QI”. This training influenced many facets of our work including which initiatives and partnerships we prioritize, how we identify and recruit new faculty and coaches for our education programs, and how we hire for new roles.

Integration of EDIIA principles into CQuIPS education programs:

Our new education lead and course directors have integrated equity, diversity and inclusion principles into our education programs by evolving course content and teaching approaches. We also modified our QI project templates to include new prompts that encourage course participants to consider equity when carrying out their experiential QI projects. We employed a co-learning approach and invited project coaches and mentors to attend the equity session alongside course participants to build faculty capacity to support equity-based QI approaches. We have received two educational grants from Sunnybrook Health Sciences Centre and the Temerty Faculty of Medicine at the University of Toronto to evaluate the impact of our equity-based training.

Community-partnered co-design of QI education:

Along with members of the community, CQuIPS partnered with Michael Garron Hospital and the East Toronto Health Partners Ontario Health Team (OHT) to co-design an education program aimed at building QI capacity to address collaborative quality priorities. The program focused on building QI capacity to improve cancer screening rates and reducing associated inequities. Content included QI tools, data to identify and monitor QI priorities, strategies for integrating equity, and empowering participants as change agents. We collaborated with one community member who helped to co-design the overall program, facilitate breakout sessions and create and present content for a session in each workshop.

Research activities centered on equity-related QIPS issues:

We have collaborated on research that addresses equity-related quality and safety issues, including a scoping review on equity frameworks for QI, a qualitative study exploring ways to address social needs in general internal medicine patients, and partnering with the Patient Partnered Center for Diagnostic Excellence (PPDCE). In 2024, Patricia Trbovich and Joanne Goldman were awarded a 3-year CIHR grant totaling \$558,451 to examine how safety monitoring systems need to evolve to address equity-related safety concerns in hospitals across Canada. The diverse investigator group includes individuals from Ontario, Alberta, Quebec and British Columbia, including a patient partner as one of the co-principal applicants.

Fostering collaboration across TAHSN on equity-focused initiatives:

CQuIPS co-led the launch of a TAHSN-wide QIPS Community of Practice (CoP). The CoP has three initial workstreams, including one focused on equity. One of the major outputs of the equity workstream is the development of an equity framework for QI projects that we plan to share with TAHSN hospitals in the second half of 2024. Another initiative that grew out of the CoP involves a QI collaborative of teams across five hospitals working to improve language concordant care by increasing the appropriate use of professional interpretation services for patients with a non-English language preference.

Creating opportunities for equity-deserving medical students at CQuIPS:

In 2023 and 2024, CQuIPS sponsored one medical student per year as part of the Sunnybrook Program to Access Research Knowledge (SPARK) for Black and Indigenous Students. The SPARK program goals are to provide Black and Indigenous students who might not otherwise have the opportunity to engage in research or QI, with the opportunity to do so. In 2023, the first SPARK student Nimi Durowaye developed a simulation training program for nurses and collaborated on the scoping review of equity frameworks for QI. In 2024, Haben Dawit, the second SPARK student, will continue to work on the scoping review for equity frameworks and explore how equity-related QI initiatives are being disseminated and published.

Recommendations from Previous Academic Review

The external reviewers Dr. Jennifer Myers and Dr. Lisa Calder completed their review of CQuIPs in 2018. Overall, the reviewers were very positive in their assessment of the Centre, stating that it is “an exemplar for national and international centres wishing to build similar programs”. Their review identified several recommendations, which Dr. Trevor Young, Dean of the Faculty of Medicine, strongly endorsed. Listed below are the key findings from the review and the specific ways that CQuIPs addressed them.

RECOMMENDATION #1: RELATIONSHIPS

Although the reviewers commented that the relationships between CQuIPs and each of the cognate departments were “supportive and positive”, they did note that “there appear to be no formal and very little informal relationships with the research institutes or other universities”. They recommended there be at least one meeting each year of all the site-specific committees to address the siloed nature of these committees. In addition, they recommended that there be representation from each of the cognate departments on the Executive Committee.

CQUIPS RESPONSE

- Partnership and collaboration are key strategic enablers. As described in the Internal and External Relationships section, we have strengthened relationships with cognate research units and extra-departmental units (EDUs) at the University of Toronto (e.g., IHPME, Wilson Centre, CACHE, CFD, Collaborative Centre for Climate, Health and Sustainable Care, GEMINI and T-CAIREM) with concrete examples of collaborations around research and education. CQuIPs members have also collaborated with QIPS researchers and scholars based at many of the TAHSN partner hospitals, as well as working in a range of clinical departments (in particular the Departments of Medicine, Paediatrics, Family and Community Medicine, and Psychiatry). These have led to collaborative research projects with tangible outputs (including grants and papers), joint supervision of research students and partnering on educational activities.
- We broadened membership of the CQuIPs Executive Committee to now include the director of IHPME and the Chairs of several major departments (Medicine, Anesthesia, Obstetrics and Gynecology), in addition to the Dean of the Temerty Faculty of Medicine and the CEOs of the three partner hospitals. The Executive Committee meets 1-2 times per year to hear updates on progress made towards addressing strategic priorities and provide guidance to ensure a more unified vision for CQuIPs. At the site level, each site has an associate director who meets regularly with the hospital-based QIPS leaders and serves as a liaison between CQuIPs and its partner hospitals to ensure alignment and foster collaboration.

RECOMMENDATION #2: RESEARCH

The reviewers commended CQuIPs on scholarship quantity and quality. They made three recommendations related to research:

1. Increase opportunities for collaboration among CQuIPs researchers.
2. There is a need for more methodological support in the design of QI work and research. CQuIPs could consider establishing a methods centre which would provide advice on QI study design, data collection, qualitative research methods support and analytics support
3. Consider applying for a Canadian Institutes of Health Research (CIHR) team grant which could be administered by a CQuIPs principal applicant or co-principal applicants.

CQUIPS RESPONSE

- CQuIPs appointed a Research Lead (Patricia Trbovich) in 2021 to work alongside and mentor existing Research Team members (Joanne Goldman, Leahora Rotteau, Lisha Lo) and subsequently hired a QI Specialist (Mercedes Magaz) in 2022 and a Research Assistant (Upasana Panda) in 2023. This investment in expertise and personnel created research infrastructure to facilitate increased collaboration between CQuIPs researchers as well as increased opportunities for supervision of graduate students and improvement fellows. In the Research section, we outline different ways that CQuIPs researchers now collaborate to advance the Centre’s research mission. For example, 18% of grants received by CQuIPs researchers include two or more CQuIPs researchers as co-applicants.
- After careful consideration, we did not feel that we had the bandwidth to develop a “methods centre” in the areas of qualitative research and systematic/scoping reviews while simultaneously expanding our Centre-based research activities. However, recognizing the need within the wider CQuIPs community for this type of methodological support, we developed an internal process for prioritizing research projects that align with our Centre’s strategic vision and mission to lend methodological support.
- We recognized the need to sustain investments in the CQuIPs research enterprise by applying more regularly for larger grants to extend our team’s research activities and impact. Our new Research Lead, Patricia Trbovich, came to CQuIPs with a strong track record in building a research program through peer-reviewed grant funding. Through her mentorship and guidance, we successfully secured several large grants, including grants funded by CIHR, the Society for Academic Continuing Medical Education (SACME) and the Agency for Healthcare Research and Quality (AHRQ). These grants more than doubled the revenue generated through peer-reviewed funding to support research operations.

RECOMMENDATION #3: EDUCATION

The reviewers stated that CQuIPS is a national and international model for how an academic medical centre can build capacity in QI. They made the following recommendations:

1. Expand opportunities for interprofessional education for other healthcare professionals and teams in addition to physicians
2. Enhance networking opportunities for graduates, including focused efforts to engage in quarterly evening networking events for alumni, which could help extend the capacity of a limited pool of mentors
3. Consider establishing a consultation service for other Canadian, and even American, universities that would be interested in the advice of CQuIPS on how to set up educational programs in QI/QA

CQUIPS RESPONSE

- Consistent with our strategic focus on EDIIA, we made a commitment to increasing educational opportunities for health professionals and teams in addition to physicians. To achieve this goal, several barriers needed to be addressed. First, potential participants did not see their professional roles reflected in the course leadership, faculty and guest speakers. To address this concern, we appointed co-directors with nursing backgrounds for two of our three major certificate courses. Furthermore, our newly established improvement fellowship has two scientist co-leads. Additionally, one-third of Certificate Course coaches have professional backgrounds other than medicine. The other major barrier for interprofessional participation is cost, which CQuIPS has always taken into consideration. For example, the Certificate Course, which attracts the largest number of multiprofessional learners, charges physicians more for tuition than other health professionals. Our new Healthcare Improvement Fellowship does not charge any tuition to create more equitable access. As a result, Fellows have a range of professional backgrounds, including nursing, speech language pathology, pharmacy and medical radiation technology.
- Many of the community-building initiatives launched in the past three years directly benefit our growing network of alumni. These include CQuIPS+, the Healthcare Improvement Fellowship, the TAHSN QIPS Community of Practice (CoP) and the re-launch of the CQuIPS Annual Symposium, all of which have created numerous opportunities for CQuIPS alumni to network and benefit from additional professional development activities.
- We have developed a consulting service. However, we centered this service on organizational QI capacity building rather than helping others set up educational programs. This was due in part to our strategic priority focusing on directing our efforts towards addressing tangible health system needs. We also believe that there are greater opportunities to generate revenue from healthcare organizations rather than academic institutions. We hired a QI specialist in 2022 to build and oversee a robust revenue generating consulting program.

RECOMMENDATION #4: CAPACITY BUILDING

The reviewers expressed concern about ongoing mentorship capacity. The Program [CQuIPS] agrees there is a need for building mentorship capacity going forward. Towards that end, the Co-Learning Curriculum uses a stepwise approach to train faculty in the required teaching and mentorship skills to oversee QI Projects. The Program will also focus on leadership succession planning to prepare future leaders of CQuIPS. The reviewers commented that education for physicians and other healthcare professionals who work in non-hospital settings such as ambulatory care, mental health, and even dental health are “ripe for exploration”. Through collaboration with the Departments of Family Medicine and Psychiatry, the EQUIP Program will be made available to participants in primary care and mental health.

CQUIPS RESPONSE

- As mentioned earlier, we made efforts to both expand and diversify our mentorship capacity within all our QI education programs. For example, we have recruited and developed 51 individuals to serve as coaches for the Certificate Course over the past five years. Sixty-one percent are physicians and the remaining 39% have a variety of professional backgrounds, including nursing, physiotherapy, speech language pathology (see page 40). A number work in QI specialist and manager roles, while others are academically appointed Clinicians in Quality and Innovation across clinical departments at the University of Toronto.
- We have also made concerted efforts to work with the Departments of Family and Community Medicine (DFCM) and Psychiatry to increase participants with primary care and mental health backgrounds in our education programs. With respect to the DFCM, the Department Chair (Danielle Martin) and Vice Chair of Quality and Innovation (Tara Kiran) made funding available to support up to four DFCM faculty members to enroll in CQuIPS certificate programs in 2022–23, 2023–24 and again in 2024–25. Compared to 2017–2019 where only two family physicians enrolled in EQUIP, there were seven family physicians who participated in EQUIP between 2020 and 2023. With respect to psychiatry, we appointed Tara Burra, a staff psychiatrist at Sinai Health and the QI lead within the University of Toronto Department of Psychiatry, which has opened opportunities to build connections with those working in addictions and mental health. We have seen an increase in enrollment amongst psychiatrists in our EQUIP program as well.

RECOMMENDATION #5: ORGANIZATIONAL AND FINANCIAL STRUCTURES

The reviewers' comment on the current financial model as not allowing future growth. The Centre is seeking to establish new revenue streams. These include the QI Education initiatives, and targeted philanthropy. In addition, CQuIPS is exploring creative new funding models such as the newly established partnership with Sunnybrook and Choosing Wisely to fund a project lead who supports a core faculty and by expanding the number of sponsor institutions.

CQUIPS RESPONSE

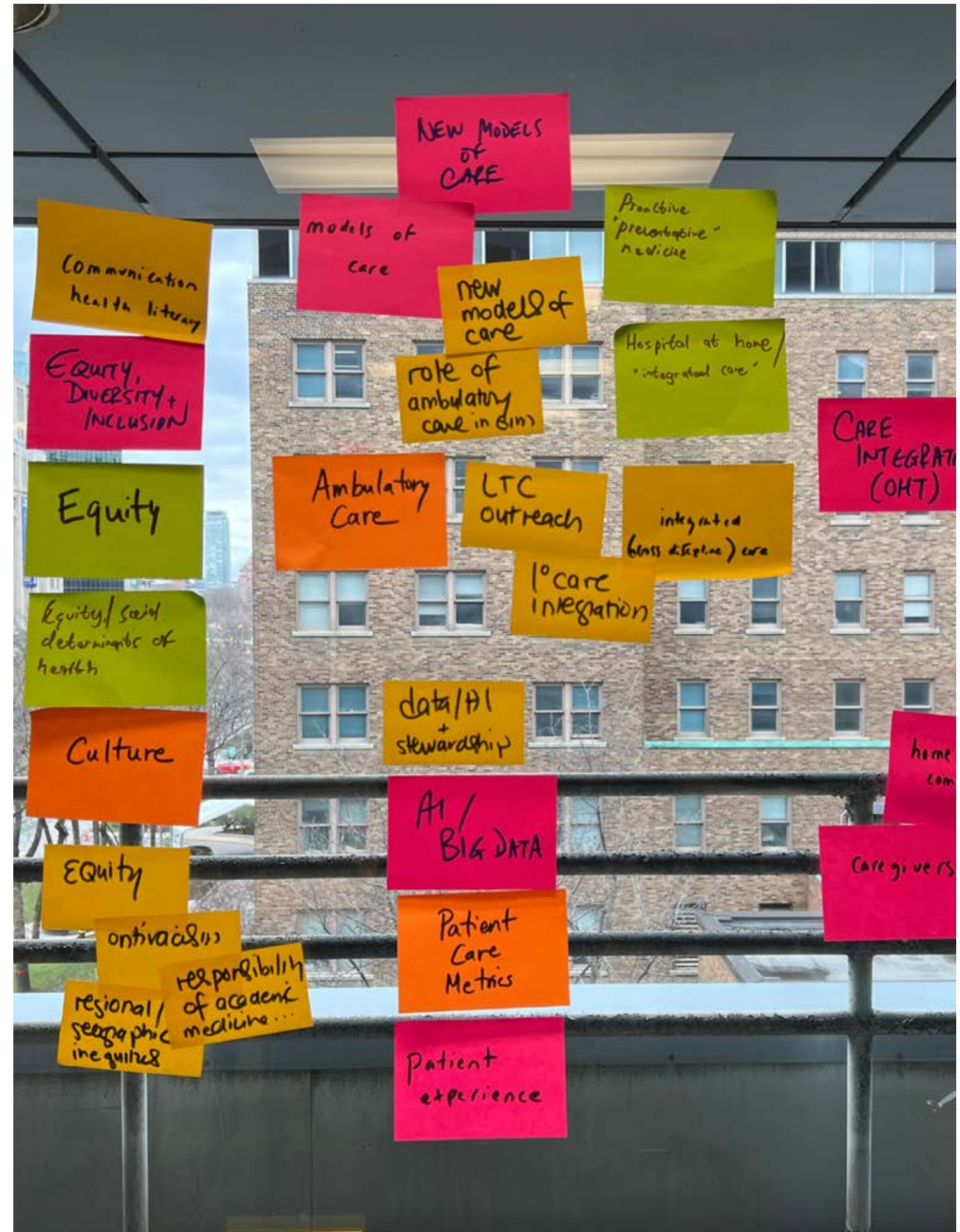
- In 2020, Women's College Hospital (WCH) joined as the third hospital partner for CQuIPS. This increased funding to CQuIPS by 25% with WCH contributing an equal share alongside existing partner organizations SickKids, Sunnybrook and TFOm.
- We were able to maintain revenue generated through our education programs despite major challenges faced because of the COVID-19 pandemic and the public health restrictions that limited our ability to run our programs. We also significantly increase revenue generated through research grants.
- The major growth in revenue came through our new consulting work and partnerships. These include organizational QI capacity building contracts signed with hospitals (Holland Bloorview, Michael Garron, Scarborough Health Network, St. Mary's Hospital) as well as new partnerships (Ontario Health, Choosing Wisely Canada, Canadian Blood Services). Together, these activities have grown our revenue significantly. We have initiated discussions with Choosing Wisely Canada, Ontario Health and TAHSN to build on existing partnerships and contribute base-funding to CQuIPS.

RECOMMENDATION #6: GOVERNANCE

The reviewers recommended expanding the current membership of the Executive Committee to Chairs of Cognate Departments (i.e., Surgery, Anesthesia) which the Program intends to do.

CQUIPS RESPONSE

- As mentioned earlier, the CQuIPS Executive Committee was expanded and now includes the dean of the Temerty Faculty of Medicine (TFOm), the CEOs of the three partner hospitals, the director of IHPME and the Chairs of several major academic departments (Medicine, Anesthesia, Obstetrics and Gynecology).



Education

We're educating future leaders, clinicians, practitioners and scholars in quality improvement and patient safety in Canada and around the world.





Educating the future of healthcare

Educating future leaders, clinicians, practitioners and scholars in QIPS has been a core priority for CQuIPS since our inception in 2009. CQuIPS' impact on QI capacity building is unparalleled. In 2024, we surpassed 600 alumni from our education programs.

Our alumni work across Canada and internationally, creating a strong network of QIPS leaders within and across healthcare systems. Over the last five years, we expanded our education program offerings to include a virtual learning platform called CQuIPS+ and a Healthcare Improvement Fellowship. To support this expansion and ensure oversight and alignment of our education programs, we appointed Tara Burra, Psychiatrist at Sinai Health and QI Lead for the Department of Psychiatry, as Education Lead in 2022. In addition to overseeing the Centre's education strategy, she brings expertise in EDIIA and co-leads the integration of equity into all education programs.

During the COVID-19 pandemic, we rapidly pivoted all education programs to a virtual format. We went to great lengths to modify course content and develop interactive teaching methods for the virtual environment (e.g., polls, annotation, breakout room discussions, etc.) to uphold our pedagogical approach to QI education that emphasizes interactive learning and small group discussions. Our ability to deliver exemplary virtual education increased our reach and further cemented CQuIPS' reputation as a world-class learning QIPS centre. Since 2021, our academic certificate program, EQUIP (Excellence in Quality Improvement Program), has been delivered as a fully virtual program, attracting learners from across North America. In 2021, we launched CQuIPS+, a virtual learning hub that consists of a monthly Speaker Series featuring local and

LEARNERS BY THE NUMBERS 2020-2024

408

Certificate

144

EQUIP

49

VAQS

28

Fellowship

629

Total Learners

international experts speaking on a range of cutting-edge QIPS topics, a series of Masterclasses on advanced QIPS topics, and a QI Fundamentals workshop.

We evolved what we teach in our QIPS educational programs to reflect current health system concerns by introducing topics such as artificial intelligence, planetary health and better health system coordination. Importantly, we also brought a major focus on EDIIA into all our education programs. Examples include sessions on equity for our certificate courses and fellowship, modifications to project templates to prompt equity considerations, as well as equity-focused sessions incorporated into CQuIPS+ and our Annual Symposium. We also continuously evaluate our education programs and inform their ongoing improvement with findings from our QI education research program. By examining the theoretical underpinnings of QIPS education, we ensure that our education program delivery is thoughtfully aligned with pedagogical approaches demonstrated to positively impact learning outcomes.

In an effort to ensure the project-based learning in our courses contribute to improved patient care and experiences, we have started to embed learners into organizationally aligned QI initiatives aimed at addressing health system needs. Examples of such projects include addressing vaccine hesitancy to increase uptake of the COVID-19 vaccine, increasing the use of professional interpretation for patients with non-English language preference, and implementing an integrated fracture care pathway to manage injuries in place for long-term care residents.

We established the Healthcare Improvement Fellowship in 2021, for emerging leaders who have already completed advanced training in QIPS. Through this program we strive to cultivate and nurture a new and diverse generation of QI scholars and leaders and strengthen their connection with CQuIPS to extend our Centre's reach and impact. After a successful first year, we partnered with Choosing Wisely Canada with support from the Ottawa Hospital Research Institute, to offer the Fellowship with two dedicated streams – a CQuIPS stream and a Choosing Wisely Canada stream. This partnership also allowed us to integrate a stronger focus on implementation science. As of June 2024, there are 28 current and past fellows, many of whom have made important contributions to CQuIPS research, education and QI activities and maintained their connection to our Centre beyond their involvement in the Fellowship.

Education Strategic Objectives

- Maintain international leadership in QIPS education by establishing novel approaches and designing and implementing impactful QI education programs
- Strive to ensure that our education programs are relevant, make a difference and are aligned with our partners' organizational priorities to catalyze change
- Cultivate and nurture a new and diverse generation of QIPS scholars and leaders

BUILDING STRENGTH IN QIPS AT THE UNIVERSITY OF TORONTO

2020 - 2024



The Hospital for Sick Kids



University Health Network



Sunnybrook Health Sciences Centre



Sinai Health System



U of T Residents and Fellows



Women's College Hospital



Unity Health Toronto



Michael Garron Hospital



Scarborough Health Network



Holland Bloorview Kids Rehabilitation Hospital



Trillium Health Partners



Baycrest



Humber River Health



North York General Hospital



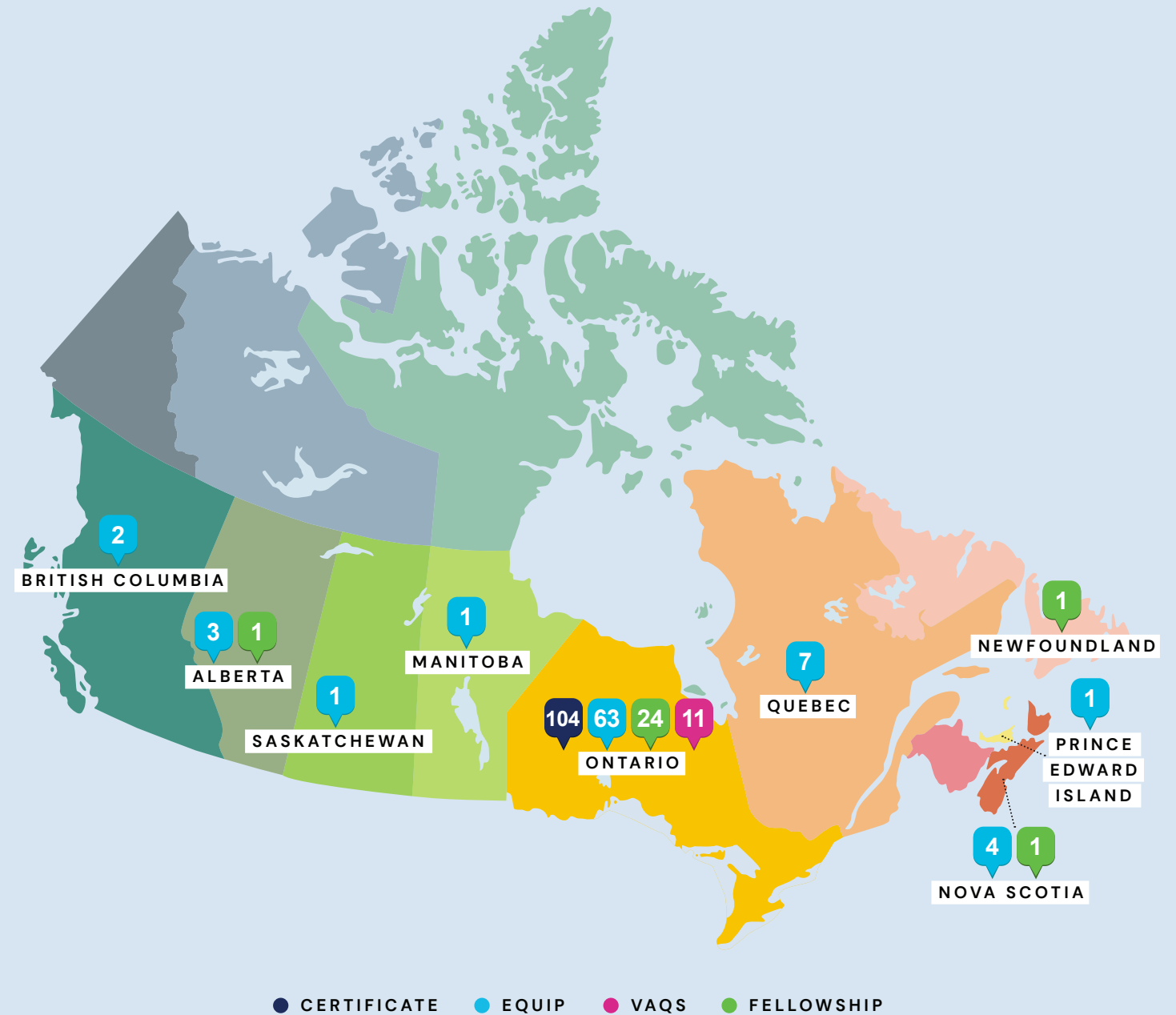
Centre for Addiction and Mental Health



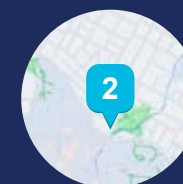
● CERTIFICATE ● EQUIP ● VAQS ● FELLOWSHIP

EXPANDING OUR REACH

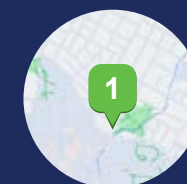
2020 - 2024



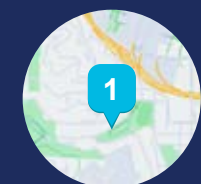
UNITED STATES



UNIVERSITY OF TEXAS
AUSTIN, TX



UNIVERSITY OF VERMONT
BURLINGTON, VT



OREGON HEALTH SCIENCES
PORTLAND, OR

Equity, Diversity, Indigeneity, Inclusion and Accessibility (EDIIA)

As part of our “Quality for a Changed World” strategic plan, we identified equity as a key strategic priority for all our Centre’s activities, including its integration across our CQuIPS educational programs and activities. This priority aligns fully with Temerty Faculty of Medicine’s educational mandate as it relates to the Excellence through Equity domain and its key objective to embed principles of equity and inclusion into curricula and teaching across the Faculty.

We have undertaken multiple actions to enhance equity in our education programs. As an initial step, we provided professional development to our course leadership group (e.g., course directors, program coordinators, core faculty) through a 6-month, health equity training program codesigned by members of our team and a senior advisor from the Temerty Faculty of Medicine’s Office of Inclusion and Diversity. We extended this professional development through a co-learning approach where we invited CQuIPS Certificate Course project coaches and mentors to attend the equity session alongside course participants to build faculty capacity to support equity-based QI approaches.

Our education leaders have led curricular changes to expand the equity content in our QI education programs, being purposeful in the application of relevant education paradigms. Specifically, we drew on a transformative paradigm of education to inform how we are teaching this content. We have incorporated dedicated sessions on equity for the Certificate Course, EQUIP and the Healthcare Improvement Fellowship and modified project templates to prompt equity considerations, reflections and actions. In addition, our review and revision of curricular material (including case examples, slide presentations, group exercises) was informed by the Health Equity and Inclusion Framework published by CAMH. Our research team is studying the impacts of these equity-focused curricular changes, funded by education research grants from Sunnybrook Health Sciences Centre and the Temerty Faculty of Medicine Education Development Fund.

Our commitment to equity in QI reaches beyond our core educational programs. For instance, our Annual Symposium featured a workshop called “Creating belonging: how to enhance the uptake of equity in quality improvement practice”. Additionally, the CQuIPS+ Speaker Series hosted talks such as “Leveraging race-based data to take action on inequities in mental health care” and “Engaging communities to reduce disparities in cancer screening in primary care”. In our selection and invitation of guest speakers across all education initiatives, we emphasize the diversity of professional backgrounds, roles, and perspectives to enrich our discussions.

“

The most valuable part of my fellowship has been my continued involvement with CQuIPS. I have been working with equity champions in Toronto to conduct a scoping review on equity frameworks. This experience has been vital in expanding my understanding of health equity, which has redefined my role as both an educator and a family physician.

Susanna Fung
Quality Improvement Director,
Department of Family & Community
Medicine,
Scarborough Health Network

Education Programs

CQuIPS is a leading training and learning centre globally. We train people at numbers greater than most QIPS centres internationally, offering a range of advanced QIPS education programs to meet the varied needs of learners seeking to make QIPS a career focus. There are four longitudinal QIPS education programs and one faculty-resident curriculum that CQuIPS supports for two of the largest TfoM departments. See Appendix 2.1 for a comparison of CQuIPS education programs.

1. Certificate Course in Quality Improvement and Patient Safety
2. Excellence in Quality Improvement Program (EQUIP)
3. Veterans Affairs Quality Scholars (VAQS) program
4. Healthcare Improvement Fellowship
5. Co-learning Curriculum in Quality Improvement (Departments of Medicine and Paediatrics)

We pride ourselves in offering the highest calibre QIPS education possible, as reflected in the consistently excellent evaluations. Learner feedback has highlighted several aspects of the ‘CQuIPS philosophy’ that contribute to our teaching excellence:

- Thoughtful blending of pedagogical approaches that prioritize interactivity and reflection to promote active learning
- Expert faculty with deep expertise and experience leading improvement work and an unparalleled commitment to QIPS education
- Course faculty and project coaches are clinicians working in a wide range of clinical settings who make the learning relevant
- Project mentorship and personalized support provided during and beyond course involvement

CQuIPS also has a well-established QIPS education research program that informs our course design and delivery to ensure that our education programs reflect the most up-to-date pedagogical approaches. This research program, led by Joanne Goldman, Brian Wong and Tara Burra, examines the theoretical underpinnings of QIPS education and evaluates the impact of different pedagogical approaches on learning outcomes. This research has also led to numerous peer-reviewed publications in leading QIPS and health professions education journals, further cementing CQuIPS’ reputation as a leading organization for QIPS education and training internationally.

“

Participating in the CQuIPS community as a QI coach is a great experience; keeping me engaged in new and exciting QI initiatives while also allowing me to network within the University of Toronto QI community.

Sarah Ward
Vice-Chair of Quality,
Department of Surgery,
University of Toronto

EDUCATION PROGRAM

Certificate Course in Quality Improvement & Patient Safety

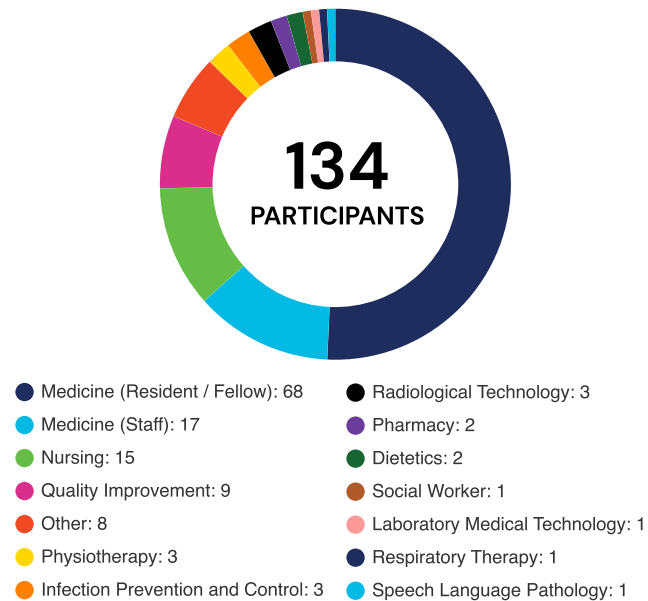


The Certificate Course in Quality Improvement & Patient Safety, established in 2009, is the Centre’s longest standing QIPS education program. The course includes 20 half-day sessions that combine didactic lectures, interactive exercises, small and large group discussions and guest speaker presentations (see Appendix 2.2.1 for the 2023–24 course syllabus). The in-person format allows participants to network with course faculty, coaches and other participants. Participants complete a QI project in their workplace, mentored by a faculty coach who provides one-on-one guidance and support throughout the year.

KEY ACCOMPLISHMENTS

→ **Surpassing 400 graduates in 2024:** As of June 2024, the Certificate Course has trained 408 people overall and 134 graduates since 2020. Course participants reflect a diversity of health professional backgrounds (see Figure). Half of the participants over the past four years are senior medical residents or clinical fellows at the University of Toronto. For a full list of Certificate Course learners see Appendix 2.2.3

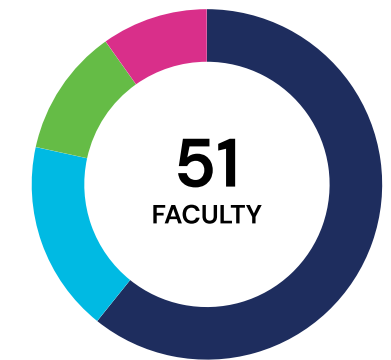
Course Participant Diversity



→ **Increased diversity of course faculty:** Consistent with our commitment to EDIIA, we recruited a more diverse faculty for the Certificate Course to better reflect the multiprofessional makeup of the course participants. The appointment of Marie Pinard as course co-director in 2022 made her the first Certificate Course director with a nursing background since the course’s inception in 2009. Our coaches have a wide range of professional roles and backgrounds; of the 51 coaches from the past five years, 61% are physicians (many of whom are academically-appointed Clinicians in Quality and Innovation) and the remaining 39% are health professionals working in quality improvement (see Figure).

→ **Transition to virtual format during COVID-19 pandemic:** The COVID-19 pandemic necessitated a rapid pivot to a virtual format. We modified course content and developed new interactive teaching methods for the virtual environment (e.g., polls, annotation, breakout room discussions, etc.) to uphold our pedagogical approach to QI education that emphasizes interactive learning and small group discussions. Our ability to adapt quickly allowed us to maintain steady enrollment through the pandemic. Course evaluations for the 2021-22 virtual format were excellent and averaged 4.3 out of 5, which increased to an average of 4.7 out of 5 when we returned to the in-person format in 2022-23 (see detailed comparison of 2021-22 virtual program vs. 2022-23 in-person program evaluations in Appendix 2.2.2).

Course Faculty Diversity



- Physician: 31
- Health Leader (Manager, Director, Practice Lead): 9
- Quality Improvement, Patient Safety, Risk Management: 6
- Frontline Nursing and Allied Health: 5

“
 As a mentor for the certificate program, I’ve enjoyed meeting students, and being part of their learning journey. The role of a mentor not only enriches the student’s experience, but also allows mentors to stay connected to emerging trends and challenges in healthcare
 ”

Genny Ng
 Manager, Quality & Patient Safety
 Sunnybrook Health Sciences Centre

EDUCATION PROGRAM

Excellence in Quality Improvement Program (EQUIP)

EQUIP was established in 2017 and targets academic faculty and senior trainees seeking to make QI their academic focus, and senior level health professionals working in academic health centres. The program consists of three full-day sessions in the summer, eight webinars throughout the year, and three additional full-day sessions in the spring (Appendix 2.3.1). Participants complete a QI project with mentorship provided by course faculty. In addition to advanced QI topics, EQUIP distinguishes itself from other QI education programs by including academically focused content on academic writing, teaching and supervising QI work and demonstrating academic productivity through QI.

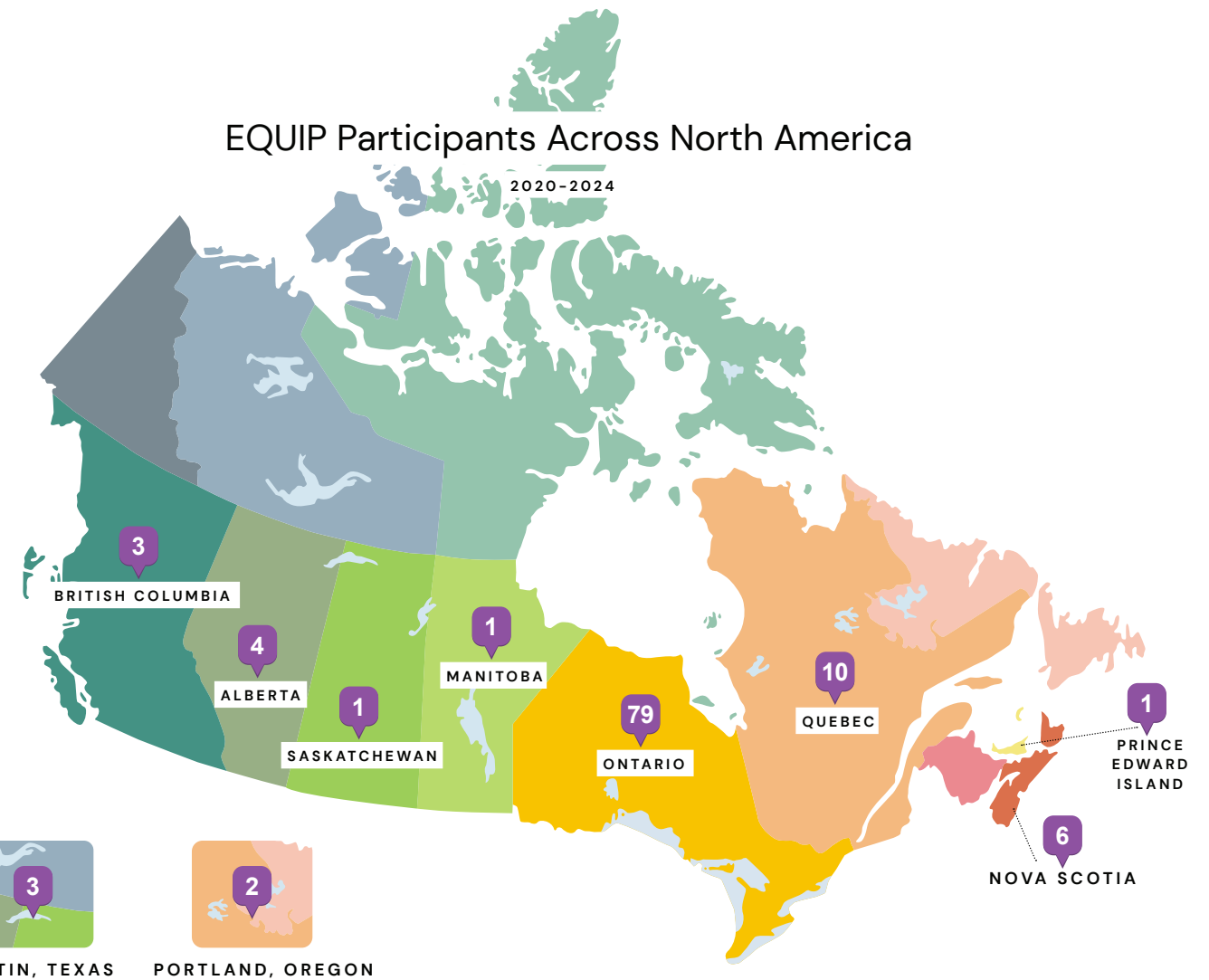
We transitioned to a fully virtual format due to the COVID-19 pandemic midway during the 2020 program which resulted in increased accessibility to EQUIP for participants outside Toronto. Thus, we made the decision to offer EQUIP as a fully virtual program since the 2021-22 cohort. Program evaluations improved from an average session score of 8.6 out of 10 in 2020-21 to an average session score of 9.1 out of 10 for both the 2021-22 and 2022-23 cohorts. See Appendix 2.3.2 for EQUIP session evaluation scores.

KEY ACCOMPLISHMENTS

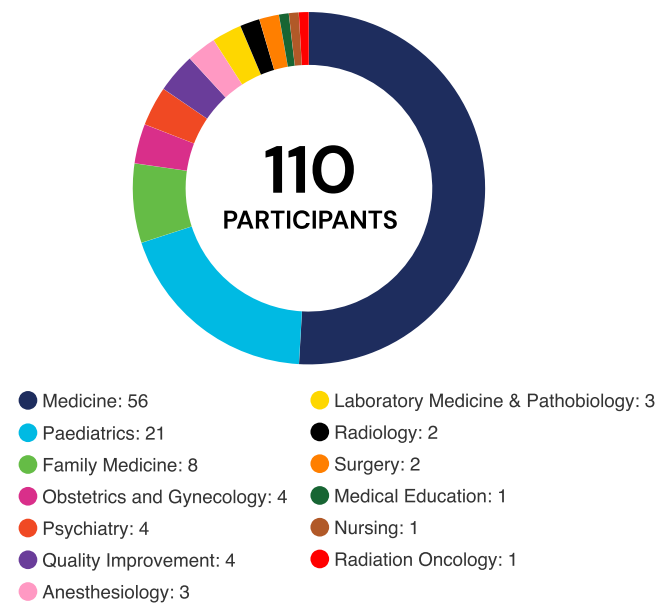
→ **Training the future leaders of QIPS across North America:** Since 2020, EQUIP has trained 110 clinicians and clinical fellows across 40 different disciplines who work in academic departments and institutions across North America. Course participants span all career stages, ranging from clinical fellows to full professors. EQUIP graduates have been appointed into academic faculty positions at prominent institutions, promoted based on their QI work, and assumed major leadership QI positions (e.g., medical director of Quality and Safety at academic hospitals, vice-chair of Quality Improvement for academic departments, QI Committee Chair within national specialty societies). For a full list of EQUIP learners see Appendix 2.3.3.

→ **Research productivity of EQUIP graduates:** Several EQUIP participants completed their projects and published them as peer-reviewed publications in leading clinical and QI journals, drawing upon the new skills related to both QI methodology and academic writing developed through participation in the EQUIP program.

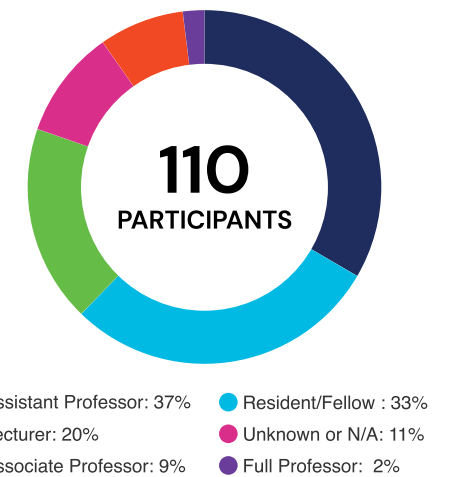
“
As useful as the content is, a huge benefit was the people I met, connections and networking and the mentorship that I got.
 Katie Gardner
 Director, Quality and Patient Safety,
 Division of Emergency Medicine
 IWK Health Centre
 Assistant Professor,
 Dalhousie University



Participants by Professional Background



Participants by Academic Rank



Examples of Published EQUIP Projects:

- Bhate TD, Sukhera J, Litwin S, Chan TM, Wong BM, Smeraglio A. Systems-Based Practice in Graduate Medical Education: Evolving Toward an Ideal Future State. *Acad Med.* 2024 Apr 1;99(4):357–362.
- Gardner K, Hurley KF. Impact of virtual care on planned rechecks in a pediatric emergency department: a quality improvement project. *CJEM.* 2024 Mar;26(3):156–163.
- Touré I, Maitre G, Boillat L, Chanez V, Natterer J, Ferry T, Longchamp D, Perez MH. Implementing a physician-driven feeding protocol is not sufficient to achieve adequate caloric and protein delivery in a paediatric intensive care unit: A retrospective cohort study. *Clin Nutr ESPEN.* 2023 Jun;55:384–391.
- You P, Liu J, Moist L, Fung K, Strychowsky JE. Improving Timeliness in Surgical Discharge Summary Distribution: A Quality Improvement Initiative. *OTO Open.* 2022 Oct 25;6(4):2473974X221134106.
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EDUCATION PROGRAM

Veterans Affairs Quality Scholars Program (VAQS)

The VAQS program has been training leaders and scholars in healthcare improvement for over 20 years. The VAQS program is designed as a 'hub and spoke' model – with a coordinating centre at the Houston Center for Innovations in Quality, Effectiveness, and Safety (IQuEST) at Houston Veterans Affairs (VA) and Baylor College of Medicine. There are ten sites (spokes) across the United States and Canada (CQUIPS is the only non-American site). This 2-year research training program is designed to nurture fellows and early-career faculty who would like to pursue academic careers in QIPS within the framework of leadership in medical administration, education or clinical practice. CQUIPS faculty run the local program and work in direct partnership with the VA Office of Academic Affiliations which oversees all VA Advanced Fellowship Programs.

The program consists of a 3-day intensive Summer Institute organized centrally by the VAQS coordinating centre for the national faculty and fellows to interact and learn from one another. Throughout the rest of the year, there are weekly 2-hour meetings, where VAQS fellows meet to discuss their QI projects or attend sessions delivered by local experts during the first hour and join a virtual session delivered across all VAQS sites during the second hour (see Appendix 2.4.1 for the course syllabus). VAQS fellows are also expected to design and develop a healthcare improvement research project throughout their 2-year involvement in the program. For a full list of VAQS scholars see Appendix 2.4.2.

KEY ACCOMPLISHMENTS

→ **The Summer Institute includes an abstract competition for fellows to present their VAQS projects.** Each year, all of the CQUIPS-based fellows are chosen to present their projects, which is a testament to the high quality of work being produced in Toronto.

→ **The Royal College of Physicians and Surgeons of Canada established an Area of Focused Competence (AFC) for Patient Safety and Quality Improvement in April 2020.** The AFC defines training standards for advanced QIPS education in Canada; graduates of a Royal College accredited AFC program receive a Diplomate of the Royal College of Physicians and Surgeons of Canada (DRCPSC) designation. CQUIPS is preparing to submit an application to the Royal College to recognize the VAQS program as an accredited AFC training program, the first of its kind in Canada.

Participants by Professional Background



- Medicine: 10
- Nursing: 2
- Occupational Therapy: 1
- Quality Improvement: 1
- Infection Prevention and Control: 1

EDUCATION PROGRAM

Healthcare Improvement Fellowship

CQuIPS established the Healthcare Improvement Fellowship in 2021, recognizing an expressed desire for mentorship and a greater sense of community after people complete their formal QI training. The Fellowship’s goals are to provide individuals who have completed advanced training in QIPS a professional development opportunity to grow their expertise and leadership in QIPS and develop a long-term connection with CQuIPS. Delivered in partnership with Choosing Wisely Canada (CWC) and supported by the Ottawa Hospital Research Institute, the Fellowship also brings into closer alignment the intersecting fields of QI and Implementation Science. The Fellowship format includes two full-day in-person sessions, which bookend a series of monthly virtual meetings and one hybrid full-day session throughout the year. (see Appendix 2.5.1 for the Fellowship agenda for 2023-24).

Designed to be mutually beneficial to participating fellows and CQuIPS, there is an expectation the fellows contribute to activities of strategic importance to the Centre in an area related to their professional interests. Examples include supporting Centre-led research, teaching within one of our education programs, serving on a committee, or participating in consulting work. This expectation has both created opportunities for CQuIPS fellows as well as expanded the Centre’s capacity to grow our activities and achieve our strategic goals.

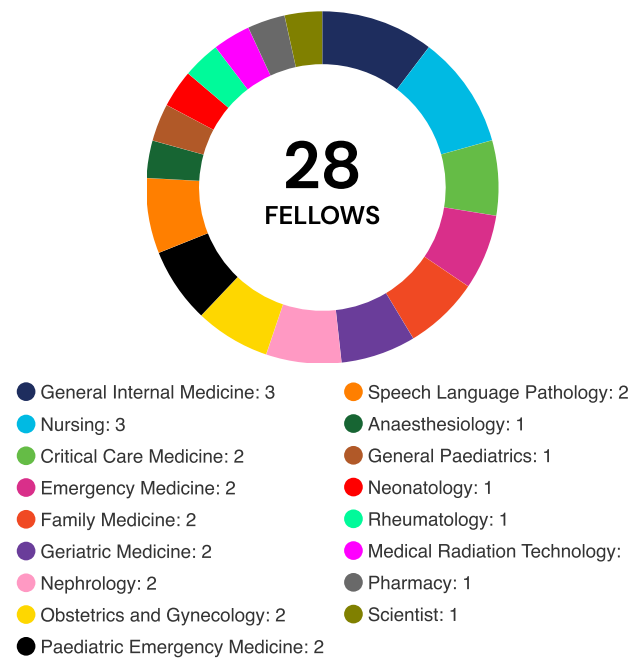
KEY ACCOMPLISHMENTS

→ **Diverse participant backgrounds:** Across 3 cohorts, there have been twenty-eight past and current fellows. They have varied professional backgrounds and roles. While many work in Toronto, we have also had fellows from Alberta, Nova Scotia, Newfoundland and Vermont. For a full list of Improvement Fellows see Appendix 2.5.2.

→ **Fellows have increased CQuIPS’ capacity to deliver on our education, research and networking objectives:** Fellows have maintained the connection with CQuIPS as affiliate members and contribute to a variety of CQuIPS activities. These include:

- ◊ Teaching in CQuIPS education programs (Thomas Bodley, Genevieve Bouchard-Fortier, Susanna Fung, Beth Gamulka, Katie Gardner, Ashraf Kharrat, Erica Patterson, Jennifer Wong)
- ◊ Contributing to CQuIPS research (Susanna Fung is a co-investigator on a scoping review to develop an equity framework for QI projects)

Fellows by Professional Background



- ◊ Supporting CQuIPS partnerships (Sam Vaillancourt and Maha Al Mandhari helping to develop a pan-Canadian program in partnership with the Canadian Blood Services to increase potential organ donor identification and referral rates; Jacqueline Follis served on the steering committee for the CASCADES QI Playbook for addressing environmental sustainability through QI)

→ **Fellows have taken on major leadership positions in QIPS:** Katie Gardner leads Choosing Wisely Nova Scotia, William Silverstein is the Teachable Moments Section Editor for *JAMA Internal Medicine*, Jacqueline Follis is the Nursing Lead for Choosing Wisely Canada.

“
The Fellowship provided advanced training in QI methodology, including qualitative methods and knowledge translation, which were vital for my work in physician wellness and health equity at my site.
 Susanna Fung
 Quality Improvement Director,
 Department of Family & Community
 Medicine,
 Scarborough Health Network



Co-Learning Curriculum in Quality Improvement

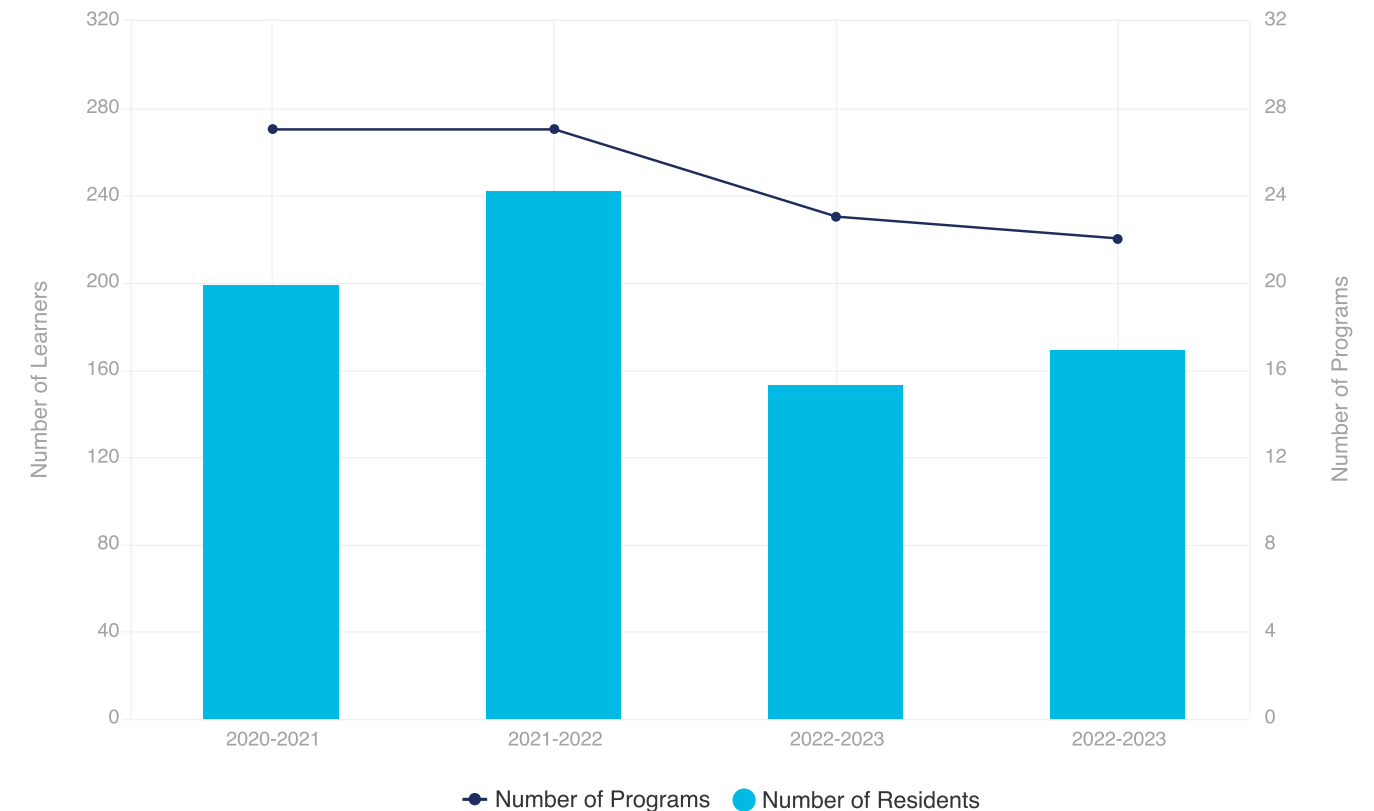
The Co-Learning Curriculum in Quality Improvement, first established in 2011 in the Department of Medicine, seeks to address the dual need to train medical residents in QI while simultaneously building faculty capacity to support and sustain QI education within the Departments of Medicine and Paediatrics. CQuIPS provides direct support to the Department of Paediatrics (funding for the course director and associate director as well as the curriculum coordinator) to deliver the Co-Learning Curriculum. Like all our other programs, the Co-Learning Curriculum in QI transitioned to a virtual format during the COVID-19 pandemic.

The program consists of two half-day workshops attended simultaneously by faculty and residents, delivered either in-person or virtually (varies by program based on their preference) scheduled in September and January. In-between workshops, faculty and resident team work collaboratively on a team-based project and receive written project feedback twice a year from the curriculum director. In June, the Departments of Medicine and Paediatrics jointly host a year-end celebration event that includes a keynote speaker, project elevator pitches, and project poster presentations. See Appendix 2.6.1 for the Paediatric Co-Learning Curriculum in Quality Improvement Syllabus.

KEY ACCOMPLISHMENTS

- **Since 2020, a total of 413 medicine and 355 paediatric subspecialty residents have participated in the Co-Learning curriculum across 36 subspecialty training programs.** The program has successfully built faculty capacity to support QI education through direct supervision of QI projects, assessment of QI project presentations and teaching the workshops. Since 2020, we have taught 118 faculty and prepared 32 faculty members in the Departments of Medicine and Paediatrics to teach QI workshops as part of the program.
- **Dissemination of the Co-Learning model within and outside the University of Toronto.** The program has spread to multiple departments at the University of Toronto (e.g., Surgery, Ophthalmology and Vision Sciences, Anesthesia, Radiology and Laboratory Medicine & Pathobiology), as well as other universities (e.g., Western University, McMaster University, Queen's University, Northern Ontario School of Medicine, University of Manitoba).
- **Resident QI projects have been accepted and presented at national and international conferences and resulted in peer-reviewed manuscripts.** As a testament to the program's success in engaging residents to complete QI projects, the *New England Journal of Medicine (NEJM)* invited Brian Wong to join a steering committee that included the editor-in-chief and three *NEJM* editorial fellows to establish a resident QI competition for the *NEJM* Resident 360 online platform. The challenge launched in 2020 and featured 90 posters from across North America (four of the top 11 finalists were Co-Learning projects arising from the University of Toronto Departments of Medicine and Paediatrics).

Number of Learners and Programs



Department of Medicine Training Programs

- Core Internal Medicine
- Coronary ICU - UHN
- Emergency Medicine
- Endocrinology
- Gastroenterology & Hepatology
- General Internal Medicine
- Geriatric Medicine
- Haematology
- Heart Function
- Heart Transplant
- Infectious Diseases
- Medical Oncology
- Multi-Organ Transplant
- Nephrology
- Neurology
- Physical Medicine & Rehabilitation
- Respiriology
- Rheumatology

Department of Paediatrics Training Programs

- Adolescent Medicine
- Clinical and Metabolic Genetics
- Developmental Paediatrics
- Paediatric Immunology & Allergy
- Medical Imaging
- Neonatology
- Paediatric Cardiology
- Paediatric Critical Care Medicine
- Paediatric Dermatology
- Paediatric Emergency Medicine
- Paediatric Medicine Division
- Paediatric Medicine Division (SCAN)
- Paediatric Gastroenterology, Hepatology & Nutrition
- Paediatric Urology
- Paediatric Nephrology
- Paediatric Respiriology
- Paediatric Rheumatology
- Paediatric Urology

CQuIPS+ Virtual Learning Hub

Before the COVID-19 pandemic, CQuIPS hosted a conference every fall. We invited international QIPS experts to deliver keynote presentations, featured oral and poster research presentations, organized skills-building breakout sessions and created time and space for networking. When the pandemic made it impossible to host our annual conference in person, we decided to take it online. CQuIPS+ was created as a virtual QIPS learning hub, where registrants could learn both synchronously and asynchronously from some of the leading QIPS experts locally and from around the world. The main CQuIPS+ educational offerings include a monthly Speaker Series, Masterclasses and a QI Fundamentals Workshop.

CQUIPS+ HIGHLIGHTS

- **The Speaker Series has featured 32 local and international experts since May 2021.** Topics have included patients as partners for diagnostic safety, engaging the public on the future of primary care in Canada, climate-focused sessions, and leveraging race-based data to act on inequities in mental health care. All talks are archived so that CQuIPS+ members can view them if they miss the live presentation. See Appendix 2.7.1 for a list of CQuIPS+ Speaker Series presentations.
- **Masterclasses offer focused skills-building on advanced topics related to QIPS, designed for people who work in QI.** Between 2022 and 2024, we ran 26 workshops and masterclasses, attended by 213 individuals, from over 60 different organizations from across North America. See Appendix 2.7.2 for a list of CQuIPS+ Masterclasses.
- **Delivered QI Fundamentals workshops in 2021 and 2022.** The Fundamentals workshop was created for individuals new to QIPS to learn and apply core concepts such as process tools, QIPS measures, change concepts and PDSA cycles. Due to ongoing demand for introductory QIPS virtual learning opportunities, we have decided to re-launch the QI Fundamentals workshop in 2024.



CQuIPS+ Masterclass Topics

- Analyzing and Displaying your QI Data: Showing Impact Over Time
- Artificial Intelligence in Quality Improvement
- Design Thinking Principles and Tools for Quality Improvement
- Developing an Assessment and Evaluation Plan for your QI Education Program
- From QI Project to Publication: Tips and tricks from BMJ Quality and Safety Editors
- Getting the Message Out: How to Strategically Use Social Media to Promote your QI work
- Implementation Science in Quality Improvement
- Optimizing Data Management for Improvement
- Publishing your QI Work Using the SQUIRE Guidelines
- QI Project Management from Start to Finish
- Qualitative Research Methods for Quality Improvement
- Using Planned Experimentation to Understand the Drivers of Change
- Using QI to Build Sustainable, Low Carbon, Resilient and Equitable Healthcare
- What is the Value Proposition for Quality? Building a Business Case in QI

“

As an emerging clinical and academic leader in quality improvement, I have participated in and benefitted from a wide array of CQuIPS+ Masterclasses which are well-designed and expertly led. I am grateful to CQuIPS for supporting my professional development.

Rosalie Steinburg
Deputy Chief, Psychiatry and
Co-Director, Quality Improvement, Department of Psychiatry
Sunnybrook Health Sciences Centre

Contributions to National and International QIPS Education Programs

CQUIPS leaders and core members are nationally and internationally-recognized QIPS educators. Through their participation with external organizations, they lead or contribute to numerous QIPS education programs or initiatives across North America.

Royal College of Physicians and Surgeons of Canada ASPIRE program

In his role as a CanMEDS Clinician Educator supporting the integration of QIPS competencies into residency education, Brian Wong directed the ASPIRE (Advancing Safety for Patients in Residency Education) faculty development program at the Royal College until 2018. The program was designed to help program directors, faculty members and residents implement a QIPS curriculum to meet the CanMEDS competency requirements for QIPS. Due to the COVID-19 pandemic, the ASPIRE program needed to pivot towards a virtual format. Brian Wong helped to modify the ASPIRE program content and contributed a re-designed “ASPIRE Essentials” virtual workshop that was delivered three times to over 150 participants from across Canada.

Choosing Wisely Canada STARS program

As the Medical Education lead for Choosing Wisely Canada (CWC), Brian Wong co-created Choosing Wisely Canada STARS (Students and Trainees Advocating for Resource Stewardship) in 2015. STARS is a medical student leadership program that enables student-led grassroots initiatives to advance resource stewardship awareness and training in medical education. To date, STARS has involved eight cohorts of student leaders totaling over 250 students from all 17 medical schools in Canada. Program impacts include implementation of curriculum changes, student-led conferences and creation of Choosing Wisely student interest groups. Collaborations with colleagues internationally have launched STARS programs in Brazil, Italy, Japan, the Netherlands, Norway and the United States, which collectively have engaged hundreds of student leaders globally. William Silverstein, a CQUIPS-CWC Healthcare Improvement Fellow in the 2022-23 cohort, now leads the program.

The Canadian Psychiatric Association

In 2023, Tara Burra collaboratively spearheaded the creation of a new Section on Quality, Innovation and Safety for the Canadian Psychiatric Association (CPA). The Section has become a meeting place for CPA members who seek to collaborate on system improvement, innovations in care, and interventions to improve patient safety. The Section membership currently includes psychiatrists and trainees from Alberta, Nova Scotia, Saskatchewan, Ontario, and Quebec. The section supports education in quality, innovation and safety through workshops, courses and symposia at the CPA Annual Meeting and is developing a position paper.

The Canadian Association of Physical Medicine & Rehabilitation

Each year for the past three years, Amanda Mayo has played a leadership role in organizing the National Resident QIPS Forum at the Canadian Association of Physical Medicine & Rehabilitation (CAPM&R). In addition to helping with program organization, she provides didactic teaching and project feedback to residents from across Canada. In 2023, 14 PM&R faculty members and 22 residents attended from eight universities from across Canada, including the University of Alberta, University of Calgary, Université Laval, McMaster University, Queen’s University, University of Saskatchewan, University of Toronto and Western University.

Association of American Medical Colleges (AAMC) Teaching for Quality (Te4Q)

Teaching for Quality (Te4Q) is a faculty development certificate program established in 2013 that trains clinical faculty how to effectively teach QIPS to students, residents, and other clinicians (Brian Wong was a member of the original steering committee that oversaw the creation of the program). In 2020, he was invited to join the Te4Q 2.0 Faculty Committee, the only Canadian representative amongst a group of 12 international QI education experts. The committee members revised the existing Te4Q faculty development program, including the presenter slides and participant workbook, and re-launched the Te4Q program in 2021. Brian Wong serves as a core faculty member of the program.

Accreditation Council for Graduate Medical Education Program Directors Patient Safety and Quality (PDPQ) Educators Network

In 2020, Brian Wong was invited to join the core planning team for the Program Directors Patient Safety and Quality (PDPQ) Educators Network (the only Canadian representative out of five members). He contributed to the design and implementation of PDPQ, a national learning network for program directors to advance their capacity to develop, model and evaluate resident engagement in QIPS. PDPQ has been implemented in seven specialties with approximately 100 US residency programs participating in the network. Brian Wong continues to serve as one of six expert faculty advisors for a group of 11 US internal medicine residency programs participating in PDPQ as part of the Alliance for Academic Internal Medicine (AAIM). Former EQUIP graduate Anne Smeraglio, a general internist at Oregon Health Sciences University, is one of the other expert faculty advisors.

New England Journal of Medicine Resident 360 QI Competition

As a result of the Co-Learning Curriculum in Quality Improvement program’s success in supporting residents to complete QI projects, the *New England Journal of Medicine (NEJM)* invited Brian Wong to join a steering committee that included the Editor-in-Chief and three *NEJM* editorial fellows to establish a resident QI competition for the *NEJM* Resident 360 online platform. The challenge launched in 2020 and featured 90 posters from across North America (four of the top 11 finalists were Co-Learning projects arising from the Co-Learning Curriculum at the University of Toronto).

Research

We aspire to be a leading QIPS research centre internationally, prioritizing research activities that align with our Centre's strategic focus on equity and health system resilience.





Advancing QIPS through research

CQUIPS aspires to be a leading academic QIPS research centre on the international stage. Over the past five years, we have published 325 peer-reviewed manuscripts in leading QIPS journals and received over \$40 million in research grants.

We prioritize research activities that have tangible impacts on health system needs and align with our strategic focus on equity and health system resilience. Given the complex and challenging nature of this work, we require innovative approaches and broad collaboration to have meaningful impact.

To realize our research goals, we appointed a research lead in 2021 and hired a full-time research assistant in 2023. We collaborated with researchers working in other academic departments, extra-departmental units, healthcare organizations and government agencies to extend our research activities and impact. These research collaborations span local, national and international groups and organizations. Compared to leading QIPS centers globally, CQUIPS demonstrates exceptional research productivity, outperforming many top peer institutions. For a full list of CQUIPS publications see Appendix 3.1.1.

Research Strategic Objectives

- Create more opportunities for CQUIPS researchers to collaborate with one another on Centre-led projects
- Increase opportunities for learners to complete their research training at CQUIPS at the undergraduate, postgraduate and graduate education levels
- Double revenue generated from research grants and other funding sources to support research operations

RESEARCH BY THE NUMBERS 2020-2024

325 Publications

20,884 Research Citations

85 h-index

595 i10-index

\$40,100,000

IN GRANTS RECEIVED BY CQUIPS RESEARCHERS 2020-2024

INTERNATIONAL \$18,742,987 ACROSS SEVEN GRANTS	
Agency for Healthcare Research and Quality (AHRQ)	\$13,226,505
American Orthotics Prosthetics Association	\$34,185
Department of Defense (US)	\$1,668,320
National Institutes of Health – National Institute on Aging	\$3,765,215
Society for Academic Continuing Medical Education (SACME)	\$48,762

NATIONAL \$17,698,282 ACROSS FORTY-EIGHT GRANTS	
Becton Dickinson Technologies Canada	\$295,460
Canadian Institutes of Health Research (CIHR)	\$15,908,045
Health Canada Substance Use and Addictions Program	\$15,300
Natural Sciences and Engineering Research Council of Canada (NSERC)	\$240,000
Royal College of Physicians and Surgeons of Canada	\$37,860
The War Amps	\$768,329
University of Calgary	\$10,000

LOCAL \$2,659,569 ACROSS THIRTY-FIVE GRANTS	
Associated Medical Services (AMS)	\$ 20,000
Centre for Addictions and Mental Health (CAMH)	\$60,000
Michael Garron Hospital	\$21,565
North York General Hospital	\$80,750
SickKids	\$166,418
Sinai Health	\$366,564
Sunnybrook Health Sciences Centre	\$1,365,089
University of Toronto	\$579,182

PROVINCIAL \$1,002,480 ACROSS SIX GRANTS	
Ontario Institute for Cancer Research (OICR)	\$94,980
PSI Foundation	\$907,500

40% OF GRANTS HAD A CQUIPS RESEARCHER AS A PRINCIPAL INVESTIGATOR OR APPLICANT

57% OF GRANTS HAD TWO OR MORE CQUIPS COLLABORATORS

Major Research Themes and Priorities

Major research themes and priorities fall within three broad categories:

- 1 **Advancing the scientific knowledge of QIPS practices and approaches**
- 2 **Equity, Diversity, Indigeneity, Inclusion and Accessibility**
- 3 **Health system resilience**

In the following section, we provide a high-level description of each research theme along with illustrative examples. While these do not encapsulate all research activities taking place at CQuIPS, they represent the major themes that align directly with our CQuIPS strategic mission and vision.

RESEARCH THEME & PRIORITY #1:

Advancing the scientific knowledge of QIPS practices and approaches

CQuIPS members publish research examining the scientific and theoretical underpinnings of QIPS practice and approaches. Examples include research studies that:

- Evaluated the impact of SBAR (situation-background-assessment-recommendation), a structured communication technique widely promoted to improve patient safety, on improving team communication. Study findings, published in *BMJ Open*, demonstrate that SBAR training does not consistently translate into routine use in the clinical setting.
- Summarized the evidence for the impact of clinical decision support systems on increasing recommended care and improving clinical endpoints. Despite widespread use as a QIPS intervention, improvements in the proportion of patients receiving desired care were modest, increasing on average by 6% across 108 studies. These findings were published in the *BMJ*.
- Examined the theoretical basis for QI education, challenging longstanding assumptions associated with experiential and interprofessional QI learning. Funded by the Royal College of Physicians and Surgeons of Canada, this program of research involved collaboration with other University of Toronto EDUs (CACHE, CFD, Wilson Centre) and IHPME, leading to publications in *Academic Medicine*, *Perspectives on Medical Education* and *Advances in Health Sciences Education*.

QIPS Education Studies Led by CQuIPS Researchers

- Strengthening the position of continuing education as a foundational element of QI
- Integrating health equity into QI education using a transformative approach
- Exploring the intersections and paradigms of interprofessional education and QI to advance continuing professional development
- Exploring the translation of QIPS competencies from CanMEDS 2015 to the standards for competency-based medical education training in Canada
- Understanding the use of theory in QIPS education
- Exploring interprofessional and multiprofessional approaches in QI education
- Understanding the role of experiential learning in project-based QI education: questioning assumptions and identifying future directions

RESEARCH THEME & PRIORITY #2:

Equity, Diversity, Indigeneity, Inclusion, Accessibility (EDIIA)

Reflecting CQuIPS's commitment to EDIIA, we have prioritized and contributed to research studies that explore the intersection between equity and QIPS. Key examples include:

Equity considerations in hospital-based patient safety monitoring systems

Growing out of discussions that took place within the TAHSN QIPS CoP equity workstream, CQuIPS researchers assembled a research team comprising clinicians (medicine, nursing, social work), researchers, patient safety leaders and patients from a wide range of disciplines (e.g., patient safety, human factors, social sciences, health services research) across three provinces (ON, AB, BC) to lead a collaborative program of research exploring equity considerations in hospital-based safety monitoring systems. The research team, led by CQuIPS researchers Patricia Trbovich, Joanne Goldman and Trey Coffey, received a 3-year CIHR grant totaling \$558,451 in 2024 to support this program of research. A critical interpretive synthesis of this topic is underway (protocol paper published in *BMJ Open*).

Developing an equity framework for QI projects

Individuals and teams need guidance on how to adapt existing methods, tools and approaches to address equity concerns through their QI work. While many frameworks have been proposed, they vary in their suggestions for how to bring an equity lens to augment QI work. A team of researchers, led by CQuIPS Education Lead Tara Burra, have undertaken a scoping review to create a 'meta-framework' for addressing equity concerns through QI. We plan to disseminate findings through the creation of a TAHSN Framework for Equity in QI and a publication of a peer-reviewed manuscript summarizing the findings of the scoping review. The framework will also inform the incorporation of equity into the international SQUIRE QI writing guidelines.

We have started to engage in research that includes patients and community members as active research team members.

Partnering with patients for equity-based research

One key principle emphasized in equity-based research is the active involvement of and partnership with patients and community members. Thus, we have started to engage in research that involves patients and community members as active research team members. For example, the CIHR grant recently received related to improving equity through hospital safety monitoring systems includes Allison Kooijman, a person with lived experience, as a co-principal investigator. CQuIPS, in collaboration with core member Kelly Smith, is also a partner organization of the Patient-Partnered Diagnostic Center of Excellence, funded by the Agency for Healthcare Research and Quality (AHRQ). The research is fully "patient-partnered," achieved through working with patients every step of the way, from co-developing research questions to co-designing solutions to the problems that are most important to them.

Evaluating the use of transformative approaches to integrate equity into QI education

In 2022, we appointed a new CQuIPS Education Lead (Tara Burra) and Certificate Course Director (Bourne Auguste) to lead the adoption of transformative approaches to integrate equity content into our two main certificate programs (the Certificate Course and EQUIP). Together with Joanne Goldman, they successfully applied for two educational grants from Sunnybrook and the University of Toronto, respectively, to characterize the ways that participants and faculty experienced the integration of equity into QI education, and the ways that this education influenced their future plans to incorporate equity into their QI work.

Equity-related QI publications

CQuIPS researchers have published over 20 papers since 2020 on the topic of equity and QIPS, including primary research, perspectives and commentaries, spanning a range of clinical areas including hospital medicine, primary care and paediatrics. For a full list of equity-related QI publications see Appendix 3.1.2.

Selection of Equity-Related QI Publications by CQuIPS Researchers

- Burra T, Soong C, Wong BM. Taking action on inequities: a structural paradigm for quality and safety. *BMJ Qual Saf.* 2024;33:351-353.
- Soong C, Horstman MJ. Introducing an addition to the family of quality improvement measures: Equity. *J Hosp Med.* 2024 Jan 20. doi: 10.1002/jhm.13283. Online ahead of print.
- Lyren A, Haines E, Fanta M, Gutzeit M, Staubach K, Chundi P, Ward V, Srinivasan L, Mackey M, Vonderhaar M, Sisson P, Sheffield-Bradshaw U, Fryzlewicz B, Coffey M, et al. Racial and ethnic disparities in common inpatient safety outcomes in a children's hospital cohort. *BMJ Qual Saf.* 2024 Jan 19;33(2):86-97.
- Campisi ES, Hong CJ, Monteiro E, Lin V, Russell B, Campisi P. A visiting otolaryngology team in northern Ontario - demographics, clinical presentation and barriers to access. *Rural Remote Health.* 2024 Jan;24(1):8574.
- Bailey K, Avolio J, Lo L, Gajaria A, Mooney S, Greer K, Martens H, Tami P, Pidduck J, Cunningham J, Munce S, Toulany A. Social and Structural Drivers of Health and Transition to Adult Care. *Pediatrics.* 2024 Jan 1;153(1):e2023062275.

RESEARCH THEME & PRIORITY #3:

Health System Resilience

CQuIPS research has evaluated interventions aimed at increasing health system resilience, defined as the system's ability and capacity to anticipate, prepare for, respond to and recover from pressures or unexpected events while maintaining essential functions and services to ensure optimal patient outcomes and experience. Key examples include:

Improving surgical safety, with a specific focus on understanding and aligning interventions for safety threats and resilience supports

Patricia Trbovich was awarded a CIHR Project grant entitled "Improving surgical safety: Understanding and aligning interventions for safety threats and resilience supports". Resilience supports (e.g., access to back-up equipment) enable workers to respond to unexpected disturbances to resume safe operations with a minimum negative impact. The main goal of this study is to improve surgical safety in our Canadian hospitals by identifying safety threats and resilience supports across multiple sites by analyzing operating room (OR) video recordings of surgeries in four Canadian hospitals to identify areas for improvements. The team will design and distribute an online pan-Canadian risk-assessment survey to assess operating room clinicians' perceptions of safety threats and resilience supports in their operating rooms. This will provide a national data source about the type, range, and amount of safety threats and resilience supports. The team will engage key health system stakeholders to strategize how best to implement the intervention recommendations to improve surgical safety.

During the COVID-19 pandemic, CQuIPS team members supported the implementation and evaluation of new models of care to support pandemic response efforts.

Implementing and evaluating interventions aimed at supporting pandemic response efforts

During the COVID-19 pandemic, CQuIPS team members supported the implementation and evaluation of new models of care to support pandemic response efforts. We successfully applied for research funding to evaluate interventions aimed at addressing urgent health system needs during the COVID-19 pandemic. Examples include research studies evaluating the LTC+ program funded by CIHR, (see page 94 for more details about the program), the IPAC Hub and Spoke model that integrated hospital-based infection prevention and control teams with congregate care settings during the COVID-19 pandemic to address the multiple system gaps that contributed to COVID-19 transmission, the provision of high-flow nasal cannula oxygen therapy on GIM wards to expand intensive care unit capacity during COVID surges, and efforts to maximize COVID-19 vaccine uptake using an equity-based QI approach.

Playing key leadership roles on a variety of resource stewardship research and practice-based initiatives both locally and nationally.

Olivia Ostrow has led the implementation and evaluation of several Choosing Wisely resource stewardship QI projects at SickKids. Examples include QI initiatives that successfully reduced inappropriate antibiotic prescribing in healthy children with febrile neutropenia, decreased misdiagnosis of urinary tract infection in the pediatric emergency department resulting in less antibiotic prescribing, and reduced unnecessary

respiratory viral testing (in the pre-COVID era). She has also collaborated with colleagues nationally and internationally to support resource stewardship research and practice-based initiatives, including a recent publication published in *Pediatrics* of a multicentre QI initiative involving 71 sites to reduce overuse of high-flow nasal cannula use in bronchiolitis.

Health System Resilience Publications

CQuIPS Researchers have published 29 articles on topics related to health system resilience, including commentaries and primary research across primary, acute, and long-term care. For a full list of health system resilience publications see Appendix 3.1.3.

Selection of Health System Resilience Publications by CQuIPS Researchers

- Byrd C, Noelck M, Kerns E, Bryan M, Hamline M, Garber M, Ostrow O, Riss V, Shadman K, Shein S, Willer R, Ralston S. Multicenter Quality Collaborative to Reduce Overuse of High-Flow Nasal Cannula in Bronchiolitis. *Pediatrics*. 2024 May 1;153(5):e2023063509.
- Incze T, Pinkney SJ, Li C, Hameed U, Hallbeck MS, Grantcharov TP, Trbovich PL. Using the Operating Room Black Box to Assess Surgical Team Member Adaptation Under Uncertainty: An Observational Study. *Ann Surg*. 2024 Jan 9. doi: 10.1097/SLA.0000000000006191. Epub ahead of print.
- Goldman J, Rotteau L, Flintoft V, Jeffs L, Baker GR. Measurement and Monitoring of Safety Framework: a qualitative study of implementation through a Canadian learning collaborative. *BMJ Qual Saf*. 2023 Aug 1;32(8):470-8.
- Wong BM, Rotteau L, Feldman S, Lamb M, Liang K, Moser A, Mukerji G, Pariser P, Pus L, Razak F, Shojania KG, et al. A Novel Collaborative Care Program to Augment Nursing Home Care During and After the COVID-19 Pandemic. *J Am Med Dir Assoc*. 2022 Feb;23(2):304-307.e3.
- Soong C, et al. Reducing Sedative-Hypnotics Among Hospitalized Patients: a Multi-centered Study. *J Gen Intern Med*. 2022 Aug;37(10):2345-2350.
- Silver S, Amaral N, et al. Simulation-Based Learning During COVID-19: A Teaching Strategy for Protected Code Blues. *J Contin Educ Nurs*. 2020 Sep 1;51(9):399-401.p 3;37(5):715-724.

New and Expanded Research Collaboration

Fostering new connections between researchers in the CQuIPS community

We strengthened existing research collaborations and established many more new ones, resulting in greater research productivity and impact. CQuIPS researchers, which include leadership team and core members, now routinely collaborate on research grant applications and co-author peer-reviewed publications together, leading to a program of research whose whole is greater than the sum of its parts. The network map below shows the extent and strength of research collaborations between CQuIPS researchers.

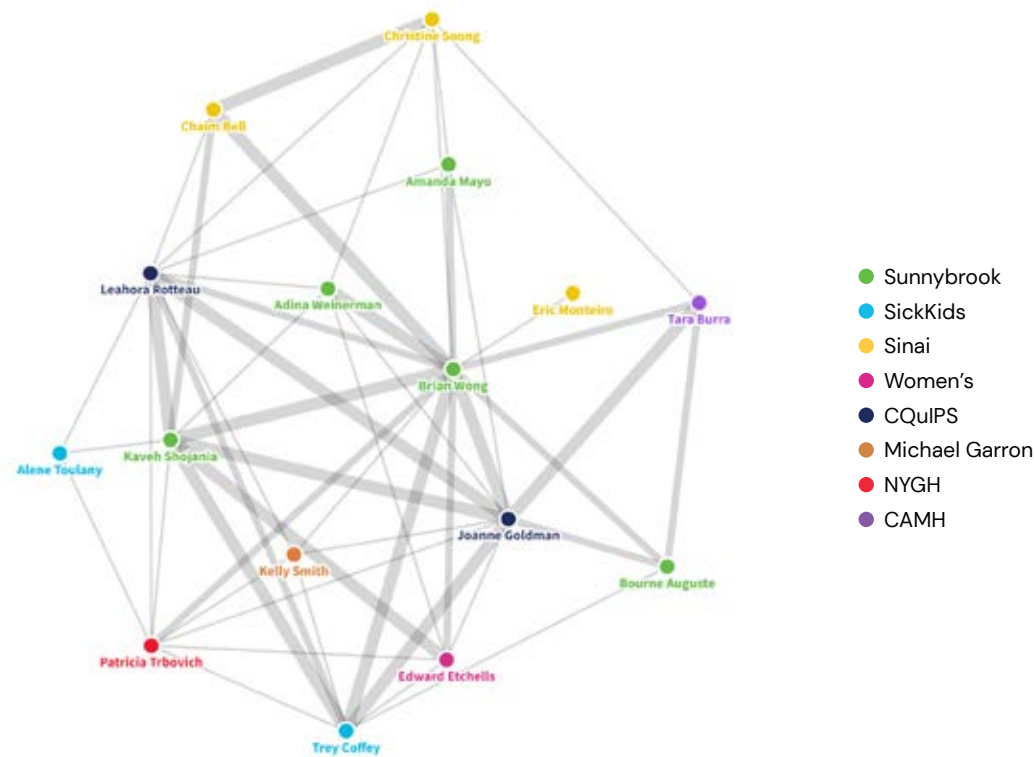
We have also fostered new connections between CQuIPS alumni and members that otherwise may not have occurred, making CQuIPS a place QIPS researchers turn to when seeking out opportunities to work with others. These collaborations exist at the local, provincial, national and international levels.

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The need for CQuIPS goes beyond measure, providing invaluable support to keep pushing, advocating and advancing the quality of our healthcare system.

Kelly Smith
Interim Chief Scientific Officer and Michael Garron Chair in Patient Oriented Research, Michael Garron Hospital

Collaborations by CQuIPS Researchers



CQuIPS Research Collaborations

LOCAL



NATIONAL



INTERNATIONAL



Local Research Collaborations

Research Collaboration	Examples
Local	
University of Toronto Extra departmental Units (EDUs)	<ul style="list-style-type: none"> Study exploring intersections and paradigms of interprofessional education and QI co-led by Joanne Goldman and CACHE Director Stella Ng, with co-investigators from CQuIPS, CACHE and CFD. Joanne Goldman and Brian Wong are co-principal investigators on a study funded by a SACME grant focused on strengthening the position of continuing education as a foundational element of QI. Collaborators include researchers from CACHE and the Wilson Centre.
Partner Hospitals (i.e., SickKids, Sunnybrook, Women's)	<ul style="list-style-type: none"> The LTC+ evaluation, funded by a CIHR grant, represents a collaboration between WCH, GEMINI and CQuIPS researchers. Joanne Goldman and Leahora Rotteau are developing a pilot program that uses an equity-based approach to collect patient experience data at Sunnybrook in partnership with Adina Weinerman (Chief Patient Experience Officer) and Bertha Effio (Patient Experience Advisor). Leahora Rotteau and Joanne Goldman led a qualitative study evaluating the implementation of SickKids' Caring Safety program based on high-reliability organization principles, with Trey Coffey, SickKids Medical Officer for Patient Safety, acting as senior investigator.
Researcher and/or research teams at TAHSN hospitals	<ul style="list-style-type: none"> Multi-year collaboration with Michael Garron Hospital and a broader team at the East Toronto Health Partners OHT led by Kelly Smith, Michael Garron Research Chair in Patient Oriented Research, to evaluate community-partnered education programs to build QI capacity. Scoping review led by Tara Burra includes researchers from the CAMH, IHPME, Scarborough Health Network, Sinai Health, Sunnybrook Health Sciences Centre and Unity Health. Lisha Lo contributed to a surgical safety systematic review led by Patricia Trbovich with the HumanEra research group at North York General Hospital.
GEMINI	<ul style="list-style-type: none"> Brian Wong and Patricia Trbovich are co-principal applicants alongside GEMINI Co-Leads Fahad Razak and Amol Verma on a CIHR-funded project evaluating the implementation of an automated tool powered by artificial intelligence to measure hospital delirium rates.

National and International Research Collaborations

Research Collaboration	Examples
National	
Researchers at other Universities	<ul style="list-style-type: none"> Patricia Trbovich is the nominated principal applicant and Joanne Goldman and Trey Coffey are co-principal applicants on a 3-year CIHR grant to improve the detection of equity-related safety events using hospital safety monitoring systems; research collaborators include researchers based at the University of Toronto, University of British Columbia and University of Calgary. Alene Toulany is principal applicant on a CIHR grant to produce a key set of quality indicators to improve transition from paediatric to adult care for youth and their families equitably in Canada. Research collaborators include those based at the University of Calgary, University of Alberta, and McMaster University.
Choosing Wisely Canada	<ul style="list-style-type: none"> Adina Weinerman, Lisha Lo and Brian Wong are supporting the evaluation of the Using Labs Wisely collaborative program, being led by researchers at the Ottawa Hospital Research Institute and Choosing Wisely Canada.
Canadian Blood Services	<ul style="list-style-type: none"> As part of a broader initiative to improve organ donor identification and referral rates across Canada, Leahora Rotteau and Improvement Fellow Samuel Vaillancourt co-led a positive deviance study to identify enablers of potential organ donor identification and referral (ID&R) to inform the creation of an implementation toolkit.
Healthcare Excellence Canada (HEC)	<ul style="list-style-type: none"> Joanne Goldman and Leahora Rotteau, with Emeritus Member Ross Baker, co-led a study examining the adaptive work of implementing the Measurement and Monitoring for Safety Framework in diverse healthcare contexts across Canada through a learning collaborative program led by Healthcare Excellence Canada.
International	
Patient Partnered Centre for Diagnostic Excellence (PPCDE)	<ul style="list-style-type: none"> CQuIPS is a partner organization as part of the AHRQ-funded Patient Partnered Center for Diagnostic Excellence, with Michael Garron Hospital, the University of Toronto, Baylor College of Medicine and MedStar Health serving as lead organizations; Lisha Lo plays a central role in supporting three scoping reviews being conducted by PPCDE researchers.
American Academy of Pediatrics (AAP)	<ul style="list-style-type: none"> Olivia Ostrow collaborates with researchers across North America through the AAP Pediatric Acute and Critical Care Network, to implement and evaluate QI interventions aimed at reducing low-value care in paediatrics. Several of these initiatives have resulted in peer-reviewed publications, including a recent article demonstrating reduced unnecessary high-flow oxygen use across 71 hospitals.

Support of Research Activity

During our first 10 years, research supervision was mostly opportunistic. Most research supervised by CQuIPS researchers occurred as part of their independent programs of research rather than as part of their involvement with CQuIPS. However, with the appointment of a Research Lead and hiring of new personnel, we established a more formal research infrastructure and programs of research. This allowed us to provide research training at several levels:

Healthcare Improvement Fellowship

For Fellows who identified research goals, we created opportunities for them to engage in CQuIPS research or provided mentorship to them to support their QIPS research activities.



Allison Brown (2021–22 Fellow) is an assistant professor in the Cumming School of Medicine at the University of Calgary. She wrote an invited commentary for *Clinical Teacher* on the application of QI methods to improve health professions education. (Brian Wong was asked to write the commentary and invited her to write the commentary).



Sam Vaillancourt (2021–22 Fellow) is the QI Lead for Emergency Medicine at Unity Health. He supported a CQuIPS research study conducted as part of a collaboration with Canadian Blood Services. He co-led a qualitative positive deviance study across three provinces to establish effective strategies to increase potential organ donor identification and referral rates.



Susanna Fung (2022–23 Fellow) is a family physician and QI Lead at Scarborough Health Network. She is a co-investigator on a scoping review led by Tara Burra to develop a framework for integrating equity into QI projects.



Tahara Bhate (2022–23 Fellow) is an emergency medicine physician at University Health Network who collaborated with Anne Smeraglio (EQUIP Alumni from Oregon Health Sciences University) to write an invited commentary on the future state of systems-based practice in graduate medical education, published in *Academic Medicine* (Brian Wong was asked to write the commentary and invited her to write the commentary).



Katrina Piggott (2022–23 Fellow) is a geriatric medicine physician at Sunnybrook Health Sciences Centre and a fellow in the Choosing Wisely Canada stream, who wrote a commentary published in the *BMJ* that summarized different strategies for reducing unnecessary urine culture testing, a known driver of inappropriate antibiotic prescribing in long-term care.



Sonia Rodriguez-Ramirez (2023–24 Fellow) is a transplant nephrologist at the University Health Network who has been integrated in the CQuIPS team overseeing research that will inform revisions to the SQUIRE international QI writing guidelines. She participated in the environmental scan of journal websites and will support a literature synthesis as part of the project.



Jennifer Wong (2021–22 Fellow) is a clinical speech-language pathologist and the professional leader for speech language pathology at Sunnybrook Health Sciences Centre. She authored an article entitled “Planning for Hospital-Based Speech-Language Pathologists: Emerging Lessons from Coronavirus Disease” published in the *Canadian Journal of Speech-Language Pathology and Audiology*.

Graduate Student Supervision

CQuIPS researchers started to supervise graduate students, both as primary supervisors and through co-supervision models. The recent CIHR grant received by Patricia Trbovich and Joanne Goldman provides us with funding to hire PhD or post-doctoral students to study at CQuIPS – the first student will start in September 2024. Graduate students supervised by CQuIPS researchers include:



Kathrine Carstensen is A PhD student studying at Aarhus University in Denmark co-supervised by Joanne Goldman and Ross Baker. She completed a 6-month placement at CQuIPS. Her project, a qualitative study exploring synergies between projects of professionalization and institutionalization in QI collaborative implementation in Denmark, was recently published in the *Journal of Health Services Research & Policy*.



Julie La is a general surgery resident and PhD student studying in the QIPS PhD program at Queen’s University supervised by Joanne Goldman. She completed an internship at CQuIPS and supported the research study led by CQuIPS Improvement Fellow Allison Brown involving a cross-specialty analysis of Entrustable Professional Activity guides to describe the integration of QIPS milestones. After completing her internship, she continued her research collaboration with CQuIPS as a co-investigator on a SACME-funded grant led by CQuIPS researchers Joanne Goldman and Brian Wong.



Brandon Tang is a general internist and Master of Medical Sciences in Education student at Harvard University co-supervised by Brian Wong. His project seeks to link learning and clinical outcomes in medical education by harnessing the GEMINI dataset to validate the use of resident-sensitive quality measures in internal medicine training.

Sunnybrook Program to Access Research Knowledge (SPARK) student



The Sunnybrook Program to Access Research Knowledge (SPARK) for Black and Indigenous Medical Students provides a highly supported experience for University of Toronto Black and Indigenous medical students to engage in research. The goals of the program are to provide Black and Indigenous students who might not otherwise have had the opportunity to engage in research or QI, with the opportunity to do so, and to increase and support Black and Indigenous representation in the field of medical research and QI. CQuIPS sponsored two SPARK students, Nimi Durowaye in 2023–24 and Haben Dawit in 2024–25.



Benchmarks of Research Success

Beyond traditional metrics of research impact (namely publications and grants described above), we define research success for CQuIPS more broadly to encompass the following:

CQuIPS research has had a direct impact on health systems and patient care:

CQuIPS engages in research that is highly relevant to the health system patient care, as demonstrated through several initiatives led during the pandemic and beyond. For example, the evaluation of the LTC+ program, which we published in the *Journal of the American Medical Directors Association* (highest impact factor post-acute care journal), informed major investments made by Ontario Health-Toronto Region and the Ministry of LTC to expand and realign LTC support services to bring about greater integration of services provided by eight hospitals for 75 LTC homes in Toronto.

New revenue generated to support research activities:

As outlined in our strategic plan, a key enabler for CQuIPS was to diversify our revenue sources. Through our investment in building research infrastructure, we were able to increase revenue by applying for more grants and lending methodological expertise (qualitative methods, scoping review methods, statistical process control) to support work being led by other QIPS researchers. See Appendix 3.2 for a list of CQuIPS related grants.

International recognition as a leading QIPS research unit:

CQuIPS research productivity, as measured through the number of publications per member, compares extremely favorably to leading QIPS research units internationally (see page 72). Kaveh Shojania, is Editor Emeritus of the *BMJ Quality & Safety (BMJQS)*, the highest impact journal in the field; Patricia Trbovich and Christine Soong also serve as Associate Editors for *BMJQS*. In 2023, CQuIPS assumed oversight of the SQUIRE international QI writing guidelines (see page 71), making us the international standard bearer for QI and cementing our Centre's reputation as a global leader in QIPS research.

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Partnering with CQuIPS to develop innovative models of care has been a tremendously positive experience. The CQuIPS team has deep expertise in quality improvement, and by being clinician-led, they simply “get it” when it comes to implementing change in real-world clinical environments.

Amol Verma and Fahad Razak
GEMINI Co-Leads,
University of Toronto

SQUIRE International Writing Guidelines

In October 2023, CQuIPS officially took on the oversight of SQUIRE (Standards for Quality Improvement Reporting Excellence), the international publication guidelines for the reporting of QI research and scholarship. As a testament to the guideline's international scope and reach, the current version, SQUIRE 2.0, is listed on the EQUATOR Network's main website page (the EQUATOR Network is the foremost authority on academic writing and reporting guidelines). Moreover, SQUIRE 2.0 was concurrently published in 12 high impact healthcare journals in 2015 and has since been cited over 2,500 times. Taking on SQUIRE positions CQuIPS as the international standard bearer for healthcare QI.

Updating the SQUIRE guidelines and leading the creation of topic specific guideline extensions is a major research initiative for the Centre. Through this work, we will shape the future direction of QI practice and scholarship and evolve SQUIRE to include a deeper focus on emerging areas such as EDIIA, resource stewardship and environmental sustainability. Revisions to SQUIRE will also incorporate important changes to provide clearer guidance on the rigorous application of QI methods, leading to more impactful QI work and improvements in patient outcomes and experiences. The work required to update and disseminate SQUIRE will involve collaborations with experts working in leading QI centres around the world. This further strengthens CQuIPS' international standing and creates many exciting opportunities for CQuIPS, and by extension QI researchers and scholars working at Temerty Faculty of Medicine (TFoM).

Since taking on oversight of SQUIRE, we have made the following progress:

- We received funding from the TFoM Dean's fund to support the SQUIRE update work from December 2023 to July 2025.
- We received funding from CASADES, a national organization that empowers the implementation of sustainable healthcare practices and policies in Canada, to support the creation of a SQUIRE extension for climate related QI.
- We are working with a team Seattle Children's Hospital to support the launch of a new SQUIRE extension to support QI projects using simulation called SQUIRE-SIM.
- We have begun assembling a group of international QI experts to act as the SQUIRE Advisory Committee.

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CQuIPS has the expertise and the international collaboration skills to drive SQUIRE to greater impact. Transitioning SQUIRE to CQuIPS has provided it with new energy and a clear path forward.

Greg Ogrinc
Senior Vice President,
Certification Standards and Programs
American Board of Medical
Specialties
Past Lead, SQUIRE

Level of Activity and External Comparators

→ For our last self-study, we chose three US-based QIPS centres, namely Northwestern University, the University of Texas and the Armstrong Institute at Johns Hopkins University, as international comparators. Since that time, new centres nationally and internationally have been established, which prompted us to extend beyond North America for our current self-study to include the following four centres in Canada, the United States, the United Kingdom and Australia:



The Centre for Quality, Innovation and Safety (CQUINS) at Western University

→ There are few national comparators. CQUINS is a relatively new centre established in 2020. CQUINS is a new partnership between the Schulich School of Medicine and Dentistry, the Department of Medicine, London Health Sciences Centre and St Joseph's Health Care, London and has three main functions – mentorship and support, education and research – making it a suitable national comparator for CQuIPS.



The Center for Healthcare Improvement & Patient Safety (Penn CHIPS) at the University of Pennsylvania

→ There are several well-established QIPS centres of excellence in the US, however the centre most similar to CQuIPS is Penn CHIPS because of their strong focus on QI education and training. They are one of the leading hubs for education and leadership aimed at improving the quality of healthcare for all patients. Further, Jennifer Myers (Penn CHIPS Director) served as one of the external reviewers for CQuIPS in 2019 and highlighted that they have used CQuIPS as a benchmark for developing their centre.



The Healthcare Improvement Studies (THIS) Institute at the University of Cambridge

→ The Health Foundation established THIS in 2018 with a £40 million investment over 10 years. They co-create a highly credible and actionable evidence base for improving quality and safety in healthcare, working collaboratively with patients, staff and wider stakeholders. We include the THIS Institute as a 'stretch' comparator organization given their strong focus on research and scholarship and the fact that they receive more than 10 times the base funding that CQuIPS does.



Australian Institute of Health Innovation (AIHI) at Macquarie University

→ Established in 2007, AIHI is a major international QIPS research centre, with over 200 research staff, associates, national and international visiting professors and fellows, including over 50 doctoral, masters or honours research students. AIHI is likely the most prolific QIPS research centre worldwide, representing a 'stretch' comparator for CQuIPS. AIHI comprises four independent, complementary and highly collaborative Macquarie University research centres. We focused our comparison on two of the four centres, namely the Centre for Healthcare Resilience and Implementation Science (CHRIS) and the Centre for Health Systems and Safety Research (CHSSR).

As seen in the table below, CQuIPS compares extremely favourably to QIPS centres nationally and internationally, both in terms of total number of publications as well as the number of publications per researcher (see Appendix 3.3 for methodology used to perform searches), despite receiving orders of magnitude less funding than both THIS and AIHI.

Research Outputs: National and International Comparators

	CQuIPS (Canada)	CQUINS (Canada)	Penn CHIPS (United States)	THIS (United Kingdom)	AIHI (Australia)
Number of centre researchers included in the search	19	19	15	20	17
Publications per researcher	21.5	9.2	16.9	18.4	35.3
Publications with 2 or more centre researchers as co-authors	42 (10%)	9 (5%)	9 (6%)	34 (9%)	288 (48%)
Publications with 3 or more centre researchers as co-authors	12 (3%)	2 (1%)	2 (1%)	18 (5%)	128 (21%)
Publications with 4 or more centre researchers as co-authors	6 (1%)	0	0	7 (2%)	36 (6%)



Financial Structure

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New revenue generated have allowed us to launch initiatives that enable our growth as an international leader in QIPS education, research and practice.



Financial Structure

Base Funding

In 2020, our base funding was increased with the addition of a third hospital partner (Women's College Hospital) and a 25% increase in the amount each partner organization contributes.

Strategic Investment of Reserve Funds

At the end of our first 10 years, CQuIPs amassed a reserve fund to ensure that we would be able to balance our budget if we were unable to generate sufficient revenue beyond our base funding for any given year. On the advice from the external reviewers in 2019, we opted to strategically invest a portion of the reserve fund to expand the Centre's activities and impact in the areas of research, communications, and consulting.

We have hired three new permanent full-time staff members, and one temporary full-time staff, over the past four years.

1. Communications Lead (Permanent)
2. Project Coordinator (Permanent)
3. Quality Improvement Specialist (Permanent)
4. Research Assistant (Temporary)

As we grew our team size and added new activities, we also needed to expand our Centre's leadership team to ensure proper oversight and governance of our various portfolios. Over the last four years, we created three new leadership positions to build our education and research capacity:

5. Research and Scholarship Lead: Patricia Trbovich
6. Education Lead: Tara Burra
7. Certificate Course Director and Equity Lead: Bourne Auguste

Much of the strategic expansion involved hiring of new permanent full-time staff and leadership appointments that have a minimum of 3-year terms. As a result, the total budget for CQuIPs has increased from 2020 to 2024. Therefore, to sustain this growth, CQuIPs needed to generate new revenue.

Revenue Generation

CQuIPs generates revenue through education program registration fees, grant funding and research contracts, and contracts through partnerships and consultation work to support organizational QI capacity building.

Education Revenue:

CQuIPs generates revenue from tuition collected from three of its education programs, namely the Certificate Course in QIPS, EQUIP and VAQS. To minimize cost as a barrier to participation, we did not increase the amount charged in tuition from 2020-21 to 2023-24. However, we needed to raise the tuition fees for the Certificate Course and EQUIP for the 2024-25 cohorts to reflect the increased costs related to human resources required to run the programs. Together, these three programs have provided a stable source of revenue, since 2020. In 2021, the launch of CQuIPs+, our virtual education program, provided a new educational revenue source for our Centre.

Research Revenue:

From 2020 to 2024, we achieved a 4-fold increase in the amount of research revenue to apply towards our research. CQuIPs generated new research revenue by successfully applying for more research grants and providing methodological expertise (qualitative methods, scoping review methods, statistical process control) to support work being led by other QIPS researchers.

We also received funding from the TFoM Dean Fund for 18-months to support the work needed to update the SQUIRE writing guidelines.

Consultation and Partnership Revenue:

Our consulting work to support organizational QI capacity building grew over the past four years. These include consulting contracts with St. Mary's Hospital (three years), Holland Bloorview Rehabilitation (two separate 1-year contracts), and Scarborough Health Network (one year). In addition to these service contracts, we also established paid partnerships with larger organizations to support research or improvement initiatives. These include Michael Garron Hospital (and by extension East Toronto Health Partners), the Canadian Blood Services, Choosing Wisely Canada and Ontario Health.

Return on Investment

Over three years, we invested towards strategically growing our team. This allowed us to expand our activities and generate new revenues. Not only did we generate \$4 in revenue for every \$1 invested, we balanced the Centre's budget for the 2023-24 fiscal year.

Beyond the financial return on investment, we launched and pursued new initiatives that contributed to our Centre's impact and grew its reputation as an international leader in QI education, research and practice.

New Initiatives Enabled by Strategic Investment

Domains	Initiatives
Education	<ul style="list-style-type: none"> • Integrated equity concepts into CQuIPS education programs • Created the Healthcare Improvement Fellowship • Launched the CQuIPS+ Virtual Learning Hub • Improved oversight and alignment of CQuIPS educational programs
Research	<ul style="list-style-type: none"> • Received grants from CIHR, SACME, AHRQ leading to more sustainable research revenue • Hiring of a research assistant which increases our Centre's capacity to carry out a range of research-related activities • Assumed leadership of the SQUIRE international QI writing guidelines
Networks	<ul style="list-style-type: none"> • Established the TAHSN QIPS Community of Practice, along with three workstreams focused on equity, data sharing and patient safety • Re-launched the CQuIPS Annual Symposium in 2023, with another symposium confirmed for November 2024
Communications	<ul style="list-style-type: none"> • New CQuIPS website and branding • Monthly newsletter and increased social media presence
Contracts	<ul style="list-style-type: none"> • Partnerships with provincial and national organizations (e.g., Ontario Health, Choosing Wisely Canada, Canadian Blood Services) to grow our Centre's reputation and allow us to direct our resources towards addressing health system needs • Increased our capacity to take on a larger number of contracts (resulting in more revenue generated)

Sustaining our Growth and Financial Vulnerabilities

To sustain our growth for 2024–25 and into the next five years, with the current base funding we receive, we need to generate almost twice our base funding per year of additional revenue.

We have been fortunate over the years that we could count on a steady source of revenue from our education programs. We added a new revenue stream through the CQuIPS+ program but generating revenue from Masterclass enrollment has proven to be quite challenging. Other universities are now also offering certificate programs in QI, including McMaster University, Western University and Queen's University in Ontario. While we believe that our international reputation as a leading education centre will allow us to maintain enrollment numbers, this does represent a potential financial vulnerability in the coming years. We also have plans to leverage additional incentives to encourage ongoing participation in our education programs. For example, we are preparing an application to the Royal College of Physicians and Surgeons of Canada for the VAQS program to become accredited as the first QIPS AFC (Area of Focused Competence otherwise referred to as Diploma designation) training program in Canada.

By establishing research leadership and infrastructure, and partnering with others to collaborate on research, we believe that the increased revenue generated through research activities represents a viable source of ongoing revenue for the next five years. However, the highly competitive nature of research grant applications and relatively limited number of research funding opportunities for QIPS research means that a significant investment of time and energy will be required to apply for future grants. We have also taken on the leadership of SQUIRE, and while we were able to receive one-time funding for 18 months through the Temerty Dean's Fund at the University of Toronto, we do not have a clear sense as to how we will continue to resource this program beyond that time.

The major increased source of revenue comes from our contracts and partnerships. However, increasing the number of organizational QI capacity building contracts to generate revenue has inherent challenges.

We have already reached our internal team's capacity to support consulting activities, so any new contracts would require us to subcontract out some of the work, which limits the amount of actual revenue generated. Contract work is inconsistent, and the time and energy spent on promotion and building relationships without the promise of securing a contract can take time away from other work. Ideally, we would prioritize contracts that align with our broader vision and mission, but this is not always possible, meaning that we end up taking on new work that is not strategically aligned.

Ultimately, we believe that an **increase in base funding**, in combination with sustained efforts to generate new revenue through education, research, consulting and partnerships, would help to address some of these financial vulnerabilities. As we look towards our next five years, we have begun to explore different options such as:

1. Adding an additional funding hospital partner – the most promising options would be TAHSN hospitals with whom we have had longstanding relationships. Alternatively, we could explore engaging TAHSN hospitals that broaden the diversity of partner hospital representation from a clinical point of view
2. Submitting a proposal for each TAHSN hospital to increase their annual dues to provide base funding for CQuIPS to continue to support and grow the TAHSN QIPS Community of Practice
3. Applying for a CIHR team grant to fund research operations
4. Fundraising for an endowed chair for CQuIPS, which could be used to support stipends for leadership positions or fund research activities
5. Identifying opportunities for multi-year service contracts or partnerships with external organizations, such as Choosing Wisely Canada or Ontario Health (for continued leadership of the LTC+ program)

Resources and Infrastructure

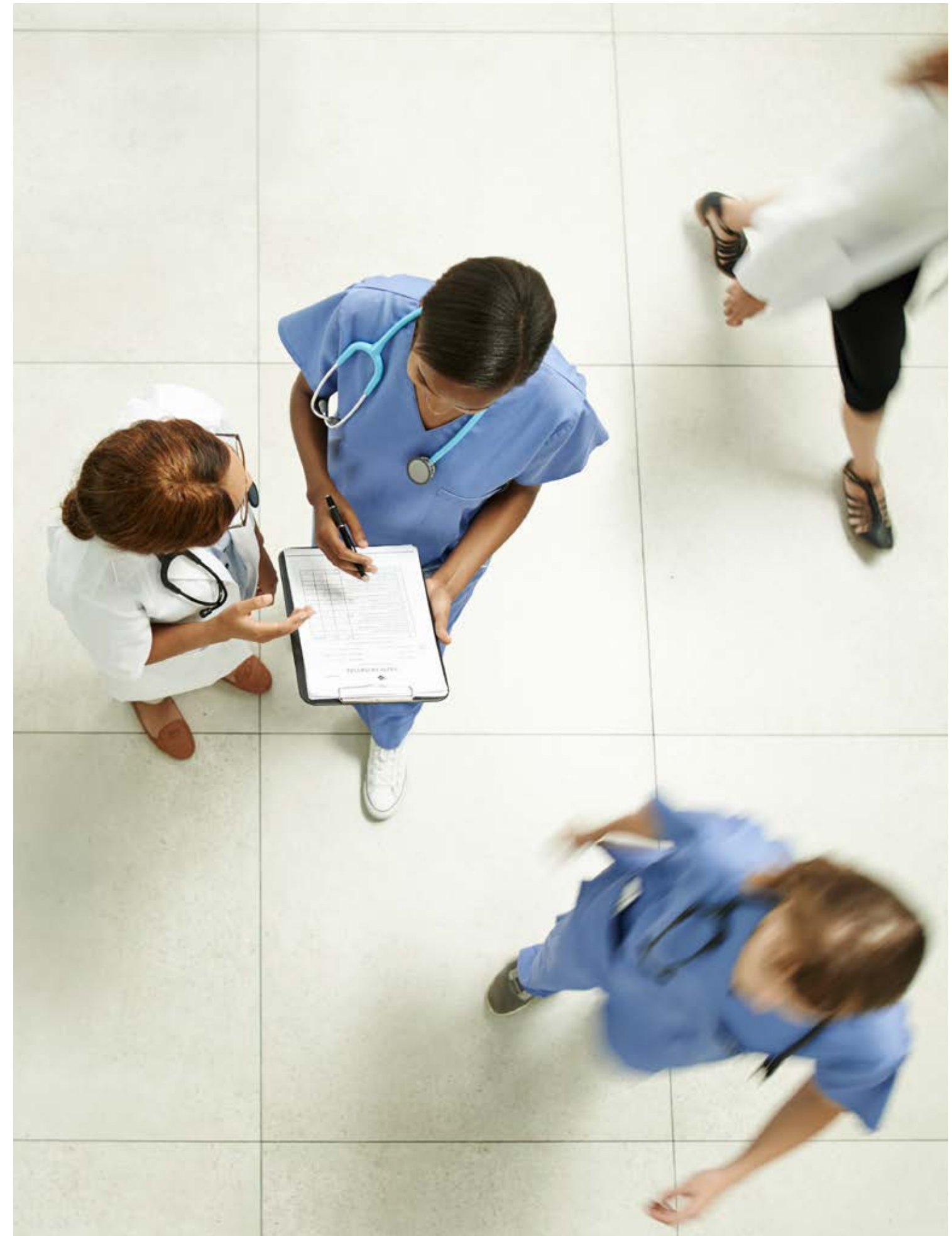
As with many other organizations, the way we work at CQuIPS has changed through the COVID-19 pandemic.

We have adopted a flexible hybrid virtual-in person approach. Technology has supported this approach to allow for effective virtual meetings and synchronous work via online document sharing; however, regular in-person meetings are a priority for our staff. Sunnybrook and SickKids both provide working, meeting, and teaching spaces. The space at Sunnybrook accommodates the offices of the Centre director, the Sunnybrook associate director, the program manager, a project coordinator, and the communications lead. We are also able to provide office space for two physicians who support quality and safety at Sunnybrook and work closely with the Centre, as well as the medical director for Quality and Patient Safety (QPS) to strengthen our connection to the hospital QPS team. The space also contains office space for students and research assistants and a meeting room. In addition to providing workspace, Sunnybrook provides in-kind services to support the Centre, including human resources and finance support.

At the end of 2023, we relocated from our dedicated office and teaching space that SickKids provided to the Centre since its establishment in 2009 to the new Patient Support Centre (PSC). This move has resulted in a change from having assigned office space for the education research scientist, quality improvement specialist and the two education coordinators and dedicated space for large Centre meetings and education programs to shared meeting and teaching space, reflecting the new reality of post-pandemic office work structure. SickKids also provides in-kind services, including a large venue for hosting our in-person Symposium and Certificate Course Capstone as well as proprietary registration software to support the management of and registration and collection of payment for the Symposium as well as our CQuIPS+ programs.

Internal and External Relationships

Fostering relationships is a key pillar of the CQuIPS strategic plan and an important enabler of our Centre's ability to deliver exceptional value at the health system level.





Growing a vibrant QIPS community

Our strengthened connections to international QIPS organizations, Canadian academic and healthcare institutions, TAHSN partners and cognate units at the University of Toronto, and increasingly the Ministry of Health, position CQUIPS as a key health system partner to address urgent health system needs and advance initiatives related to health equity and health system resilience.

Over the last five years, CQUIPS has deliberately focused on growing and nurturing a vibrant QIPS learning community that fosters connections and collaboration within and across organizations. Through our education and research programs, we interact with individuals, teams, and organizations in different ways, to create new opportunities for shared learning and the pursuit of joint research and improvement initiatives. We have also expanded our QI consulting activities and work directly with healthcare teams and organizations to build QI capacity, establishing new relationships along the way. All these efforts are enabled by an investment in a robust and broad-based communications strategy made possible by the hiring of a full-time Communications Lead in 2020.

Centre Communications

We made a strategic investment to grow our member and alumni networks and enhance their engagement with CQUIPS. We appointed a Communications Lead to develop and manage the Centre's internal and external communications. We set out to establish brand recognition supported by a refreshed logo and new brand guidelines, raise awareness around the Centre's core activities, and celebrate the accomplishments of our leadership team, members and alumni.

We completely overhauled our website (cquips.ca) to reflect our new branding with colours that pay homage to our partner organizations. The website updates integrated design elements to serve as an information platform for people to learn more about CQUIPS. We re-organized the content to align with our Centre's three major portfolios, namely education, research and community building. We also included a new section to

feature our organizational QI consulting program to promote our services to prospective client organizations. The site also integrates with the CQUIPS+ virtual learning hub, which acts as a repository for member resources and a hosting platform for online events. We also re-launched a monthly CQUIPS newsletter distributed to nearly 1,200 general members with curated sections that highlight Centre events, accomplishments and relevant activities.

We re-kindled CQUIPS' presence on social media to maintain more regular engagement with our community. In early 2024, due to mounting concerns regarding incivility, hate speech and promotion of anti-science viewpoints on Twitter/X, we made the decision to discontinue CQUIPS' active use of Twitter/X, and instead concentrate our efforts to promote connection and collaboration through growing our presence on LinkedIn. As of May 2024, CQUIPS has 1,289 LinkedIn followers with LinkedIn posts generating over 27,000 impressions over the past year. These combined strategies have resulted in a far greater reach than previous years.

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CQUIPS has fostered a community across the Toronto Academic Health Network (TAHSN) that is not only committed to excellence and learning, but to collaboration in developing and sharing new and innovative quality improvement and patient safety tools, resources, and initiatives.

Jason Manayathu
Director,
Toronto Academic Health Sciences
Network (TAHSN)



TAHSN Quality Improvement & Patient Safety Community of Practice

In 2022, CQUIPS co-lead the establishment of the TAHSN Quality Improvement and Patient Safety Community of Practice (QIPS CoP), a thriving, inclusive and vibrant community of QIPS leaders, practitioners and researchers with the following aims:

- Strengthen connections amongst members of the QIPS community through knowledge exchange and translation
- Leverage unique strengths and areas of expertise within QIPS units, groups and organizations
- Identify priority areas for collaborative action and focused research and scholarship

Its establishment was motivated by ongoing challenges faced by QIPS leaders, practitioners and researchers working in relative isolation within TAHSN organizations who are seeking a community of like-minded individuals within and outside their local settings. Such challenges include system-wide concerns (i.e., care inequities, patient safety) that warrant collective action and the inconsistent spread and scale of proven solutions across TAHSN organizations.

TAHSN QIPS CoP presentation topics	Date	No. of Attendees
Using AI to Measure Hospital Acquired Delirium: A Multi-Site TAHSN initiative	September 2022	154
Sustainable Health Systems: Leveraging QI for Climate Action	November 2022	86
CPSO QI Partnership Program: Examples from three TAHSN Hospitals	January 2023	104
Data Sharing to Enable Multi-Site QI Initiatives	March 2023	100
Improving Language Concordant Care: An Equity-Focused QI Target	May 2023	75
Building Organizational Capacity in QI	October 2023	110
QI Ethics - An Environmental Scan of TAHSN Hospitals	November 2023	64
Scale and Spread of Proven QI Solutions	February 2024	105
The Collection of Equity Data for QI	April 2024	120

The TAHSN QIPS CoP has several key elements:

- Bi-monthly CoP meetings to showcase initiatives taking place at TAHSN hospitals, discuss QIPS topics of broad relevance to CoP members, and generate and share new ideas (see Table for topics)
- A newsletter that includes major announcements, information about QIPS events and educational opportunities, and a listing of recent papers published by QIPS CoP members
- Dedicated workstreams, where individuals come together to take collective action to address issues of critical importance to the TAHSN QIPS CoP

A strengthened community for QIPS across TAHSN

- Fostering community is embedded in the foundational goals of the TAHSN QIPS CoP, evident in the tremendous amount of interest resulting in a highly engaged member group.
- As of May 2024, there are 510 members with strong representation from all 15 TAHSN partner organizations. Reflective of the QIPS CoP's principle of inclusive membership, 1 in 4 CoP members work at one of nearly 50 non-TAHSN organizations.
- Strong attendance at each of the bi-monthly CoP provides further evidence of this strengthened sense of community across TAHSN.

TAHSN QIPS CoP Workstreams

1. Advancing Equity through QIPS (105 members).

- Learning collaborative involving general internal medicine services at five TAHSN hospitals focused on increasing use of professional interpretation services for individuals with non-English language preference.
- Scoping review to inform the development of an equity framework for QI projects to be used at TAHSN hospitals.
- CIHR-funded research study involving researchers from Ontario, Alberta and British Columbia examining the ways that hospital safety monitoring systems take equity into consideration.

2. Enabling multi-site QIPS Initiatives through Data (67 members).

- Multi-site initiative to validate the GEMINI AI-powered delirium measurement tool and implement its use at 13 TAHSN hospitals. The research group submitted a proposal to Ontario Health to fund the measurement tool's implementation and received a bridge CIHR grant in 2023 to evaluate the tool.
- Collaborative effort involving the TAHSN QIPS, Research, Legal and Privacy groups to implement an expedited data sharing process for multi-site QI projects with standard data transfer agreement (DTA) templates and a common de-identification standard for TAHSN hospitals.

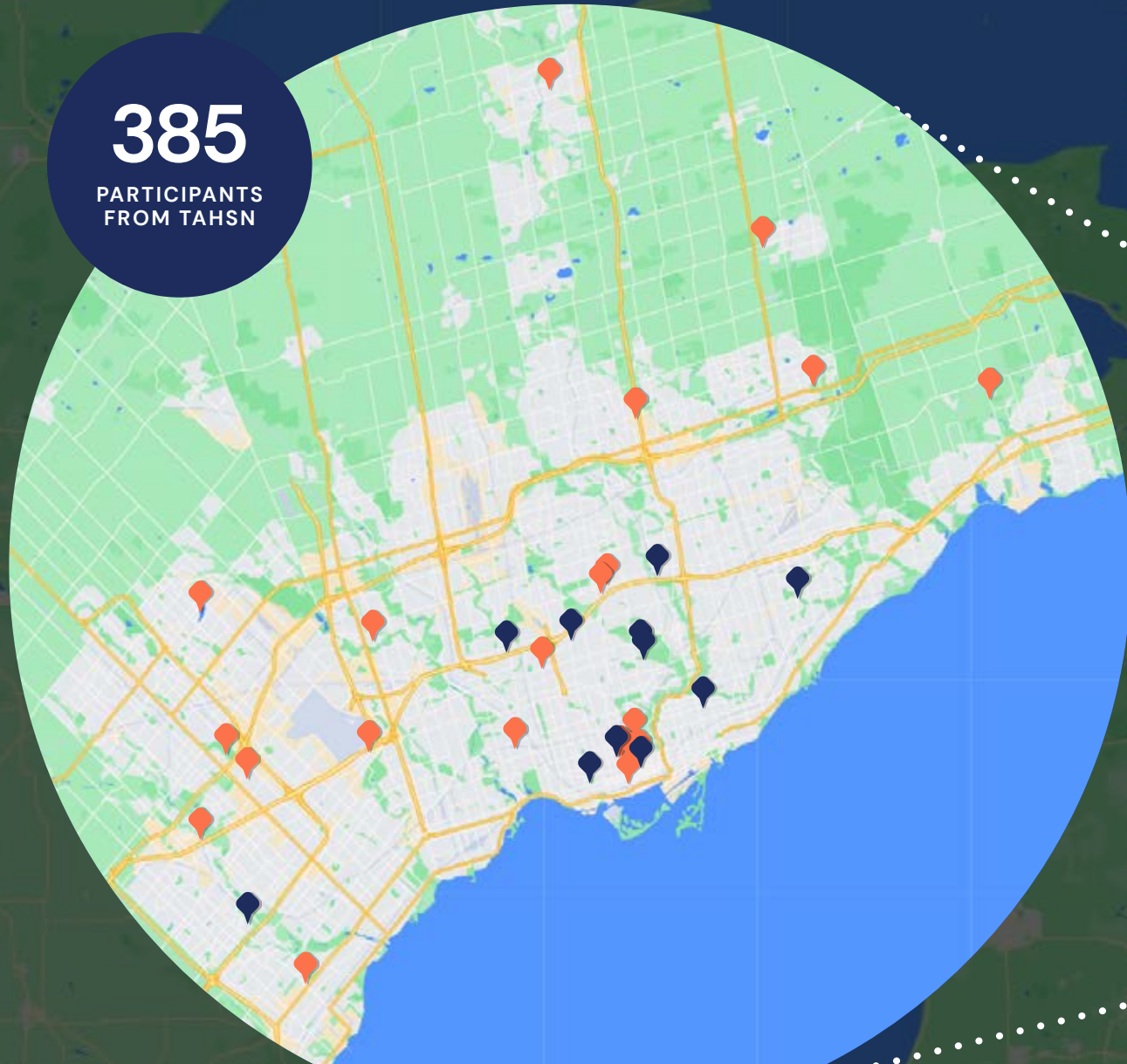
3. Improving Patient Safety (189 members).

- This workstream grew out of an existing patient safety collaborative that pre-dated the establishment of the TAHSN QIPS CoP.
- Using the Press Ganey/Healthcare Performance Improvement Safety Events Classification system to develop a common taxonomy and approach to identifying preventable harm across TAHSN hospitals.
- Seventeen TAHSN hospitals have completed the 2-part training program developed by Press Ganey; 12 of these hospitals are now working towards adopting a common approach for serious safety even reviews.

TAHSN QIPS COP MEMBERS

385

PARTICIPANTS FROM TAHSN



Greater Toronto Area

125

PARTICIPANTS OUTSIDE TAHSN

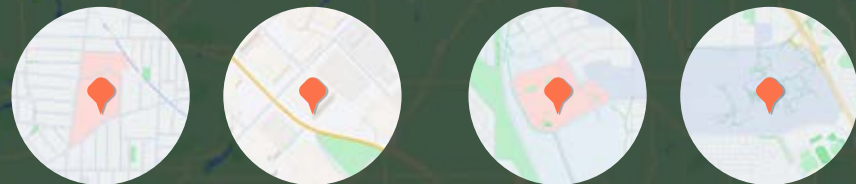


Ontario

◆ TAHSN
◆ NON-TAHSN

◆ NON-TAHSN

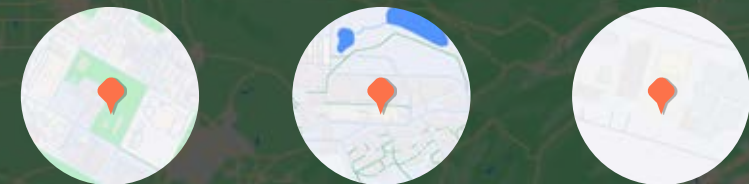
CANADA



VANCOUVER, BC

CALGARY, AB

INTERNATIONAL



LEICESTER, UK

GUILDFORD, UK

ABU DHABI, UAE

Annual CQuIPS Symposium 2023

CQuIPS began hosting an annual, 1-day QIPS Symposium in 2009. In 2016 to 2018, CQuIPS partnered with Health Quality Ontario to co-host the annual Quality Improvement and Patient Safety Forum. These events were always well attended and highly rated and a crucial part of our community building efforts.

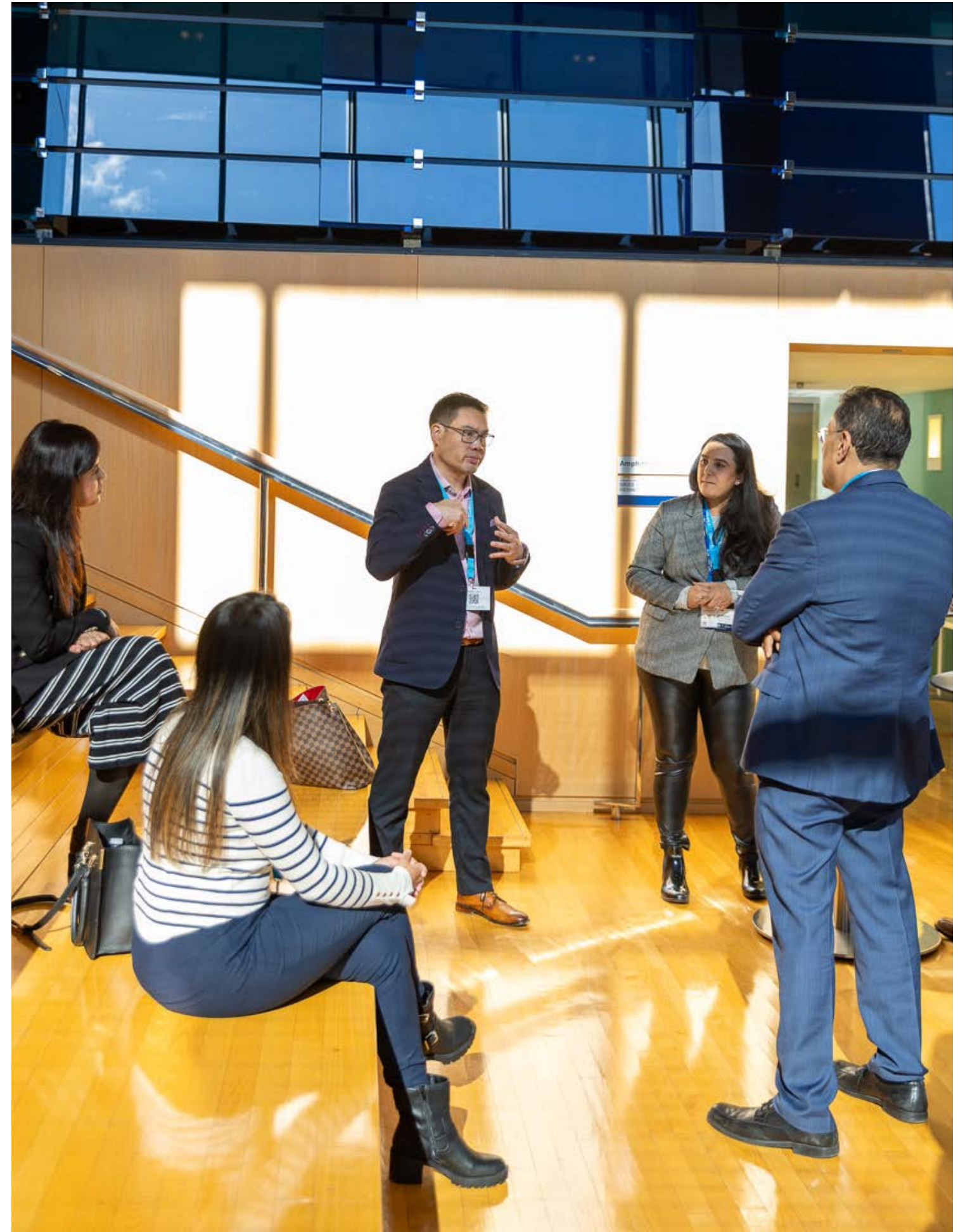
On November 1st, 2023, after a 4-year hiatus due to the COVID-19 pandemic, CQuIPS relaunched our annual CQuIPS Symposium. The goals for the symposium were to 1) develop and expand skills to accelerate and deepen the work of individuals and teams leading QIPS work; 2) foster conversation and strengthen connections that spark new ideas and collaborations; and 3) enable knowledge exchange through scholarly dissemination of QIPS work.

The event was attended by 225 interprofessional quality improvers from 50 different organizations ranging from over large healthcare institutions, small community hospitals to home and community care centres. The attendees included early career QI professionals, medical students and trainees, academic clinicians and senior leaders. The energy was palpable as participants expressed excitement around having the opportunity to network and learn in-person throughout the day.



The Symposium featured two inspiring plenary sessions. The opening plenary, entitled "Making Diagnostic Safety the Centrepiece of Quality Improvement in Health Care", was presented by Hardeep Singh, the Director of the Center for Innovations in Quality, Effectiveness and Safety (IQuES) at the Baylor College of Medicine in Houston, Texas. The closing plenary, entitled "How a Network Approach can Take Improvement to a Population Scale", was presented by Trey Coffey, Associate CMO for Quality and Medical Affairs and former CQuIPS Associate Director.

The breakout sessions also served as forums for thought-provoking discussions on relevant issues in QI. Panel discussions and workshops featuring experts from diverse backgrounds explored topics such as equity in healthcare, the intersection of climate change and QI, and the evolving role of interprofessional collaboration in improving healthcare outcomes. A poster presentation session showcased innovative QI work and research happening in our community and provided further opportunities for networking and learning.



Organizational Consulting Program: QI Training and Capacity Building

CQuIPS has developed a robust organizational QI consulting program. Through this program, we provide organizations with training and capacity building opportunities, QI and research support, and project specific coaching. This program allows us to build connections with different teams and organizations, extend our educational reach and influence and enable concrete health system impacts, while creating an important source of revenue for the Centre.

Capacity building consultations begin with the delivery of the QI Fundamentals workshop. This workshop (typically eight hours delivered across two half-days) trains individuals and teams on foundational QI concepts and tools to provide them with the ability to contribute to QI initiatives in their organizations. The workshops are always grounded in local clinical contexts, informed by the strategic priorities of the host organization, and facilitated by clinician QI experts. Host organization leaders contribute to co-designing the workshops. Since 2011, we have delivered workshops to over 15 organizations. See Appendix 4.1 for an example of a QI Fundamentals workshop agenda. Organizations can choose to expand our involvement to include mentorship and coaching for projects identified as organizational priorities and/or enrollment of people in advanced CQuIPS education programs (e.g., CQuIPS+ Masterclasses, the Certificate Course or EQUIP) to develop QI capacity throughout the organization. Listed below are recent examples of how organizations engaged CQuIPS to support organizational capacity building efforts.

Scarborough Health Network (SHN)

SHN recently appointed QIPS medical leads across their 11 major clinical programs, however their QI knowledge and expertise was quite variable. CQuIPS was contracted to provide foundational QI training to all the QIPS medical leads, alongside members of the SHN executive team, clinical program directors and managers and members of the QIPS team. The interactive nature of the workshop facilitated discussions that contributed to a more coordinated approach to QI across the organization.



“ Working with the CQuIPS team has been an excellent experience. Their approach was to spend time to understand our needs which resulted in a customized program. Our facilitators were engaging and inspiring while providing excellent content that will help SHN continue to build our QI infrastructure.

Praby Singh
Medical Director, Quality
Scarborough Health Network

St. Mary's Hospital

St. Mary's Hospital contracted CQuIPS to develop a multi-component, 3-year QI capacity building program centered on organizational QI clinical priorities including: improving Positive Patient Identification (PPID) with barcoding scanning, improving time to discharge and nurse-to-nurse transfer of accountability. In this program, we deliver the QI Fundamentals each year to QI project team members and provide ongoing project coaching. The training equipped the project teams with a deeper understanding of their project's complexity and equipped them to drive positive change. To supplement the learning in the workshops, several project leaders successfully completed the CQuIPS-based EQUIP course. More recently, many St. Mary's clinical and operational leaders have taken part in CQuIPS+ Masterclasses and the Vice President Medical has enrolled in EQUIP in 2024. This bundled program has enabled vertical and horizontal organizational QI capacity and had a direct impact on QI priorities.



Extension for Community health care Outcomes (ECHO) Autism Diagnosis and Integrated Care Opportunities (AuDIO)

ECHO Audio is CIHR-funded program based at Holland Bloorview Kids Rehabilitation Hospital (HBR) that aims to develop, implement, and evaluate toolkits and local care pathways focused on improving diagnosis and care integration for children with autism. In 2023, we delivered the QI Fundamentals workshop to 19 participants from across Canada. We will provide ongoing coaching related to specific QI initiatives over the length of the program (five years).



Health System Partnerships

As articulated in our 2020 CQuIPS strategic plan, we have made a concerted effort to demonstrate our Centre's value as an indispensable health system partner. The LTC+ program and our work with East Toronto Health Partners Ontario Health Team (OHT) are two prime examples that illustrate CQuIPS' growing reputation as a valued health system partner.

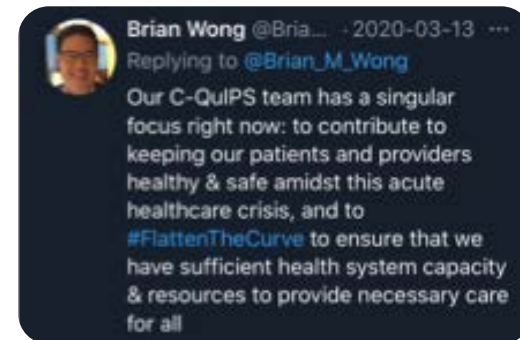
Long-Term Care Plus (LTC+)

The LTC+ program was launched in April 2020 in response to the COVID-19 pandemic as there was an urgent need to enhance the availability of services to support higher acuity medical care in LTC homes. LTC+ supported Primary Care Providers (PCPs) and point of care staff in LTC homes with enhanced care (including specific needs for COVID-19) to avoid transfers of LTC residents to the emergency department (ED).

LTC+ is a joint initiative between LTC and acute care clinicians and administrators based at WCH and CQuIPS, with support from the General Medicine Inpatient Initiative (GEMINI). The program was created through a co-design process that included careful data analysis and the expertise and insights from LTC medical and administrative leadership who played an essential role in championing the program and supporting its implementation.

Between April 2020 and December 2022, the LTC+ program operated as a hub and spoke model with one of six acute care hospitals (Humber River Hospital, North York General Hospital, Sunnybrook Health Sciences Centre, Unity Health – St. Joseph's Health Centre and St. Michael's Hospital, and Women's College Hospital) serving as the local hospital hub to support a defined number of geographically associated LTC homes. The LTC+ program proved to be an integral clinical support program for the LTC sector throughout the numerous COVID-19 pandemic waves, strengthened relationships between providers in LTC and acute care, and established new care pathways to support LTC providers and teams to deliver the best possible care for residents living in LTC.

In January 2023, Ontario Health-Toronto (OH-Toronto) convened an ad hoc LTC steering committee to guide and advise on the integration and expansion of LTC+ and Nurse Led Outreach Teams (NLOT). These discussions resulted in the investment of new resources to establish a new LTC Local Support model that aims to improve equitable access to services and supports to address unmet clinical needs for all LTC residents in the OH-Toronto region. As a result, LTC+ expanded to include eight hospital hubs, supporting 75 LTC homes with a total of 14,275 LTC beds. At the same time, the LTC+ program received 1-time funding



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The CQuIPS team's pragmatic approach and skilled facilitation has helped shape not only our evaluation but also pushed us to think about the problems and change ideas in a unique way that will improve our pathways and the care we provide to the people in East Toronto.

Rose Cook
Vice President, Clinical Programs and Capacity, Access & Flow, Ontario Health Toronto

(funded for Q4 in 2022/23 and all of 2023/24 fiscal) with an increased mandate that included new responsibilities at the regional level. As part of this expanded model, CQuIPS provides QI leadership, supports data and analytics and is overseeing program evaluation.

Michael Garron Hospital (MGH) and East Toronto Health Partners Ontario Health Team (ETHP OHT)

Through our existing relationship with Michael Garron Hospital (MGH) established during our first Centre's first 10 years, we engaged in an expanded collaboration to support capacity building for QI within East Toronto Health Partners (ETHP), one of the most well-established and innovative OHTs. The collaboration has as its major goal to build QI capacity amongst ETHP leadership, improvement team and community members to apply foundational QI tools to advance OHT quality of care priorities, while having direct health system impacts. The partnership consists of three major phases:

- **Phase 1 (2022–2023): Increasing cancer screening rates and reducing associated inequities in East Toronto.** This phase involved the community-engaged co-design of a two-part QI education program that included over 40 participants from a range of care settings (e.g., acute care, primary care, community health centres, community organizations) and professional roles and backgrounds (e.g., clinicians, managers, researchers, community-members). The overall evaluations were very positive as participants applied learnings to their local work addressing inequities in cancer screening. We also collaborated with researchers at MGH to evaluate this community-engaged co-design of a QI capacity building program to support integrated health system goals and published our findings as a peer-reviewed manuscript in the *Journal of Integrated Care*.
- **Phase 2 (2023–2024): Improving access to mental health and substance use health services in East Toronto.** This phase involved working with the leads of the ETHP adult mental health, youth mental health and substance use and health portfolios to co-design a 3-part QI education program. The workshops, attended by hospital-based clinicians, primary care providers and community-based mental health and substance use service providers, enabled participants to use QI tools and methods to prioritize their QI activities and set achievable collaborative QI plan (cQIP) targets for 2024–25.
- **Phase 3 (2024–2025): Establishing an evaluation framework for the Ontario Health Integrated Clinical Pathway initiative at ETHP.** This work is just underway and will involve the development of an evaluation framework to guide the implementation of integrated clinical pathways within the ETHP OHT to address care needs for three priority patient populations, namely patients with heart failure, patients with chronic obstructive lung disease and patients with diabetes at risk for limb loss.

“
Our partnership with the CQuIPS team has proved invaluable throughout the pandemic and beyond. The CQuIPS team not only brings a high level of proficiency, but also the care and compassion needed to drive our collective goal of better quality and access to care for long-term care residents.

Jeff Powis
Medical Lead, Integrated Care
Michael Garron Hospital
and East Toronto Health Partners

Strategic Partnerships and Relationships

We have made a concerted effort to strengthen existing strategic relationships while establishing new ones at the local, provincial, national and international levels. These relationships have extended our reach, deepened our impact and helped us to advance our focus on addressing equity and health system resilience. They have also created new sources of revenue and funding opportunities for CQuIPS, either through direct funding for consulting services rendered, collaborative research grant applications or joint funding proposal submissions to the Ministry of Health.

LOCAL



PROVINCIAL



NATIONAL



INTERNATIONAL



Local Relationships



Clinical Departments, University of Toronto

During its first 10 years, CQuIPS established strong relationships with the Departments of Medicine and Paediatrics, largely because the Centre's leadership team held dual leadership roles in these departments. We continue to work closely with both departments to advance their QI portfolios; Brian Wong and Olivia Ostrow supporting QI education efforts through their leadership of the Co-Learning Curriculum in QI. CQuIPS also provides mentorship to academic faculty members in these departments and offer them opportunities to contribute to QI education and research activities. This is particularly relevant for the Department of Medicine, which established the Clinician in Quality and Innovation (CQI) academic job description in 2012 (one of the first of its kind) under the leadership of Kaveh Shojania and now includes over 90 full-time faculty members. In 2022, Joanne Goldman conducted an external review of the CQI job description and its growth and impact over its first 10 years.

Feedback from our last external review suggested we expand our involvement with other major clinical departments, such as the Department of Family and Community Medicine (DFCM) and the Department of Psychiatry. With respect to the DFCM, the Department Chair (Danielle Martin) and Vice Chair of Quality and Innovation (Tara Kiran) made funding available to support up to four DFCM faculty members to enroll in CQuIPS certificate programs in 2022-23, 2023-24 and again in 2024-25. We have increased family physician enrollment in EQUIP from two between 2017 and 2019 to seven between 2020 and 2023. DFCM faculty members have also collaborated on several CQuIPS initiatives; for example, Susanna Fung and Noor Ramji are collaborators on our scoping review to develop an equity framework for QI and spoke at our annual symposium, and Karuna Gupta will be an invited guest lecturer for EQUIP in 2024-25.

We appointed Tara Burra, the QI Lead for the Department of Psychiatry and the inaugural medical director for QIPS at the Centre for Addiction and Mental Health (CAMH), which has opened opportunities to build connections with those working in addictions and mental health. Sanjeev Sockalingam, Vice-Chair Education for the Department of Psychiatry, is a co-investigator on two CQuIPS research projects. Brian Wong has collaborated with faculty members (Andrea Waddell, Karen Wang) on their QI projects related to the implementation and evaluation of patient-oriented discharge summaries and measurement-based care in psychiatry respectively.

“CQuIPS has been a foundational resource for many faculty in our Psychiatry department at the University of Toronto. The ongoing collaboration with the CQuIPS community has been critical to their ongoing growth as QI leaders and scholars.”

Sanjeev Sockalingam
Chief Medical Officer and
Vice-President, Education
Centre for Addiction and Mental Health

IHPME

Institute of Health Policy,
Management & Evaluation

Institute for Health Policy, Management and Evaluation

CQuIPS strengthened its longstanding partnership with IHPME. CQuIPS leadership and core members ran courses and served as guest lecturers as part of the IHPME-led MSc in QIPS. In 2023, IHPME began a 2-year process to modernize and revamp their MSc curriculum and several CQuIPS leadership team members (Brian Wong, Tara Burra, Joanne Goldman) serve on the advisory committee. We have also collaborated with IHPME faculty on research related to QIPS education, producing two peer-reviewed manuscripts exploring the role of experiential learning and interprofessional and multiprofessional approaches used in QIPS education programs. IHPME faculty also serve on the CQuIPS Symposium planning committee. CQuIPS also partnered with IHPME, amongst others, to launch the TAHSN QIPS CoP.



Toronto Academic Health Sciences Network

With the establishment of the TAHSN QIPS CoP, CQuIPS had the opportunity to increase its interactions with other TAHSN committees and communities of practice. For example, we interact with members of the TAHSN Anti-Racism CoP through our equity workstream, and have partnered with the TAHSN-Legal, TAHSN-Research and TAHSN-Privacy committees to create an expedited process for data sharing across TAHSN hospitals seeking to collaborate on multi-site QI initiatives. We also collaborate with individuals and teams working at all 14 TAHSN hospitals beyond our three partner hospitals. Examples include:

- Co-leading LTC+ with medical and administrative leaders at nine TAHSN organizations (Baycrest Health Sciences, Humber River Hospital, Michael Garron Hospital, North York General Hospital, Scarborough Health Network, Sunnybrook Health Sciences Centre, Unity Health Toronto, University Health Network, and Women's College Hospital).
- Supporting QI capacity building efforts at the Centre for Addictions and Mental Health, Holland Bloorview Kids Rehabilitation Hospital, Michael Garron Hospital and Scarborough Health Network.
- CQuIPS leadership and core members holding major QIPS leadership positions at TAHSN hospitals,

“For the last three years, we have been subsidizing the tuition fee for the Certificate Course to encourage our faculty to participate. Those who have done so have greatly valued the rigorous teaching and the supportive mentorship—the course increased their confidence and skills and added to their joy in work.”

Tara Kiran
Fidani Chair in Improvement and
Innovation and Vice-Chair, Quality and
Innovation, Department of Family and
Community Medicine
University of Toronto

including: Tara Burra (Medical Director of Quality Improvement and Patient Safety, CAMH), Marie Pinard (Director of Quality, Safety and Patient Experience, WCH), Olivia Ostrow (Patient Safety Lead, Division of Paediatric Emergency Medicine, SickKids), Adina Weinerman (Chief Patient Experience Officer, Sunnybrook) and Christine Soong (Medical Director of Quality and Safety, Sinai Health).



Temerty Faculty of Medicine Educational Extra-Departmental Units

CQuIPS has strengthened its relationship with the other TFoM EDUs, specifically the Centre for Faculty Development (CFD), the Centre for Advancing Collaborative Healthcare and Education (CACHE), the Wilson Centre, the Temerty Centre for AI Research and Education in Medicine (T-CAIREM) and the newly formed Collaborative Centre for Climate, Health and Sustainable Care. During the early months of the COVID-19 pandemic, the leadership of the four education-based EDUs met several times a year with TFoM Vice Dean for Faculty Affairs Lynn Wilson to provide mutual support regarding common pandemic-related challenges, such as the need to rapidly pivot to virtual education. These meetings proved to be very helpful, and we have continued to meet 2-3 times per year to seek opportunities to collaborate, facilitate discussions regarding emerging issues and pursue shared communication strategies.

In addition to these regular leadership meetings, we have collaborated with the EDUs on more focused education and research activities. For example, Dean Lising, Integration Lead at CACHE, spoke as a panelist at our Annual Symposium, and Laura Rosella, Education Lead at T-CAIREM, co-delivered a CQuIPS+ Masterclass on the use of AI in quality improvement with Patricia Trbovich and Amanda Mayo. On the research side, Joanne Goldman is a cross-appointed scientist at the Wilson Centre and collaborates regularly with other educational scientists working out of the Wilson Centre, the CFD and CACHE (see examples in research collaborations table on page 66 for more details).

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We have benefited enormously from our engagement and collaboration with CQuIPS. The spirit of collaboration, synergy and shared growth that animates CQuIPS has informed our work together and our approach to working with other centres of excellence at UofT/TAHSN.

Fiona Miller
Professor, Institute of Health Policy, Management and Evaluation and Director Collaborative Centre for Climate, Health and Sustainable Care



GEMINI

GEMINI is a unique big data collaborative supporting cutting-edge QI and research projects housed at Unity Health Toronto's St. Michael's Hospital. GEMINI supports the Ontario General Medicine Quality Improvement Network (GeMQIN), a program of Ontario Health Quality. CQuIPS has partnered with GEMINI and its co-leads Fahad Razak and Amol Verma in several important ways over the past four years. During the COVID-19

pandemic, CQuIPS collaborated with GEMINI and WCH to create the LTC+ program (see page 94 for more details re: LTC+). The GEMINI team provided the necessary data and analytical expertise to complement the QI work led by our CQuIPS team to support the LTC+ program's design and delivery. CQuIPS subsequently worked with the GEMINI co-leads, amongst others, to establish the TAHSN QIPS CoP in 2023. This further strengthened the partnership between CQuIPS and GEMINI, resulting in a successful CIHR grant application in 2023 to evaluate delirium prevention efforts using an AI quality indicator as well as a joint submission to Ontario Health to fund a novel initiative that leverages the AI-delirium measurement tool to support delirium prevention efforts across 13 TAHSN hospitals.

Provincial Relationships



Ontario Health

CQuIPS has increased its involvement with Ontario Health (OH) through its leadership of the LTC+ program (funded by Ontario Health Toronto region), collaboration with GEMINI and GeMQIN and upcoming consulting work with Cancer Care Ontario. We have also met with different groups at Ontario Health to discuss topics of shared interest and explore opportunities for collaboration, including the Regional Clinical Quality Lead for OH Toronto. CQuIPS is also directly involved in several key initiatives within the Ontario Health-Quality branch. Most notably, Olivia Ostrow, CQuIPS Associate Director, is a Provincial Clinical Quality Lead and has had extensive involvement with the Emergency Department Return Visit Quality Program, which she currently co-leads, since 2016. This is one of the largest mandatory audit programs worldwide for ED return visits leading to hospital admission that aims to build a culture of quality in Ontario's EDs and overseen by the Ministry of Health. Over 80 EDs participate in this provincial-level quality program comprising close to 90% of the ED visits in the entire province. Since its inception, eight annual program reports have been published to date identifying 11 key quality themes warranting attention. Olivia Ostrow's QIPS expertise and experience played an instrumental role in establishing the program and its success and impact.

Ontario Universities with QI centres and programs

Ontario universities have established their own QI centres and programs at different stages of maturity. We have formed relationships with these centres and groups over the past four years.



Centre for Quality, Innovation and Safety (CQUINS), Western University

We have met with the leadership team at CQUINS to provide strategic advice to help them grow and evolve their education and research activities. Several of their leadership team members, including their associate director and clinical lead, are graduates of the EQUIP certificate program. We have also engaged CQUINS team members on SQUIRE, drawing on the preliminary results of a scoping review their team conducted to inform updates to the SQUIRE writing guidelines.



Quality Improvement and Patient Safety Community of Practice, McMaster University

We met several times with the leadership of the McMaster QIPS Community of Practice (CoP) and the McMaster University Continuing Professional Development office to explore opportunities to collaborate on organizing our annual Symposium. Ultimately, we opted not to organize a joint meeting in 2023, however, we included one of the McMaster QIPS CoP co-chairs on our planning committee.



Health Quality Programs, Queen's University

CQulPS provided an internship placement for a Queen's University PhD student in Health Quality, Julie La, in 2022. During her internship, Julie La contributed to a cross-specialty analysis of 11 postgraduate specialties in Canada to examine how QIPS was incorporated into entrustable professional activity guides, which was published in *Medical Teacher* in 2024. Julie La has subsequently continued her involvement with our CQulPS research team and is a co-investigator on our SACME funded grant entitled "Strengthening the position of continuing education as a foundational element of quality improvement".



Northern Ontario School of Medicine

The Associate Dean for Postgraduate Medical Education (PGME) engaged CQulPS to help his team support training programs in addressing a Royal College Accreditation Standard #9 which stipulates that residency programs introduce measures to ensure that there is continuous improvement of the educational experiences and efforts to improve the residency program and ensure residents are prepared for independent practice.

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We see CQulPS as the national leader of our quality improvement community of practice, providing invaluable networking opportunities for like-minded individuals. CQulPS is also our go-to source of inspiration for the craft of quality improvement, constantly pushing us to achieve higher standards.

Alan Gob
Clinical Lead, Centre for Quality, Innovation, and Safety (CQUINS),
Western University

National Relationships



Royal College of Physicians and Surgeons of Canada

Brian Wong, through his role as a CanMEDS Clinician Educator, has supported several major initiatives related to QIPS over the past 10 years. These include leading the integration of QIPS competencies into the CanMEDS Physician Competency Framework, directing the ASPIRE Faculty Development program, and leading the Building the Bridge to Quality international consensus conference. More recently, he led the establishment of QIPS as an Area of Focused Competence (AFC), creating national standards for advanced training in QIPS. He also advised on revisions to the Maintenance of Certification program to better highlight QI activities as evidence of ongoing professional development under the program's Section 3 requirements.



Healthcare Excellence Canada

Launched in 2021, Healthcare Excellence Canada (HEC), is a not-for-profit charity funded primarily by Health Canada that brought together the Canadian Patient Safety Institute and the Canadian Foundation for Healthcare Improvement. Building on our shared commitment to healthcare improvement, HEC and CQulPS have collaborated on specific research programs including an evaluation of the implementation of the Measuring and Monitoring of Safety Framework by Leahora Rotteau and Joanne Goldman and on the CQulPS CIHR-funded research on Equity Considerations for Safety Monitoring Systems. CQulPS was recently invited to serve on the HEC advisory committee for planning the 2024 Canadian Patient Safety Week.



CASCADES

CASCADES is a national initiative, funded by Environment and Climate Change Canada, that aims to empower the implementation of sustainable healthcare practices and policies in Canada, by leveraging and strengthening capacity across the healthcare community. CQulPS and CASCADES collaborated on the development of a CQulPS+ Masterclass, "Applying QI methods to address the climate crisis" in 2023. Tara Burra, CQulPS Education Lead, and Jacqueline Follis, CQulPS Improvement Fellow, were on an advisory committee for the CASCADES climate-focused QI toolkit, and members of the CASCADES group lead a breakout session at the 2023 Annual CQulPS Symposium. Starting in April 2024, CQulPS is collaborating with CASCADES to develop a climate focused extension for the SQUIRE guidelines. CASCADES is providing CQulPS grant funding and in-kind support to complete this work.



Choosing Wisely Canada (National)

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in Canada. In 2022, CQuIPS entered a formal partnership with CWC and now collaborate on several initiatives. The first is the Healthcare Improvement Fellowship (see above for more details), which includes a dedicated CWC stream. The second is the Using Labs Wisely (ULW) program, a national consortium of hospitals committed to making a measurable impact on reducing low-value lab testing in Canada. The program includes 145 hospitals from across Canada, and CQuIPS is responsible for organizing the learning collaborative that provides interactive learning sessions and peer-mentorship as well as networking opportunities for participating hospitals. CQuIPS also supports the evaluation efforts to demonstrate the impact of the ULW program on lab testing reduction. In 2023, CQuIPS performed a review of the CWC implementation toolkits and created a standardized toolkit template to guide the creation of new toolkits tied to national CWC implementation campaigns. Work is now underway to revise existing CWC toolkits to align with the new toolkit template.

Several CQuIPS leadership and core members also play key roles within CWC. These include Brian Wong serving as the Medical Education lead for CWC, Olivia Ostrow serving as the Pediatrics lead for CWC, Adina Weirnerman serving as the co-lead of the Using Labs Wisely program, and Christine Soong serving as the lead of the CWC Hospital Designation program. Three former CQuIPS-CWC Healthcare Improvement Fellows, after completing their fellowship, assumed leadership positions within CWC as well: William Silverstein leads the STARS program, Katie Gardner is the head of Choosing Wisely Nova Scotia, and Jacqueline Follis is the CWC Nursing Lead.



Canadian Blood Services

CQuIPS received funding from the Organ Donation and Transplantation Collaborative, a program led by Canadian Blood Services (CBS) and Health Canada. CQuIPS was first approached by the CBS Team to co-development the Missed Donation Opportunities (MDO) Quality Improvement Program over a 2-year period (2021 – 2023). This program aimed to develop an evidence based toolkit to improve the potential organ donor ID&R rates in hospitals across Canada. A qualitative study of high performing critical care units in ID&R was conducted by CQuIPS to identify characteristics and practices to inform the toolkit development, leading to a publication in the *Canadian Journal of Kidney Health and Disease*. Our partnership with CBS

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Choosing Wisely Canada has proudly partnered with CQuIPS on national programs and on a national fellowship training program. In all our interactions CQuIPS has provided excellent high-quality work and has been a superb partner.

Wendy Levinson
Chair,
Choosing Wisely Canada

has been extended for an additional three years (2023–2026) to develop and lead an ID&R pilot program. We plan to engage a medical leader and an organ donation coordinator representing a critical care unit from a hospital in each province to support the use of the toolkit to implement changes to increase ID&R rates. This program has provided CQuIPS the opportunities to develop a toolkit that will be promoted nationally, engage with critical care unit teams across the country, and leverage a paid partnership program into a research opportunity while obtaining revenue to support the operations of the Centre.

International Relationships



BMJ Quality & Safety

Several CQuIPS leadership and core members hold editorial positions at the *BMJ Quality & Safety* journal. These include Kaveh Shojania (Emeritus Editor-in-Chief), Christine Soong (Senior Associate Editor) and Patricia Trbovich (Associate Editor). Their involvement and leadership within the journal have contributed to the journal achieving its status as the highest-impact quality and patient safety journal with an impact factor of 5.7 in 2023. Over the past year, Christine Soong has worked directly with the editors-in-chief to advance equity at *BMJQS* by publishing more research on equity in healthcare, increasing the diversity of the editorial team and reviewers, and using data to identify inequities in their editorial processes and monitor progress.



Institute for Healthcare Improvement (IHI)

Since April 2023, Kaveh Shojania has worked as a consultant faculty member at IHI in the role of ‘Innovation Lead’, charged with leading innovation reports, which incorporate literature review and interviews with international experts. The review he led on artificial intelligence and patient safety led to his being invited to co-chair a meeting hosted by the IHI’s Lucian Leape Institute in January 2024. Attendees included prominent leaders in patient safety, the chief scientific officer for Microsoft, and the directors of AI and health from both Amazon and Oracle. The proceedings of that 2-day meeting are being written up for publication, and he delivered a keynote session at the IHI’s annual Patient Safety Congress on May 15, 2024 in Orlando, Florida.



Pediatric Acute and Critical Care Network (PACC), American Academy of Pediatrics

Olivia Ostrow is a steering committee member of the Pediatric Acute and Critical Care (PACC) Network, a QI collaborative organized by the American Academy of Pediatrics (AAP). This network focuses on improving the value of care delivered to pediatric patients in acute care settings with a special focus on eliminating harm and waste caused by overuse. This program has supported over 12 QI collaboratives, each including dozens of pediatric hospitals in the United States and Canada. Olivia Ostrow was instrumental in expanding this AAP program north of the border in 2020 and SickKids was the first Canadian hospital to participate in one of the network's QI initiatives. Nine-hundred hospitals have participated in the network to date, including now three from Canada, impacting over 77,000 children.



Center for Healthcare Improvement and Patient Safety, University of Pennsylvania

The Centre for Healthcare Improvement and Patient Safety at the University of Pennsylvania (Penn CHIPS) is a leading QIPS education and training centre whose commitment to QIPS capacity building mirrors that of CQuIPS. Building on prior collaborations, Brian Wong and Jennifer Myers in their roles as centre directors meet regularly to seek advice from one another and discuss opportunities for collaboration. Our centres jointly organized a CQuIPS+ Masterclass on incorporating learner assessment and program evaluation into a QIPS curriculum, attended by over 20 participants across North America. Jennifer Myers has also been a recurring guest speaker for our Speaker Series, presenting the annual 'QIPS Hot Topics' session with Christine Soong.



Patient Partnered Centre for Diagnostic Excellence (International)

The Patient-Partnered Diagnostic Center of Excellence (PPCDE) was established in October 2022 with a grant from the U.S. Agency for Healthcare Research and Quality (AHRQ). The goal of the Center is to build partnerships to improve diagnosis and diagnostic safety, with a focus on identifying and preventing errors (Safety 1) and finding solutions to build resilience for safer care (Safety 2). The research is "patient-partnered," achieved through working with patients every step of the way, from co-developing research questions to co-designing solutions to the problems that are most important to them. CQuIPS is one of PPCDE's funded partner organizations, providing strategic guidance and methodological support for a range of PPCDE research initiatives.



Long Range Planning

As has been detailed throughout this self-study report, CQuIPS has demonstrated tremendous value by forging itself as a critical health system partner during the COVID-19 pandemic and beyond, expanding on its international reputation as one of the top places to complete advanced training in QIPS, establishing new collaborations to lead groundbreaking QIPS research, and building a community to strengthen connections between individuals, teams and organizations engaging in QIPS work. Our successful investment of funds held in reserve over the past four years has resulted in significant growth and generation of new revenue. While we see strong potential for revenue generation through education, research and consulting work, we believe that an increase in base funding will allow CQuIPS to broaden mandate, reach and impact in the next five years.

While we have not undertaken a formal process to renew our Centre's strategic plan, we have taken the opportunity as a leadership team to reflect during the preparation of our self-study document to imagine what a broadened mandate, reach and impact might entail for CQuIPS over the next five years. We see the following activities as holding promise for enhancement and addressing some potential areas for improvement.

Deepening CQuIPS' efforts to address inequities through QIPS education, research and practice:

We identified health equity as a cross-cutting theme and strategic priority for CQuIPS over the past four years, consistent with Temerty Medicine's core value, Excellence Through Equity, to actualize EDIIA. We have made major strides in embedding equity throughout our Centre's activities and have now reached the point where we feel poised to make a meaningful impact on narrowing inequities through our education, research and health system partnership activities. By the end of 2024, we will finalize a new framework that TAHSN hospitals and others can use to integrate equity considerations throughout the various phases of a QI project. Our research team, through their review of the published literature has also begun to identify concrete strategies to modify existing hospital safety monitoring systems to apply an equity lens to detect and act upon patient safety concerns. By leveraging our well-established TAHSN QIPS CoP and broader alumni network, we intend to disseminate these new understandings and novel approaches, test and implement them in a range of clinical settings and evaluate their impact on reducing inequities.

Expanding CQuIPS' position as an integral health system partner:

We firmly established ourselves as a key contributor to the COVID-19 pandemic response through our involvement with the LTC+ program. We have grown our QI consulting activities to help organizations build QI capacity within their teams. CQuIPS core and affiliate members hold major QIPS leadership positions at TAHSN hospitals and in academic departments. We believe that we can bring our collective expertise to bear and work with groups, organizations and the broader health regions to lead and support the implementation of solutions to address the healthcare system's most pressing needs. For example, we intend to draw upon the experience we gained while working with Ontario Health Teams to implement new models of care, build QI capacity across sectors and pursue new opportunities focused on care integration, consistent with our Centre's strategic priority related to health system resilience.

Leveraging CQuIPS' engaged community to grow connections and collaborations to drive improvement at scale:

Our alumni network exceeds 600 individuals working in QIPS across North America, and the establishment of the TAHSN QIPS CoP extends our reach to hundreds more working within and beyond TAHSN organizations. These networks have catalyzed multi-site QI initiatives and research collaborations and brought organizations together in ways that previously were not possible. For example, the TAHSN QIPS CoP enabled coordinated training for 17 organizations by Press Ganey to adopt a common approach to serious safety event classification. We have created an 'ecosystem for collaboration' that includes an engaged community that can be mobilized to implement QIPS solutions at scale. We also plan to do more to engage our alumni directly, either through dedicated alumni events, or by involving them more in our ever-expanding education programs as faculty and coaches. This will be particularly important from a succession planning standpoint, as many of our current faculty have taken on major new roles and have less time to dedicate to teaching.

Building on CQuIPS' international reputation through its stewardship of the SQUIRE international writing guidelines:

By taking on the stewardship of the SQUIRE international writing guidelines in October 2023, CQuIPS became the international standard bearer for QIPS. This affords us the opportunity to shape the future direction of QIPS practice and scholarship and evolve SQUIRE to include a deeper focus on emerging areas such as EDIIA and environmental sustainability. The work required to update and disseminate SQUIRE will involve collaborations with experts working in leading QI centres around the world. It will also expand our interactions with leading journals that publish scholarly QI work. This further strengthens CQuIPS' international standing and creates many exciting opportunities for CQuIPS, and by extension QI researchers and scholars working at Temerty Faculty of Medicine.

Partner more meaningfully with patients:

We have made strides to embed patient partnership in some aspects of our work. For example, CQuIPS is a collaborating centre as part of the Patient-Partnered Centre for Diagnostic Excellence, we have a patient partner serving as a co-principal applicant on CQuIPS-led CIHR grant, and we included a patient partnership session at our Annual Symposium. Despite these examples, our efforts remain inconsistent and lack intentionality. We believe that patient and community partnership will be critical to our efforts to address inequities in healthcare. We intend to seek external consultation and a review of our Centre's activities and priorities and develop a clear strategy towards more meaningful partnership with patients across our QIPS education, research and networking activities.

Report of Learners

This report is based on interviews with twelve learners who participated in one or more CQuIPS education programs between 2020 to 2024. The learners were selected to maximize variability in CQuIPS education program, professional background, organizational context and geographic location. CQuIPS Communications Lead, Camille Borromeo Denbigh, who is not directly involved with the Centre's education programs, conducted the interviews. The following is a synthesis of the feedback provided.

Quality of Teaching and Mentorship

All learners consistently emphasized the exceptional quality of CQuIPS faculty, teaching and mentorship. They valued that faculty had a depth of content and academic knowledge of QI, as well as extensive experience 'doing QI', which allowed for a rigorous and insightful approach to their teaching. Learners noted that they were drawn to the breadth of topics covered in the QI courses and appreciated exposure to newer topics such as health equity, climate sustainability and qualitative methods. Some of the learners remarked that the courses that they attended were "eye opening" for them, significantly expanding their understanding of and approach to QI. Learners commented on the engaging nature of the teaching, noting that "there was a lot of thought put into the presentations". Some learners appreciated the virtual format of courses that allowed more equitable access to CQuIPS learning across professional groups, organizations, and geographic location, particularly for those from less QI resourced contexts. The CQuIPS+ virtual format and recordings made available also facilitated access to national and international speakers. Others emphasized the importance of in-person interactions to forging relationships and networking with fellow learners and mentors. Learners highly valued the mentorship that they received while conducting their course-based QI projects; one learner noted that the primary reason that she attended one of the CQuIPS education programs was for the mentorship and networking that were core elements of the program. Learners described faculty as very welcoming and supportive.

Learner quotes:

"I appreciate that it (CQuIPS) is there...without it I really wouldn't have anything formal to rely on or to go to for additional learning or more collaborations. I know that I can reach out to (CQuIPS faculty names) and to others. I could email them anytime, and they would be more than happy to help. I appreciate the fact that they're there and that they're always expanding. Their Masterclasses and Speaker Series are becoming more and more diverse in the topics."

"The core principles, tools, and so forth in QI can be found from resources online and so forth... it's the application and thinking about that in the context of the problems that I deal with on daily basis and having the input of faculty members who can really provide that context that is really helpful."

"The overall experience of taking part in the CQuIPS course was excellent. I thought the content was well organized, and the flow of the course made sense in terms of building upon material with each subsequent session. I thought the assignments were also quite engaging and nice opportunities to get feedback on your

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There are other smaller opportunities, but nothing that is as developed or as longitudinally mentored as CQuIPS.

project from your peers throughout. Finally, I thought all of the speakers were really excellent, they were all very engaged with the course content and experts in their domains and passionate about teaching which was really appreciated."

Professional Development and Impact on Practice

Learners described a range of ways that CQuIPS education courses and mentorship impacted their QI knowledge, practices and professional roles and opportunities.

Learners highlighted how CQuIPS teaching extended the rigour and scope of their QI work from both a methodological and content perspective. For instance, learners noted the increased rigour in evaluating change resulting from their organization's QI work through use of QI tools such as run charts, as well as success with conference presentations and manuscript submissions. Others reflected on opportunities to expand their methodological repertoire; these included one learner feeling more confident in selecting from different healthcare improvement methodological approaches based on their suitability in addressing a particular QI question as well as another learner who noted the opportunity to bring a QI lens into their academic endeavours rooted in clinical epidemiology. In another example, a learner explained that discussions about climate and QI inspired her to initiate a hospital-based project with a sustainability focus in their local setting. Another learner focused on QI education drew upon the curricular planning of the CQuIPS education course itself to develop a new QI curriculum for trainees at her academic health centre outside of Toronto.

Learners noted that their involvement in a CQuIPS education program played a key role in their taking on new professional activities and leadership positions. In terms of new activities, these included invitations to participate in CQuIPS-led QIPS research or projects. A few of the learners interviewed are now in coaching or teaching roles in CQuIPS education programs and were grateful for this professional development opportunity. One noted that the coaching role helped their to be better prepared for her broader mentorship role in their organization. Networking opportunities through CQuIPS also facilitated connections for learners to collaborate on QI initiatives within organizational settings. In terms of new leadership positions, these included positions such as QI director for a clinical department, a QI position with a national specialty society, and a formal role within Choosing Wisely Canada. In other situations, learners noted that while their specific role did not change, they had more credibility and confidence in their QIPS leadership positions following participation in CQuIPS education programs. For example, one interviewee described that the knowledge acquired through the CQuIPS education program allowed them to be more methodical in the QI-related activities that are involved in their role.

A few learners we interviewed had participated in more than one CQuIPS education program and expressed appreciation for the range of continuing professional development opportunities that they could participate in over time. For example, one learner completed EQUIP and then the Fellowship, enrolled in several Masterclasses and now teaches and coaches in one of the CQuIPS education programs.

Learner quotes:

"It (CQuIPS education program) has made me a lot more comfortable thinking about how to organize a quality improvement project to make it more rigorous for publishing, to make it more academic."

"Before VAQS I was probably an enthusiast around pie charts, because it looks so nice. And now when someone says pie chart to me, I say, let's not use a pie chart, let's do a run chart, or let's do something that

can demonstrate change instead of just proportions that are really difficult to understand.”

“I had kind of dabbled in quality improvement before, I had some projects under my belt. But still, even with that little bit of experience, the certificate course was an eye opener for me. It was a game changer in terms of how I could approach quality problems in my work life...also how to tackle systems kind of problems, and just a different way of thinking.”

Networking and Community Building

The learners valued the networking and community-building afforded through their participation in CQuIPs education programs and beyond. Learners commented on the connections made with their peers during the CQuIPs education programs. For instance, they valued the multi-professional makeup of course participants working in varied organizational contexts, which allowed them to learn from others with different perspectives to inform their QI work. Learners in the Fellowship program valued the opportunity to ‘connect again’ with people committed to a career in QI and to get ‘reenergized’ about QI work and receive feedback from peers. Learners also recognized the importance of networking with CQuIPs core members as well as with individuals working in organizations outside of CQuIPs. For example, one learner appreciated being connected to CQuIPs core members for mentorship on different QI and methodological topics, such as patient engagement and qualitative research. Others commented on the ways in which CQuIPs faculty connected them to others working in QI within their own healthcare settings or to other organizations such as Choosing Wisely Canada. The learners expressed appreciation for CQuIPs’ ongoing community building efforts through regular email, newsletter, social media communications, speaker sessions and sharing of resources such as recent publications. They noted that these communications both allowed them to feel connected.

“
It’s that feeling
like everyone, is
welcome. Everyone
is supported.”

Learner quotes:

“I overall had a fantastic experience. It (CQuIPs education program) is a very unique program. It’s not something that exists in a lot of places...they fostered a community which is hard to do virtually... they did a really great job of creating that.”

“I have really appreciated the camaraderie that has come from the course and the opportunity to meet and work with other individuals from other health professions and disciplines and see how QI work is applied in those areas and learn from others when approaching problems with diverse perspectives.”

“I did find the experience really positive in terms of being able to connect with my peers in the cohort, to make connections, to hear different stories, and to hear different ideas, how projects could look in other settings, what different kind of change ideas exist out there, what different perspectives there are. So I found that really valuable.”

“I’ve always felt that the staff and the facilitators and educators have always just been the most brilliant but also approachable supportive people that I’ve encountered. And so I think that’s part of why I’ve wanted to stay connected. It’s that feeling like everyone, is welcome. Everyone is supported.”

Recommendations

Overall, learners feedback was highly positive. However, they did have a few recommendations.

Some of the learners emphasized the importance of optimizing access to CQuIPs education programs to ‘front-line’ healthcare professionals and to individuals from smaller hospitals and/or working outside of the Toronto area, who do not have the support, from a financial and/or job structure perspective, to attend CQuIPs in-person programs. There was therefore a recommendation to secure 2-3 spots for front line healthcare professionals (e.g., nurses, pharmacists) who have less access to such training opportunities. This focus on accessibility also led these learners to recommend a commitment to virtual learning. However, some of the learners also expressed concern about the negative impacts of virtual learning, stressing the importance of in-person sessions, and that large online sessions make it harder to have interpersonal interactions and conversations, and to optimize networking and learning from others. Learners made specific topic recommendations that they would want to see covered in the courses; for example, one person took the project management CQuIPs+ Masterclass but thinks this is a critical topic to include in the Certificate program.

Other learners described challenges with project feasibility when doing projects as part of the QI education program, especially when organizational support locally is limited. Another learner suggested a ‘sub-track’ for medical education leaders dedicated to QI education rather than learning ‘how to do QI’. Another learner recommended that non-physicians teach some of the education sessions, although it should be noted that this person attended the program prior to CQuIPs making changes to expand professional representation amongst faculty. One of the learners thought that CQuIPs could strengthen their efforts in ‘brand recognition’ to promote the work that it does and attract the ‘best faculty and students’ while another learner wondered about the opportunity for further sharing about CQuIPs community members’ roles and contacts as a means to support communication and collaborations.

Learner quotes:

“The only thing that I missed in some ways was a bit of an in-person opportunity to get to know people. You really don’t realize how much you miss it until you actually get back into that mode. And the interactions do change qualitatively. Although the virtual element of it was really helpful at the time, and it continues to be helpful, especially if you want to attract international and other trainees who might want to take the program, I think, having the opportunity to have local students come together, or those who want to travel and join for the face-to-face sessions would be well worthwhile doing so.”

“
It feels like CQuIPs
is walking the walk
through challenges/
importance of EDI in
QI and PS work.”

Testimonials

CQulPS Partner Hospitals:

Andy Smith, President and CEO, Sunnybrook Health Sciences Centre

Sunnybrook has been a proud funding partner of CQulPS since its inception, which reflects our organization's longstanding commitment to delivering high quality, safe care. The return on investment for our organization has been quite simply extraordinary. The most influential and impactful senior leaders in our organization all have deep connections with CQulPS and continue to derive exceptional value from their ongoing relationship with the Centre. CQulPS brings academic rigor, collaborative spirit and a track record for getting the job done, elevating their impact beyond that of any other academic unit at the University of Toronto.

Jennifer Price, Vice President of Clinical Programs and Corporate Nursing and Professional Practice Executive, Women's College Hospital

The partnership between CQulPs and Women's College Hospital has been instrumental in strengthening our internal quality improvement capacity among interprofessional staff. Not only do CQulPS educational programs provide opportunities to deepen learning, the Centre provides tried and tested forums to mentor others and disseminate learnings from QI work to the broader healthcare community. WCH has deliberately integrated CQulPS programs within our QI professional development leadership pathway and are currently exploring ways we can spread the foundations of this capacity-building partnership to some of our essential support teams. Additionally, CQulPS has played an important role in WCH's efforts to serve as a pivotal connector with the health system. Our shared leadership role in the LTC+ initiative and its success in supporting care in other settings is a testament to our thriving partnership, which we hope will continue and expand.

Lennox Huang, Chief Medical Officer, Vice-President Education, Medical and Academic Affairs, The Hospital for Sick Children

For over a decade, CQulPS has played a pivotal role in building Quality Improvement (QI) capacity at SickKids, significantly aiding our hospital in achieving its quality and safety strategic priorities. From delivering comprehensive foundational QI training to offering advanced QI certification and fostering scholarship, CQulPS equips our staff and trainees with essential QI skills, expertise, and opportunities for academic productivity. Our partnership has resulted in numerous successful quality initiatives and the emergence of several current and future QI leaders in Pediatrics. The collaboration with CQulPS has undoubtedly benefited SickKids and the broader TAHSN community.

On CQulPS Membership:

Chandra Farrer, Manager, Quality, Safety and Patient Experience, Women's College Hospital

Personally, my participation in CQulPS has expanded my professional opportunities through development of leadership skills in quality improvement and fostering collaboration with other improvers. The opportunity to network and develop communities of practice in quality improvement and patient safety support my

scholarly pursuits. Through our organizational partnership at Women's College Hospital, CQulPS is supporting interprofessional capacity building and scholarly activity to help us achieve our quintuple aim.

Christine Soong, Medical Director of Quality and Safety, Sinai Health

CQulPS is synonymous with the highest degree of excellence in academic quality improvement. Being part of the CQulPS family holds great value and enhances my academic career. The relationship with CQulPS has provided me with rare opportunities and in part contributed to my achievements as an academic quality improvement clinician. I am grateful for the many collaborations with Centre members, opportunities to give presentations at the many high-profile and well-attended CQulPS regional and local events, teaching and mentoring opportunities, and most importantly, for the sense of belonging in this wonderful community. Whenever I work with CQulPS on something (e.g., revising SQUIRE, giving a Masterclass, or supervising students in their many course offerings), I know that it will be a positive experience for all participants and that the work will be done thoughtfully, comprehensively and with finesse and heart. CQulPS has been hugely influential in the careers of many quality improvers such as myself, and serves as a trusted and reliable source of outstanding quality and safety education, scholarship and leadership. I feel a deep privilege and honour to be associated with the Centre.

On Education Programs:

Genny Ng, Manager of Quality and Patient Safety, Sunnybrook Health Sciences Centre

CQulPS is very well known in the QI community and has a large network of dedicated QI practitioners. Membership with CQulPS provides an opportunity to connect and exchange ideas with other like-minded professionals committed to enhancing healthcare quality and patient safety. Their monthly sessions consistently deliver high quality and informative content that addresses relevant topics related to quality and patient safety. As a mentor for the Certificate program, I've enjoyed meeting students, and being part of their learning journey. The role of a mentor not only enriches the student's experience, but also allows mentors to stay connected to emerging trends and challenges in healthcare

Katie Gardiner, Director of Quality and Patient Safety, Division of Emergency Medicine, IWK Health Centre

The content in CQulPS education programs is excellent, a good mix of practical and academic. To get that exposure to the academic piece and begin thinking about publishing and career advancement is invaluable. As useful as the content is, a huge benefit was the people I met, connections and networking and the mentorship that I got. CQulPS is quite thoughtful about the small groups that we were put into and the mentors that we were placed with which pairs perfectly with the focused course content.

Sarah Ward, Vice-Chair of Quality, Department of Surgery, University of Toronto

Participating in the CQulPS community as a QI coach is a great experience; keeping me engaged in new and exciting QI initiatives while also allowing me to network within the University of Toronto QI community. Furthermore, CQulPS regularly offers outstanding continuing education opportunities!

Susanna Fung, Quality Improvement Director, Department of Family and Community Medicine, Scarborough Health Network

After several years of teaching QI methodology in postgraduate medical education and leading local QI initiatives with community family medicine colleagues, I enrolled in the Healthcare Improvement Fellowship to further enhance my QI knowledge. The Fellowship provided advanced training in QI methodology, including qualitative measurement and knowledge translation, which were vital for my work in physician wellness and health equity at my site. Leveraging the mentorship and skills gained through the Fellowship, I led the development of an equity-focused QI education program at the Scarborough Health Network, which aims to build QI capacity in Scarborough and give learners the QI tools to implement interventions to address health inequities. The most valuable part of my fellowship has been my continued involvement with CQuIPS. I have been a member of a working group, consisting of equity champions in Toronto, which is conducting a scoping review on equity frameworks. This experience has been vital in expanding my understanding of health equity and how to implement changes at the front line, which has redefined my role as both an educator and a family physician.

On CQuIPS+:

Rosalie Steinburg, Deputy Chief of Psychiatry and Co-Director of Quality Improvement, Department of Psychiatry, Sunnybrook Health Sciences Centre

As an emerging clinical and academic leader in quality improvement, I have participated in and benefitted from a wide array CQuIPS Masterclasses which are well-designed and expertly led. Developed with the busy clinician in mind, these classes have helped me hone and refine my skills in academic writing, quantitative data management, qualitative research as well as how best to promote and disseminate my QI work to a wider audience. As a direct result, I have experienced a significant and positive impact on my career trajectory over the last three years and am grateful to CQuIPS for supporting my professional development.

On Research:

Kelly Smith, Interim Chief Scientific Officer and Michael Garron Chair in Patient Oriented Research, Michael Garron Hospital

CQuIPS has been a partner in research since 2021 and since then we have collaborated with leaders and members of the team on several projects including grant proposals to advance patient safety. CQuIPS is a team of invaluable experts who have helped strengthen our work at East Toronto Health Partners to build QI capacity including co-development of an innovative curriculum that was co-led by community/patient partners. Additionally, we work closely with CQuIPS to embed science capacity which includes projects which advance our mental health journey mapping and operational planning to support access across East Toronto. The need for CQuIPS goes beyond measure, providing invaluable supports to keep pushing, advocating and advancing the quality of our healthcare system.

Greg Ogrinc, Senior Vice President, Certification Standards and Programs, American Board of Medical Specialties

The Standards for Quality Improvement Reporting Excellence (SQUIRE) publication guidelines transformed and brought consistency to the publication of scholarly QI and patient safety work. The SQUIRE guidelines were supported through the White River Junction Veterans Hospital and the Geisel School of Medicine at Dartmouth through initial development in 2008 and a revision in 2015. Now, SQUIRE is ready for its next iteration and the leadership at CQuIPS is ideally suited for this work. The scholarly QI/PS work at CQuIPS is the right place for the oversight and continued development of SQUIRE. CQuIPS has the expertise and the international collaboration skills to drive SQUIRE to greater impact. Transitioning SQUIRE to CQuIPS has provided it with new energy and a clear path forward.

Amol Verma, GEMINI Co-Lead, Clinician Scientist and Temerty Professor in AI Research and Education in Medicine, University of Toronto and Fahad Razak, GEMINI Co-Lead, Clinician Scientist and Canada Research Chair in Healthcare Data and Analytics, University of Toronto

GEMINI is a network that enables hospitals across Ontario to share electronic clinical data for quality improvement and research. It has been a pleasure to work with the team at CQuIPS on various quality improvement projects over the past four years. In addition to collaborating on launching LTC+, a city-wide program to support long-term care facilities with urgent medical services, we have also been actively collaborating on the development of the TAHSN Quality Improvement and Patient Safety Community of Practice. Through TAHSN, we are launching a multi-site initiative to use artificial intelligence and quality improvement methods to improve the prevention of delirium in hospitals. Partnering with CQuIPS to develop these innovative models of care has been a tremendously positive experience. The CQuIPS team has deep expertise in quality improvement, they are highly professional, and by being clinician-led, they simply “get it” when it comes to implementing change in real-world clinical environments. They have a vast network of quality improvement leaders across healthcare organizations in Ontario (and beyond), which enables the implementation of change. They bring a rigour and methodological grounding, while also approaching problems in a pragmatic, solution-oriented way, that is focused on making real change.

On TAHSN:

Jason Manayathu, Director, Toronto Academic Health Sciences Network

CQuIPS has fostered a community across the Toronto Academic Health Network (TAHSN) that is not only committed to excellence and learning, but to collaboration in developing and sharing new and innovative quality improvement and patient safety tools, resources, and initiatives. In 2021, the centre launched a TAHSN QIPS Community of Practice, which has been instrumental in engaging QI leaders from across our network, and beyond, to collaborate on advancing equity in QI, enabling multi-site QI projects through data sharing, and improving patient safety. This work will be foundational to enabling QIPS initiatives that span the network and improve outcomes and experience for patients in the Greater Toronto Area.

On QI Capacity Building:

Praby Singh, Medical Director – Quality, Scarborough Health Network

Scarborough Health Network is committed to continuous quality improvement as a core corporate priority. As we continue our QI journey, we recognized the need for formal training within our organization around implementing quality improvement methodology. We reached out to Dr. Brian Wong and his team at CQuIPS to help fill this gap.

Working with Dr. Wong and the CQuIPS team has been an excellent experience. Their approach was to spend time to understand our needs which resulted in a customized program with two half day sessions. Our facilitators – Drs Wong and Ostrow – were engaging and inspirational while providing excellent content that will help SHN continue to build our quality improvement infrastructure. Our staff found the sessions highly informative and rewarding. I would highly recommend CQuIPS to any organization looking to increase their comfort and skill level with quality improvement science.

On Health System Partnerships:

Rose Cook, Vice President, Clinical Programs and Capacity, Access and Flow, Ontario Health Toronto

Our partnership with the CQuIPS team has proved invaluable throughout the pandemic and beyond. Their team's keen awareness of long-term care (LTC) home's rising needs supported the rapid development of LTC+, a multi-partner initiative that provided LTC homes with access to hospital based supports during a highly critical time. This initiative, paired with their expertise in quality improvement, program design and evaluation, has further championed both the development and the advancement of Ontario Health Toronto Region's LTC Local Support Model. The CQuIPS team not only brings a high level of proficiency, but also the care and compassion needed to drive our collective goal of better quality and access to care for long-term care residents.

Jeff Powis, Medical Lead, Integrated Care, Michael Garron Hospital and East Toronto Health Partners

The CQuIPS team were paramount in the knowledge dissemination and application of QI principles among our Ontario Health Team (East Toronto Health Partners-ETHP). QI was a new concept for many of our partners and the CQuIPS team were patient, responsive and adaptive. The co-designed sessions allowed for broad stakeholder engagement and rich participation leading to far superior collaborative Quality Improvement Plan (cQIP) compared to prior years.

As a result of our positive experience with the CQuIPS team in the development and implementation of the ETHP cQIP we engaged them to assist with the evaluation of our Integrated Care Pathways. The CQuIPS team's pragmatic approach and skilled facilitation has helped shape not only our evaluation but also pushed us to think about the problems and change ideas in a unique way that will improve our pathways and the care we provide to the people in East Toronto.

Wendy Levinson, Chair, Choosing Wisely Canada

Choosing Wisely Canada has proudly partnered with CQuIPS on national programs including Using Labs Wisely, a learning collaborative designed to decrease the use of unnecessary lab testing, and on a national fellowship training program. In addition we have commissioned CQuIPS to develop state of the art toolkits to assist users implementing the Choosing Wisely recommendations in practice.

In all our interactions CQuIPS has provided excellent high quality work and has been a superb partner. We plan to continue and expand our collaborative work toward our shared goal of improving healthcare for Canadians.

On Local Relationships with Clinical Departments:

Tara Kiran, Fidani Chair in Improvement and Innovation and Vice-Chair of Quality and Innovation, Department of Family and Community Medicine, University of Toronto

CQuIPS has been a valuable partner and collaborator to the Department of Family and Community Medicine, particularly when it comes to capacity building of faculty and staff to lead quality improvement work at our teaching sites. For the last three years, we have been subsidizing the tuition fee for the certification program to encourage our faculty to apply and participate. Those who have done so have greatly valued the rigorous teaching and the supportive mentorship—the course increased their confidence and skills and also added to their joy in work. I'm grateful to Brian and the team for supporting so many of our faculty and staff to gain needed expertise in QI.

Sanjeev Sockalingam, Chief Medical Officer and Vice-President, Education, Centre for Addiction and Mental Health

CQuIPS has been a foundational resource for many faculty in our Psychiatry department at the University of Toronto. It has provided many of our faculty with advanced skills in QI to help lead improvement initiatives and launch their QI careers. The ongoing collaboration with the CQuIPS community has been critical to their ongoing growth as QI leaders and scholars.

On Local Relationships with Extra-Departmental Units:

Stella Ng, Director and Scientist, Centre for Advancing Collaborative Healthcare and Education, University of Toronto

CACHE's collaboration with CQuIPS has been both longstanding and dynamic, responding together to serve the system's needs. For example, members of the CACHE team have taught in CQuIPS programs, representing an important fusion of quality improvement and patient safety concepts and practices with interprofessional collaboration. Likewise, members of the CQuIPS team fulfill leadership roles from local to international in the interprofessional education and collaborative practice (IPECP) sphere, including major journal editorships. This purposeful bridging of the QI & PS field with IPECP represents important and impactful leadership for a healthcare system that requires all hands on deck and fusion of perspectives, now more than ever. Recently, we partnered to acquire collaborative grants to advance knowledge in continuing

professional development (CPD)—a space both Centres work within—particularly in the areas of education science and health equity. Beyond our collaborations, at CACHE we have appreciated learning from CQuIPs' innovative approaches, deep TAHSN-wide reach through communities of practice, and excellence in pragmatic program design and flexible offerings including CQuIPs+. By breaking down disciplinary siloes, and practicing the continuous quality improvement it teaches, CQuIPs is a role model in our system, ensuring it will remain relevant and achieve optimal outcomes through its work.

Fiona Miller, Professor, Institute of Health Policy, Management and Evaluation and Director, Collaborative Centre for Climate, Health and Sustainable Care

As a new EDU-C in the busy and highly productive UofT/TAHSN research, education and practice change environment, we have benefited enormously from our engagement and collaboration with CQuIPs. The benefit has come from the wise counsel of CQuIPs' past and current leaders, who have shared expertise and insight about how EDU-Cs can fulfill their mission and add value to the communities they serve. The benefit has come also from the willingness to explore ways to collaborate at the intersection of our shared interests – that is, in the critical space where quality improvement and climate and health intersect. Thus far, we have co-sponsored a seminar, to build awareness of these shared interests and strengthen our respective networks, and are actively working to identify other ways to collaborate, including through a CQuIPs-featured panel session at the Collaborative Centre's inaugural symposium in October 2024. The spirit of collaboration, synergy and shared growth that animates CQuIPs has informed our work together and our approach to working with other centres of excellence at UofT/TAHSN.

On Provincial Relationships:

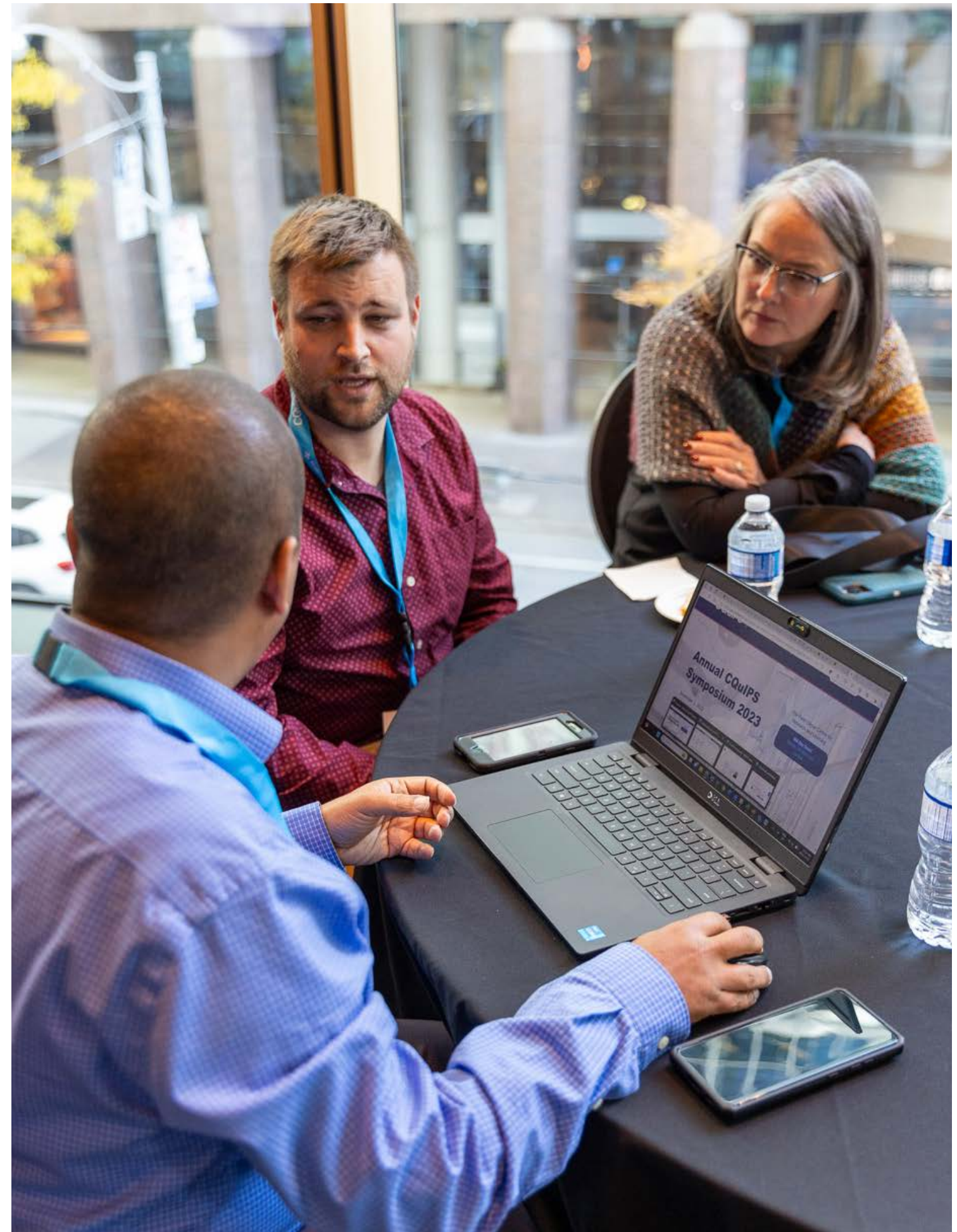
Alan Gob, Clinical Lead, Centre for Quality, Innovation, and Safety (CQUINS), Western University

Our relationship with CQuIPs has truly been transformative. As only the second centre for healthcare quality in the country, we look to CQuIPs as our model in nearly every area: culture, structure, and approach to growth and sustainability. Their guidance has been crucial in helping us reach where we are today.

We see CQuIPs as the national leader of our quality improvement community of practice, providing invaluable networking opportunities for like-minded individuals. Whether it's through formal events like their annual symposium or informal sharing of ideas, practices, and strategies, their generosity and openness have been a huge asset to us.

CQuIPs is also our go-to source of inspiration for the craft of quality improvement, constantly pushing us to achieve higher standards. Their innovative approaches have motivated us to elevate our own practices, ultimately benefiting the patients and communities we serve.

I can't recommend CQuIPs enough as a partner to any organization dedicated to quality improvement. Their mentorship, networking opportunities, and commitment to advancing the field make them an invaluable partner. Working with CQuIPs has significantly enriched our efforts and outcomes at CQUINS.



Appendix

1.0 Introduction

1.1 Strategic Plan Overview



1.2 Membership Criteria

Core Members

- Have a leadership role with CQIPs. This can include:
- Being a course director or core faculty member for a CQIPs education program (certificate course, EQUIP or VAQS)
- Serving as the principal or senior investigator on a CQIPs research project and/or grant
- Leading or co-leading a CQIPs QI project and/or strategic initiative

Affiliate Members:

- Actively support CQIPs education, research or other professional activities. This can include:
- Guest speaking and/or coaching for a CQIPs education program (certificate course, EQUIP)
- Teaching for the Co-Learning Curriculum in QI and/or providing direct supervision for the resident QI project
- Teaching and/or coaching for the IHPME QIPS Master's program
- Teaching a CQIPs+ education offering (e.g., workshop, masterclass, primer)
- Being a co-investigator on a CQIPs research project and/or grant
- Being a key collaborator on a CQIPs QI project and/or strategic initiative
- Enabling or supporting the work of CQIPs members and learners through a leadership role in either a clinical institution or academic department
- Playing a lead role on a research, education and/or QI initiative that is aligned with CQIPs' mission and vision where a CQIPs leadership team member is a key collaborator

Emeritus Members:

- Invited, recognized for having made a significant contribution to CQIPs

General Members:

- Have QIPS work and interests aligned with the Centre
- They receive regular updates as part of the broader CQIPs community

1.3 List of CQuIPS Affiliate Members

Name	Organization	Department
Nimrah Abbasi	Sinai Health	Obstetrics and Gynecology
Sara Hafezi-Bakhtiari	Lakeridge Health	Lab Medicine
Chandandeep Bal	Sickkids	Paediatrics
Suzanne Beno	SickKids	Paediatrics
Sita Bhella	University Health Network	Medicine
Zia Bismilla	SickKids	Paediatrics
Paula Blackstien-Hirsch	Quality thru Improvement	Quality and Safety
Genevieve Bouchard	University Health Network	Obstetrics and Gynecology
Mayur Brahmania	University of Calgary	Medicine
Allison Brown	University of Calgary	Research
Nirmala Chandrasekaran	Unity Health Toronto	Obstetrics and Gynecology
Lucas Chartier	University Health Network	Medicine
Marlys Christianson	University of Toronto	Healthcare Management
Stephanie Chu	SickKids	Nursing
Lindsay Clarke	SickKids	Nursing
Antoine Corbeil	Public Health Ontario	Lab Medicine
Katie Dainty	North York General Hospital	Paediatrics
Chaitali Desai	Sunnybrook Health Sciences Centre	Quality and Safety
Irfan Dhalla	Unity Health Toronto	Medicine
Lisa Dubrofsky	Women's College Hospital	Medicine
Sid Feldman	Baycrest	Family Medicine
Margot Follett Rowe	SickKids	Nursing
Natasha Gakhal	Women's College Hospital	Medicine
Joanna de Graaf-Dunlop	Ontario Health	Quality and Safety
Amir Ginzburg	Trillium Health Partners	Medicine
Josh Gleicher	Sinai Health	Anesthesia
Alan Gob	University of Western Ontario	Medicine
Meiqi Guo	University Health Network	Medicine
Brigette Hales	Sunnybrook Health Sciences Centre	Quality and Safety
Ilana Halperin	Sunnybrook Health Sciences Centre	Medicine
Hina Hanif	Unity Health Toronto	Lab Technology
Chris Hayes	Trillium Health Partners	Medicine
Jay Hingwala	University of Manitoba	Medicine
Trevor Jamieson	Unity Health Toronto	Medicine
Aamir Jeewa	Sickkids	Paediatrics
Charles Kassardjian	Unity Health Toronto	Medicine
Houman Khosravani	Sunnybrook Health Sciences Centre	Medicine

1.3 List of CQuIPS Affiliate Members continued

Name	Organization	Department
Joseph Kim	University Health Network	Medicine
Ayelet Kuper	Sunnybrook Health Sciences Centre	Medicine
Janice Kwan	University Health Network	Medicine
Shirley Lake	Sunnybrook Health Sciences Centre	Medicine
Ron Laxer	SickKids	Paediatrics
Jerome Leis	Sunnybrook Health Sciences Centre	Medicine
Charles Lim	Trillium Health Partners	Medicine
Alex Lo	University Health Network	Medicine
Lynn Mack	SickKids	Nursing
Tom MacMillan	University Health Network	Medicine
Amanda Marrone	The Royal Victoria Regional Health Centre	Family Medicine
Larissa Matukas	Unity Health Toronto	Lab Medicine
Conor McDonnell	SickKids	Paediatrics
Sara Mitchell	Sunnybrook Health Sciences Centre	Medicine
Shawn Mondoux	McMaster University	Medicine
Jeff Mosko	Unity Health Toronto	Medicine
Geetha Mukerji	Women's College Hospital	Medicine
Genny Ng	Sunnybrook Health Sciences Centre	Quality and Safety
Richard Norman	Sinai Health	Medicine
Laura Oxenham-Murphy	Holland Bloorview	Quality and Safety
Jacob Pendergrast	University Health Network	Medicine
Sonia Pinkney	University Health Network	Quality and Safety
Stephanie Poon	Sunnybrook Health Sciences Centre	Medicine
Jeff Powis	Michael Garron Hospital	Medicine
Tania Principi	SickKids	Paediatrics
Raj Rasasingham	Humber River Health	Psychiatry
Fahad Razak	Unity Health Toronto	Medicine
Don Redelmeier	Sunnybrook Health Sciences Centre	Medicine
Asaph Rolnitsky	Sunnybrook Health Sciences Centre	Paediatrics
Mahsa Sadeghi	Sunnybrook Health Sciences Centre	Nursing
Priya Saini	SickKids	Paediatrics
Deb Schonfeld	SickKids	Paediatrics
Dominick Shelton	Sunnybrook Health Sciences Centre	Medicine
William Silverstein	Sunnybrook Health Sciences Centre	Medicine
Sanjeev Sockalingam	CAMH	Psychiatry
Manal Tadros	SickKids	Lab Medicine
Carolyn Tan	University of Toronto	Medicine

1.3 List of CQuIPS Affiliate Members continued

Name	Organization	Department
Nicole Thomson	Grand River Hospital	Quality and Safety
Samuel Vaillancourt	Unity Health Toronto	Medicine
Janaki Vallipuram	SickKids	Paediatrics
Amol Verma	Unity Health Toronto	Medicine
Andrea Waddell	Waypoint	Psychiatry
Karen Wang	Sunnybrook Health Sciences Centre	Psychiatry
Sarah Ward	Unity Health Toronto	Orthopedic Surgery
Adam Weizman	Sinai Health	Medicine
Cynthia Welton	Trillium Health Partners	Quality and Safety
Melanie de Wit	Unity Health Toronto	Legal
Jesse Wolfstadt	Mount Sinai Hospital	Orthopedic Surgery
Jennifer Wong	Sunnybrook Health Sciences Centre	Speech Language Pathology
Victoria (Tori) Woolner	University Health Network	Nursing
Peter Wu	University Health Network	Medicine
Samara Zavalkoff	Montreal Children's Hospital	Paediatrics

1.4 Awards

Name	Organization	Department	
International			
Top 25 Articles of 2019-Ranked #2	Bourne Auguste	Canadian Medical Association Journal	2020
The Top (Five) AAP News Stories of 2022	Olivia Ostrow	American Academy of Pediatrics	2023
Best of the Annual Research Meeting	Kelly Smith	Academy of Health, DC	2022
National			
1st Place Prize, IHDCYH Talks Video Competition	Alene Toulany	Canadian Institutes of Health Research	2024
R.O. Jones Best Paper Award (2nd Place)	Alene Toulany	Canadian Psychiatric Association	2021
AFMC Clinical Teacher Award	Edward Etchells	Association of Faculties of Medicine in Canada	2022
Third Place Quality Improvement Abstract - Canadian Association of PM&R National Conference	Amanda Mayo	Canadian Association of Physical Medicine and Rehabilitation	2020
FMF LOVED Program Selection (Live On-Demand Virtual Education)	Olivia Ostrow	College of Family Physicians of Canada	2023
Provincial			
People's Choice Award Best Rapid Podium Presentation	Amanda Mayo	GTA Rehab Network	2023
PARO Excellence in Clinical Teaching Award	Edward Etchells	University of Toronto	2020
Local			
Early Faculty Award for Quality Improvement	Bourne Auguste	Sunnybrook Health Sciences Centre	2022
Individual Champion Award, Sinai Health Awards of Excellence in Quality and Safety	Tara Burra	Sinai Health	2022
Academic Scholars Award	Tara Burra	University of Toronto	2022
Our Shared Values Award for Community	Tara Burra	Unity Health	2020
Best International Papers in Quality and Safety	Trey Coffey	CQuIPS Symposium	2023
Department of Medicine Academy of Master Clinicians	Edward Etchells	University of Toronto	2023
Department of Medicine Teacher of the Year	Edward Etchells	University of Toronto	2022
SHSC Department of Medicine Peter Webster Award for Excellence in Teaching and Patient Care	Edward Etchells	Sunnybrook Health Sciences Centre	2021
Teaching Excellence Award	Edward Etchells	University of Toronto	2021
Teaching Excellence Award	Edward Etchells	University of Toronto	2020
Goldie Award in Quality and Innovation	Amanda Mayo	Department of Medicine, University of Toronto	2022
Resident Advocate Award	Eric Monteiro	University of Toronto	2021
UHN Emergency Medicine Award for Research Excellence, Best Research Publication	Olivia Ostrow	University Health Network	2022
Outstanding Clinical Contribution Award	Olivia Ostrow	Sickkids	2022
Citizenship Award	Christine Soong	Sinai Health	2021
Quality Improvement Award	Christine Soong	Sinai Health	2021
Mentorship Award	Christine Soong	Sinai Health	2021
Goldie Award in Quality and Innovation	Adina Weinerman	Department of Medicine, University of Toronto	2023

1.4 Awards continued

Leo N. Steven Excellence in Leadership Award	Adina Weinerman	Sunnybrook Health Sciences Centre	2023
General Internal Medicine (GIM) Mak Investigator Award	Adina Weinerman	University of Toronto	2022
Excellence in Resource Stewardship Teaching Award	Adina Weinerman	Temerty Faculty of Medicine, University of Toronto	2022
Department of Medicine Continuing Education Award	Adina Weinerman	Sunnybrook Health Sciences Centre	2021
Charles Mickle Fellowship Award	Brian Wong	University of Toronto	2024
Excellence in Resource Stewardship Teaching Award	Brian Wong	University of Toronto	2023
Dean's Alumni Award (Emerging Leader Award)	Brian Wong	University of Toronto	2021

2.0 Education

2.1 CQUIPS Education Program Comparison Chart



Centre for Quality Improvement & Patient Safety

Program Comparison Chart

Still have questions? Don't hesitate to contact us at cquips@utoronto.ca or visit us at cquips.ca

PROGRAM	DATES	TUITION	TARGET AUDIENCE	LETTER OF SUPPORT	QI BACKGROUND	COURSE REQUIREMENTS	TIME COMMITMENT	LOCATION	UPON COMPLETION
Certificate Course	September 2024 - June 2025	Physicians: \$5495 CAD Residents, fellows, trainees, health professionals: \$3495 CAD	<ul style="list-style-type: none"> Health professionals Faculty members Senior trainees considering a focus on QI and patient safety in their work 	Yes	Not required	Assignments and individual QI project work	<ul style="list-style-type: none"> Bi-weekly - Tuesday afternoons 1-4:30pm 	In person (CQUIPS Sickkids Site)	University of Toronto Certificate
Excellence in Quality Improvement Program (EQUIP)	July 2024 - May 2025	\$6995 CAD	<ul style="list-style-type: none"> Academic faculty seeking to more meaningfully integrate QI into their clinical work or scholarly activities. Senior trainees wanting to make QI an academic career focus. Health professionals in advanced practice or leadership positions working in academic health centres 	Yes	Recommended	Assignments and individual QI project work	<ul style="list-style-type: none"> Jul 30-31 2024 Aug 1 2024 May 7-9 2025 Monthly webinars from August 2024 - March 2025 Additional dedicated time for project work 	Virtual	University of Toronto Certificate
VA Quality Scholars (VAQS)	July 2024 - May 2026	\$3500/year + self funding for travel and lodging at the Summer Institute (Nashville, TN)	<ul style="list-style-type: none"> Fellows Early-career faculty in various healthcare disciplines ** Interviews will be conducted. 	Yes	Not required	Individual and group assignments and individual QI project work	<ul style="list-style-type: none"> Fridays 1-3pm (virtual) Summer Institute: Aug 2024 TBD CQUIPS Symposium: (Nov 19, 2024) 	Virtual, In person (CQUIPS Sickkids Site) In person (Nashville, TN)	Diploma
Healthcare Improvement Fellowship	September 2024 - June 2025	No tuition; fellows provide in-kind support to CQUIPS priority activity	<ul style="list-style-type: none"> Graduates of an advanced QIPS education program with protected time to carry out QIPS work 	Yes	Required	Prepare a presentation, conduct a fellowship project, contribute to CQUIPS activity	<ul style="list-style-type: none"> 2 full day sessions (Sept and June) 1 hybrid session (Jan) Monthly 2 hr. meetings 	Virtual and In person (CQUIPS Sickkids Site)	N/A

A live version of this chart can be found on the CQUIPS website.

2.2.1 Certificate Course in QIPS 2023–2024 Syllabus

Location

All sessions will take place at 525 University Avenue, Suite 630 (subject to change)

General schedule

All sessions start at 1:00PM and run until 4:30PM. In the event we are allowed to serve food, there will be lunch provided from 12:30PM –1:00PM.

Session dates and schedule of topics (*topics subject to change)

Session	Date	Title	Department
1	Sep 12	Course Intro/Networking-	Medicine
2	Sep 26	Keynote: 11 common pitfalls –	Medicine
3	Oct 17	QI projects: (include framework for project selection)	Medicine
4	Oct 24	Introduction to Safety and Introduction to Stewardship – Virtual	Medicine
5	Nov 7	Equity in QI	Paediatrics
6	Nov 21	Measurement I – Quantitative Measures	Medicine
7	Dec 5	Quality Improvement Diagnostic Tools	Medicine
8	Jan 9	Project Progress Updates –Virtual	Medicine
9	Jan 23	Patient engagement – Virtual	Nursing
10	Feb 6	PDSA	Medicine
11	Feb 27	Qualitative Methods in QI	Family Medicine
12	March 5	Measurement II – Run charts and Control chart –	Lab Medicine
13	March 19	Project Progress Updates (Measures) – Virtual	Paediatrics
14	April 2	Leading Change Patient Safety Incident Analysis –	Medicine
15	April 16	Introduction to Human Factors (Engineering) Human Factors Engineering – Usability Testing	Medicine
16	April 30	Project Progress Updates –Virtual	Medicine
17	May 14	LEAN	Medicine
18	May 28	Health Informatics Sustain Change in Quality Improvement	Quality and Safety
19	June 11th	Certificate Course Capstone	Medicine

Course requirements

- You will be expected to complete your pre-readings and several short pre-post reflective assignments.
- You will be expected to be in attendance and not miss more than 3 sessions in order to be eligible for the certificate accredited by Continuing Professional Development, Faculty of Medicine, University of Toronto. If you miss more than 3 sessions in total without special consent from the Course Co-Directors, you will be at risk of not obtaining a certificate.
- You will also be expected to complete four assignments, one of which is a presentation of your project, to be delivered during the Capstone session.

2.2.1 Certificate Course in QIPS 2023–2024 Syllabus continued

Course readings and pre-readings:

The following books listed below are the main course readings. The first is to be read before the start of the course. The second one is a course textbook with chapters to which we will refer during the course of the program. Both will be sent as electronic copies to you. Pre-readings for each session that will be emailed one week in advance of the session.

Kenney C. The Best Practice: How the New Quality Movement is Transforming Medicine. New York: Public Affairs, 2008.
Ogrinc GS, Headrick LA, Moore SM, Barton A.J, Dolanksky MA, Madigosky WS. Fundamentals of Health Care Improvement: A Guide to Improving Your Patients' Care (3rd Edition). Oakbrook Terrace, IL: Joint Commission, 2018.

Coaches

You will be assigned a coach who will be available during out of class times to support you in your QI work as well as to provide feedback on your assignments. The expectation is that the onus will be on you to reach out to your coach to get the process going. We ask that you set up a meeting with your coach within the first month of the course to discuss:
Your preliminary project ideas and feasibility
The overall goals/expectations for the coaching relationship (how often you will meet/connect, what methods of doing so, and also what methods for providing feedback that will work best for you both)

Informal Presentations

You will be presenting on the current status of your projects at the following checkpoints:
Nov 21, 2023/Feb 27, 2023 Apr 16, 2024/June 11, 2024

Assignments and Deadlines for submission

Assignments will be submitted via Google Docs and Word document. Please sign up for a Gmail account.

Session	Deadline
Assignment 1 Before coming up with a completely de novo improvement project, find out what's going on in your organization and explore quality priorities of your organization. Investigate to see if someone has thought about or worked on your proposed project before. This assignment will be delivered verbally	Sep 26, 2023
Assignment 2 Project proposal, to be submitted via Google Docs to your coach at touchpoint well before the due date so that they can provide feedback.	Dec 5, 2023
Assignment 3 choose 1 of 3 from below: Process map/fish bone diagram (direct observation) – submit the diagram with an accompanying report (500–1000 words) answering: – why did you use this tool; 2) what did you learn; 3) what do you plan to do next Conduct and summarize a PDSA cycle (500–1000 word report) Summarize a key stakeholder interview (500–1000 word report)	Mar 5, 2024
Assignment 4 Capstone presentations	Jun 11 2024

2.2.2 Certificate Course in QIPS session evaluations

Session	Virtual (2021-22)	In-Person (2022-23)	In In-Person (2023-24)
Course Intro & Common QI Pitfalls	4.3	5.0	4.38
QI Projects/ Intro to Safety Stewardship	4.7	4.7	4.27
QI Diagnostics	4.1	4.4	4.17
Measurement I	4.1	4.6	4.67
Project Update	4.6	4.4	4
Leading Change	3.9	4.9	4
Patient Engagement	3.7	4.6	3.9
Equity in QI	3.9	4.2	4.14
PDSA	4.3	4.9	4.29
Qualitative Methods	4.3	4.5	4
Measurement II	4.6	5.0	5
Project Update	4.4	4.4	4
Patient Safety Incident Analysis	4.7	5.0	4.78
Introduction to Human Factors	4.7	5.0	4.5
Project Update	4.0	4.4	4
Health Informatics / LEAN	4.8	5.0	4.4
Teamwork and Communications	4.0	4.8	4.33
Sustainability in QI	N/A	4.8	4

2.2.3 List of Certificate Course Learners

2020-2021	
Abdulrahman	Alsabban
Kathleen	Andres
Arvand	Barghi
Julien	Bernatchez
Debbie	Childerhose
Stephanie	Chu
Elif	Cizmeci
Paloma	de Costa
Uday	Deotare
Gousia	Dhhar
Lesley	Donovan
Meghna	Dua
Kari	Fulton
Jane	Kobylianskii
Alex	Kumachev
Genevieve	Lennox
Joel	Livingston
Mary	Mahler
Natalie	Mathews
Hayley	Robinson
Sara	Sadooghi
Priya	Saini
Samiksha	Singh
Alyssa	Swartz
Christine	Tenedero
Lori	Tuira
Andrew	Yuen

2021-2022	
Maxime	Bilick
Ginny	Chen
Joey	Cheng-Singleton
Maria Jose	Conejero Muller
Cesar	Cuen
Anastasia	Debakova
Zhiye (Jeanie)	Fei
Meri Kinneret	Fleiman
Maru	Gete
Erika	Hammer
Shawna	Kelly
Muhammad	Khan
Karen	Levy
Melanie	Lipka
Andrew	Milroy
Ruchi	Mohindra
Erica	Patterson
Carla	Rosario
Divyajot	Sadana
Priya	Sayal
Larissa	Shapka
Devin	Singh
Evangelia	Theodosopoulos
Manuel	Tisminetzky
Gabriel	Tse
Mara	Waters

2.2.3 List of Certificate Course Learners continued

2022-2023	
Aos	Aboabat
Samar	Aboulain
Sarah	Brown
Anna	Bruce
Tsega	Cherkos
Kathleen	Demers
Isabel	Freidmann
Paul	Glover
Candice	Griffin
Laura	Guilder
Shabnam	Hamidi
Stephen	Jersak
Rahul	Joshi
Sarang	Kshirsagar
Tamar	Lobl
Danielle	Meschino
Vaibhav	Mokashi
Sindiswa	Ntloko
Cindy	Ren
Rebecca	Shantz
Sanam	Shinde
Yuri	Suico
Sarah	Tosoni
Sandra	Walsh

2023-2024	
Alan	Zhou
Marie	Felixe Granger
Alvita	Chan
Kimia	Sheikholeslami
Beatriz	Moschair
Maryam	Obaidallah
Osamah	Jarallah
Richard	Odwyer
Aban	Babhri
Clarissa	Skorupski
Orli	Bogler
Paige	Reason
James	Callahan
Grey	Moonen
Wan	Lee
Nancy	Xi
Marta	Wais
Marlon	Imasogie
Gloria	Lau
Brianne	Burton
Marjan	Bazleh
Maureen	Haig
Lor	Tecson
Jessica	Bawden
Allison	Starr
Gibbum	Lee
Asha	Shelton

2.3.1 EQUIP 2023-2024 Syllabus

Summer Session	Day 1	Day 2	Day 3
Morning	<p>Common QI pitfalls: Why many projects fail and what you can do about it</p> <p>Strategic selection of QI projects to maximize likelihood of impact and success</p>	<p>Incorporating an equity lens to your QI Work</p> <p>Patient partnership to co-design QI solutions</p>	<p>Evaluating your QI impact: Statistical process control</p> <p>Design thinking and the role of human factors in QI</p>
Afternoon	<p>Creating a robust measurement plan for your QI work</p> <p>Diagnostic tools in QI for characterizing target quality problems</p>	<p>Plan-Do-Study-Act cycles: How to use them authentically</p>	<p>Leading change through meaningful stakeholder engagement</p>
Monthly Webinars	<p>Aug: Practical suggestions to address equity concerns in QI</p>	<p>Sept: Project update session (Problem/ aim statements)</p>	<p>Oct: Applying ethical principles to your improvement work</p>
	<p>Nov: Project update session (Measures and measurement strategy)</p>	<p>Dec: Qualitative Methods in QI</p>	<p>Jan: Project update session (Engaging others in your QI work)</p>
	<p>Feb: Using the SQUIRE guidelines to write up your QI work</p>	<p>Mar: Project update session (PDSA)</p>	
Summer Session	Day 4	Day 5	Day 6
Morning	<p>Capstone project presentations</p>	<p>Incorporating an equity lens to your QI Work</p> <p>Patient partnership to co-design QI solutions</p>	<p>Evaluating your QI impact: Statistical process control</p> <p>Design thinking and the role of human factors in QI</p>
Afternoon	<p>Concurrent sessions:</p> <ul style="list-style-type: none"> • How to teach QI • Statistical Process Control 2.0 	<p>Concurrent sessions:</p> <ul style="list-style-type: none"> • Advanced quantitative methods • Advanced qualitative methods 	<p>Building your academic QI focus</p>

2.3.2 EQUIP session evaluations

EQUIP Sessions	2020-21	2021-22	2022-23	2023-24
Overcoming Common QI Pitfalls	8.9	8.8	8.9	8.46
Strategic Selection of QI projects	8.6	9.3	9.2	9.1
Power of Small Samples	8.9	8.9	n/a	n/a
Creating a QI Measurement Framework	n/a	9	n/a	n/a
Advanced Measurement in QI	n/a	n/a	9.3	7.5
QI Diagnostic Tools	8.8	9.2	8.9	8.72
User-Centered Design	8.1	n/a	n/a	n/a
Design Thinking	n/a	8.6	9.6	9.26
Statistical Process Control	8.9	9.8	9.3	9.34
Patient Partnership	n/a	n/a	n/a	9
Authentic PDSA Cycles	9.1	9.7	9	9.28
Ethical Considerations for QI	8	8.4	8.6	9
Leading Change	8.5	9.5	9.2	9.78
Qualitative Methods	6.9	8	8	8.76
Writing up your QI project	9	9.8	8.4	9.26
Teaching QI to individuals and teams	9.1	9.3	9.3	n/a
Establishing an Academic QI Focus	8.9	9.2	10	9.76
Artificial Intelligence in QI	6.7	n/a	n/a	n/a
Developing a Business Case for your QI project	9	9.1	9.5	9.56
Advanced Evaluative Methods	7.8	8.4	9.4	8
Health Equity	9.5	8.4	9	8.72
Health Equity Part 2	n/a	n/a	n/a	8.88
Abstract Writing Exercise	9.8	9.8	9.4	9.34
Advanced Qualitative Methods	7.5	10	9.7	10
Supervising QI Projects	9.2	8.6	8.5	9
Statistical Process Control 2.0	n/a	10	9.5	10

2.3.3 List of EQUIP Learners

2020-2021	
Jennifer	Amadio
Anne	Aspler
Tahara	Bhate
Fulan	Cui
Gerhard	Fusch
Katie	Gardner
David	Kodama
Anne-Sophie	Lemay
Patricia	Lofiego
Jacqueline	MacKay
Amber	Makino
Andrea	Martinez
Louise	Moist
Moein	Momtazi
Jananie	Ramesh
Bayane	Sabsabi
Michael	Sattin
Trisha	Tulloch
Jennifer	Wiebe
Erin	Wong

2021-2022	
Zeenia	Aga
Ghadeer	Alahmadi
Anita	Au
Darshan	Brahmbhatt
Frances	Carr
Krista	Cassell
Thomas	Cawthorn
Uday	Deotare
Shewit	Giovanni
Marcio	Gomes
Wayne	Hung
Joseph	Kim
Andreas	Krull
Justine	Lessard
Guillaume	Maitre
Dana	Mayer
Madeleine	Murphy
Hamdi	Najjar
Alexandra	Rendely
Minako	Sano
Abhishek	Shrestha
Aman	Sidhu
Heraldo	Valladao

2.3.3 List of EQUIP Learners continued

2022-2023	
Mustafa S	Abdul-Moheeth
Negar	Ahmandi
Eman	Aljohani
Michelle	Bergeron
Eve	Capistran
William	Caryl
Karuna	Gupta
Nicole	Hill
Lana	Khalid
Sharon	Marr
Radhika	Marwah
Amy	Miles
Julie	Nicholls
Ala	Qahwash
Andrew	Rabinovitch
Varinder	Randhawa
Jarred	Rosenberg
Anushi	Sivarajah
Charlie	Tan
Vatsal	Trivedi
Linda	Weber
Urszula	Zurawska-Fortin

2023-2024	
Aran	Balachandran
Alina	Blazer
Cedric	Edwards
Jennifer	Fu
Kara	Grist
Sean	Hurley
Sarah	Ibrahim
Leanna	Isserlin
Nancy	McCallum
Preeni	Rathuge
Zena	Samaan
Kathleen	Sheehan
Brooke	Taylor
Emile	Trinh
Justin	White
Samar	Zainal
Nazla	Mahmoud

2.4.1 VA Quality Scholars Program 2023-2024 Two-way Interactive Videoconference Agenda

Date	Session	Date	Session
July 7, 2023	Intro and Welcome	December 1, 2023	Methods IV: Fixed/Split Limits
July 14, 2023	Theory I: Theories Models and Frameworks	December 8, 2023	Fellows Forum 1
July 18, 2023	QI 101 Module 1	December 15, 2023	Theory V
July 20, 2023	QI 101 Module 2	January 5, 2024	Fellows Forum 2
July 21, 2023	Healthcare Finance	January 12, 2024	Individual Assessment
July 25, 2023	QI 101 Module 3	January 19, 2024	Informatics
July 27, 2023	QI 101 Module 4	January 26, 2024	Human Centered Design
July 28, 2023	AI in Healthcare	February 2, 2024	Performance Measurement
August 4, 2023	Elevator Pitches	February 9, 2024	Fellows Forum 3
August 11, 2023	Emerging Topic	February 16, 2024	Equity
August 18, 2023	Summer Institute	February 23, 2024	Study Design
August 25, 2023	Intro Writing	March 1, 2024	Ethics
September 1, 2023	Safety	March 8, 2024	Delegation and Boundary Setting
September 8, 2023	Methods I: Variable SPC	March 15, 2024	Fellows Forum 4
September 15, 2023	Observation	March 22, 2024	Policy
September 22, 2023	Theory II	April 5, 2024	Teaching QI
September 29, 2023	Interviewing	April 12, 2024	Reviewing Manuscripts
October 6, 2023	Methods II: Attribute SPC	April 19, 2024	Fellows Forum 5
October 13, 2023	Patient Centered	April 26, 2024	TBA
October 20, 2023	Theory III	May 3, 2024	Implementation Outcomes
October 27, 2023	IDPs	May 10, 2024	Branding
November 3, 2023	Methods III: Rare Events	May 17, 2024	TBA
November 17, 2023	Theory IV	May 24, 2024	Graduation

2.4.2 List of VA Quality Scholars

2018-2020	
Angela	Neish
Lise	Huynh
Sarah	Peltz
William	Mundle
Jesse	Wolfstadt
Richard	Norman

2020-2022	
Andrew	Wyllie
Jeanne	Bouteaud
Jenny	Schuster
Maya	Dahan

2022-2024	
Lauren	Parsons

2019-2021	
Davy	Tawadrous
David	Gratzer
Deron	Reid

2021-2023	
Nadine	Narain
Rhida	Bautista

2.5.1 Healthcare Improvement Fellowship 2023-2024 Syllabus

Session	Date	Title	Department
September 28, 2023	8:30 am- 4:30 pm (in person)	<ul style="list-style-type: none"> Welcome and Introductions Fellow Presentation Leading QI and patient safety within an organization Implementation science research, theories and framework Working across implementation science and QI 	Dana Catherine Adina Weinerman & Brigette Hales Andrea Patey Brian Wong & Jeremy Grimshaw
September 29, 2023	8:30 am-12:00 pm (in-person)	<ul style="list-style-type: none"> CWC Fellows session Choosing Wisely De-Implementation Framework Identifying evidence to practice gaps Identification and measurement drivers of current behaviour and barriers to address change Intervention Design 	Jeremy Grimshaw and Andrea Patey
October 19, 2023	1:00-3:00 pm EST (virtual)	<ul style="list-style-type: none"> Fellow presentations 	Joey Cheng Singleton Maha Al Mandhari
November 16, 2023	1:00-3:00 pm EST (virtual)	<ul style="list-style-type: none"> Project updates 	CWC Fellows CQUIPS Fellows
December 14, 2023	1:00-3:00 pm EST (virtual)	<ul style="list-style-type: none"> Fellow presentation Guest speaker: Leadership and QI 	Mathilde Gaudreau Simard Samantha Hamilton
January 18, 2024	(hybrid)	<ul style="list-style-type: none"> Equity and QI Patient/family engagement and QI Concurrent sessions: Statistical Process Control Evaluating Interventions (Quasi-experimental, experimental, process evaluation, economic evaluation) Qualitative methods 	Tara Burra & Bourne Auguste Kelly Smith Brian Wong Andrea Patey/Jeremy Grimshaw Joanne Goldman & Leahora Rotteau
February 15, 2024	1:00-3:00 pm EST (virtual)	<ul style="list-style-type: none"> Fellow presentations 	Sonia Rodriguez Thomas Bodley
March 21, 2024	1:00-3:00 pm EST (virtual)	<ul style="list-style-type: none"> Project updates 	CQUIPS Fellows CWC Fellows
April 18, 2024	1:00-3:00 pm EST (virtual)	<ul style="list-style-type: none"> Fellow presentations 	Certina Ho Marko Balan
May 16, 2024	1:00-3:00 pm EST (virtual)	<ul style="list-style-type: none"> Fellow presentation Audit and Feedback 	Carla Rosario Noah Ivers
June 7, 2024	8:30 am-4:00 pm (in person)	<ul style="list-style-type: none"> Career development QI project supervision QI scale up and sustainability Fellow reflections 	TBC

2.5.2 List of Healthcare Improvement Fellows

2021-2022	
Genevieve	Bouchard-Fortier
Allison	Brown
Natasha	Gakhal
Beth	Gamulka
Ashraf	Kharrat
First	Last
Samuel	Vaillancourt
Jenni	Wong

2023-2024	
Maha	Al Mandhari
Marko	Balan
Thomas	Bodley
Joey	Cheng-Singleton
Mathilde	Gaudreau Simard
Certina	Ho
Dana	Mayer
Sonia	Rodriguez-Ramirez
Carla	Rosario

2022-2023	
Tahara	Bhate
Amanda	Cipolla
Jacqueline	Follis
Susanna	Fung
Katie	Gardner
Andrea	Hatherell
Preetika	Muthukrishnan
Erica	Patterson
Katrina	Piggott
Holly	Rector
William	Silverstein
Seychelle	Yohanna

2.6.1 Paediatric Co-Learning Curriculum in Quality Improvement Syllabus

Overview

The next generation of physicians have two key roles as clinicians: doing their work and improving their work. Most medical training focuses on helping physicians learn how best to treat patients. Less emphasis has traditionally been placed on helping physicians learn how to treat the system. This curriculum seeks to develop quality improvement (QI) knowledge and skills among senior-level trainees and engage them in team-based quality improvement initiatives.

Many of the Department's divisions currently lack the faculty capacity to deliver a QI curriculum to their trainees. Yet, the Royal College of Physicians and Surgeons of Canada is mandating that all subspecialty training programs include formal training in QI as core content in their educational program.

To address this emerging need, the co-learning curriculum in QI was established and piloted in the Department of Medicine in September 2011 and started in the Department of Paediatrics in September 2014. The 'co-learning' design is intended to address the dual need to train residents in QI to prepare them for future practice, while at the same time to develop knowledge and skills in QI among faculty, with the eventual goal of producing a cadre of faculty members that can teach QI to learners in their own educational contexts.

Guiding Design Principles

- Residents and faculty are co-learners** – Senior-level trainees (primarily PGY5 level) and faculty members (both the program director and a designated faculty lead) will attend the formal teaching sessions together, and participate in experiential learning activities to develop knowledge and skills in QI.
- Residents work with a faculty lead in teams to carry out their QI project** – Residents will work together on a single QI project. Ideally, programs should try to provide some protected time every 2-3 weeks to allow project teams to come together to plan and carry out their project. The team-based design allows individual team members to take a more active role during lighter clinical rotations, while handing the project off to other team members while on busier rotations. Wherever appropriate, teams should consider whether other health professionals should be included.
- QI projects should align with divisional and/or organizational quality priorities** – wherever possible, the focus of the improvement activities should align with ongoing quality initiatives. Program directors and faculty leads should engage Divisional Directors and hospital leaders to discuss potential QI initiatives, and present project teams with several options for them to consider.

Learning Objectives

Resident Learning Objectives

By the end of the curriculum, resident participants will be able to:

- List the six aims of quality
- Select ideal quality problems as targets for improvement activities
- Apply basic quality improvement skills, including audit, process tools and rapid cycle change methodology
- Distinguish between measurement for quality improvement as compared to evaluative research
- Work collaboratively with other healthcare providers to carry out a quality improvement initiative

Faculty Learning Objectives

By the end of the curriculum, faculty participants will be able to:

- List the six aims of quality
- Select ideal quality problems as targets for improvement activities
- Apply basic quality improvement skills, including audit, process tools and rapid cycle change methodology
- Distinguish between measurement for quality improvement as compared to evaluative research

plus...

- Guide a team of residents to carry out quality improvement project
- Describe educational approaches that can be used to teach quality improvement knowledge and skills to learners in their own educational contexts
- Deliver some of the formal content of the QI curriculum in upcoming years (with material/slides provided)

*There is a recognition that faculty participants, including program directors and faculty leads, will fall on a spectrum of competence with respect to QI knowledge and skills, as well as teaching skills as it relates to QI. A number may already possess some or all of these competencies. These objectives are intended to provide faculty participants with less QI experience with a concrete set of learning objectives to guide their preparation for the curriculum.

2.6.1 Paediatric Co-Learning Curriculum in Quality Improvement Syllabus continued

Course Materials

All course materials will be made available to faculty and resident learners in the Fall of 2024.

Course Contact Information

Course Director:
Olivia Ostrow (olivia.ostrow@sickkids.ca)

Associate Course Director:
Beth Gamulka (beth.gamulka@sickkids.ca)

Course Faculty:
Asaph Rolnitsky (asaph.rolnitsky@sunnybrook.ca)
Deborah Schonfeld (deborah.schonfeld@sickkids.ca)
Ashraf Kharrat (Ashraf.Kharrat@sinaihealth.ca)
Janaki Vallipuram (janaki.vallipuram@mail.utoronto.ca)
Amber Makino (AMakino@hollandbloorview.ca)
Laura Guilder (laura.guilder@sickkids.ca)

Department of Medicine Partners:
Brian Wong (brianM.wong@sunnybrook.ca)

Guiding Design Principles

Attend the face-to-face workshops

- The design of the curriculum encourages participants, both faculty and trainees, to learn with and from one another
- Your presence enriches the residents' learning experience, and demonstrates to them the importance of QI
- Engage your learners in QI
- Provide residents with several potential project ideas that are aligned with divisional priorities to choose from
- Make explicit the benefits of their QI work to the processes of care, the work lives of providers, and the outcomes for patients in the clinical context

Support your learners

- Meet regularly with the resident project team (ideally once a month) to provide face-to-face guidance for their project work
- Provide residents with some protected time to carry out QI work (e.g., 1-2 hours every month to come together)
- Open other channels of communication (e.g., e-mail, telephone) so that residents can contact you in-between scheduled team meetings to get advice

Choosing the 'right' QI project

- Make sure to narrow the scope of the project to make sure that it is feasible
- Make sure there is alignment with clinically important QI initiatives within your division
- Make sure there is alignment with QI work that you are already engaged in
- Make sure that the QI problem is under relative control of your resident project team

Inform and involve key stakeholders

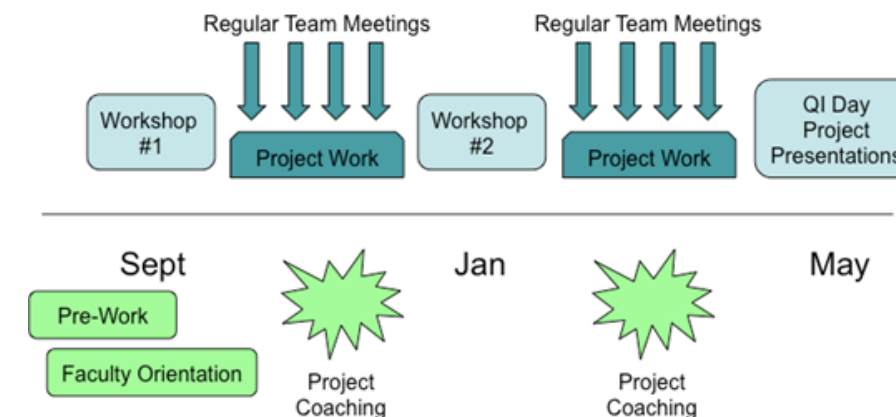
- These include, but are not limited to, other division members, other health professionals, academic and clinical leaders, patients etc.

2.6.1 Paediatric Co-Learning Curriculum in Quality Improvement Syllabus continued

Curriculum Outline

September	<p>Workshop #1</p> <ul style="list-style-type: none"> • Introduction to QI • Measurement in QI – Process vs Outcome • Pragmatic chart audit to establish quality gap • Process tools (process mapping, cause-and-effect diagrams) • Stakeholder analysis • Linking solutions to theories
November	<p>Coaching Session #1 and Assignment 1 due</p> <ul style="list-style-type: none"> • Optional 1-hour meeting to provide individualized QI project coaching to project teams
January	<p>Workshop #2</p> <ul style="list-style-type: none"> • Team QI project presentations and feedback • Rapid cycle change methodology • Displaying your data • Testing vs implementing
March	<p>Coaching Session #2 and Assignment 2 due</p> <ul style="list-style-type: none"> • Optional 1-hour meeting to provide individualized QI project coaching to project teams
May or June	<p>Final Project Presentations</p> <ul style="list-style-type: none"> • Date TBD • Keynote lecture • Project presentations

Figure 1: Schematic Overview of Co-Learning Curriculum in Quality Improvement



2.6.2 Co-Learning session evaluations

Paeds Co-Learning Sessions	2020-2021	2021-2022	2022-2023	2023-2024
September Workshop #1	N/A	4.24	4.72	4.69
January Workshop #2	4.33	4.17	4.56	4.64

2.7.1 CQUIPS+ Speaker Series Presentations

2021	
Making partnerships between research and practice work	Mary Dixon-Woods, THIS Institute, University of Cambridge
Successes and challenges applying QI science in a pandemic	Jerome Leis, University of Toronto
Neglected no more: Improving eldercare begins with a focus on quality	Andre Picard, The Globe and Mail
Advancing health equity with quality improvement: Lessons learned from cinema, science and patient care	Marshall Chin, University of Chicago
Applied artificial intelligence in healthcare: From compute to care	Laura Rosella, University of Toronto
2022	
Nudges and behavioral design in health care: overview and applications	Kit Delgado, University of Pennsylvania
The health human resource crisis: An emerging threat to patient safety	Nely Amaral, Sinai Health Ru Taggar, Sunnybrook Health Sciences Centre Marie Pinard, Women's College Hospital
Data on the social determinants of health: Building a foundation for health equity	Andrew Pinto, University of Toronto
Taking QI to population scale: Drivers, models, successes and opportunities	Trey Coffey, University of Toronto
Updates in quality improvement and patient safety, and top abstract oral presentations	Christine Soong, University of Toronto Jennifer Myers, University of Pennsylvania
Building a better health system in a post pandemic world	Sacha Bhatia, University of Toronto
Linking clinical outcomes to education and training	Daniel Schumacher, University of Cincinnati
Discussing the impact of the intersection of climate crisis and equity	Imara Rolston, University of Toronto
Presentation on community engagement to address cancer screening disparities in primary care	Aisha Lofters, University of Toronto
Panel discussion 'The Criminalization of Safety Events: Implications for Safety Culture in Healthcare	Kelly Smith, Michael Garron Hospital Melanie de Wit, Unity Health Judy VanCleaf, Hospital for Sick Children

2.7.1 CQuIPS+ Speaker Series Presentations continued

2023	
Greening of the OR	Husein Moloo, University of Ottawa
Kelly Smith facilitating a panel of short presentations on patient partnered diagnostic safety	Kelly Smith, Michael Garron Hospital Carole Hemmelgarn, Georgetown University Steven Coffee, Patient Partner Martin Hatlie, MedStar Health
Hot Topics in Quality and Safety	Christine Soong, University of Toronto Jennifer Myers, University of Pennsylvania
OurCare: Engaging the public about the future of Primary Care in Canada	Tara Kiran, University of Toronto Peter MacLeod, MASS LBP
Leveraging race-based data to take action on inequities in mental health care	Treena Wilkie, Amanda McIntosh and Farhat Farrokhi, Centre for Addiction and Mental Health
Future of Senior Care in Canada	Barbara Liu, University of Toronto
Generative AI and its rapidly evolving role in healthcare	Bo Wang, University of Toronto
The current state of SQUIRE 2.0	Greg Orgrinc, American Board of Medical Specialties
CQuIPS Symposium Top Abstracts	Soyun Oh, University of Toronto Susan Bookey-Bassett, Toronto Metropolitan University Paige Reason, Sunnybrook Health Sciences Centre
Return to ED visit Quality program	Olivia Ostrow, University of Toronto Lucas Chartier, University of Toronto
Human Factors Approach to Improving Surgical Safety with the Operating Room Black Box	Patricia Trbovich, University of Toronto
An Improvement Teacher's Journey between Theory and Practice	Paul Batalden, Dartmouth College
Sustainable Healthcare—advancing care without over-whelming the capacity of people, economies, and the planet	Minna Johansson, Cochrane Sweden and Gothenburg University
The environmental co-benefits of reducing low-value care: focus on prescribing practices and pharmaceuticals	Gillian Parker, University of Toronto Stephanie Garland, Providence Health Care (BC)
Using SQUIRE Publications Guidelines in Graduate Nursing Programs	Gail Armstrong, University of Colorado
Hot Topics: Updates in Quality Improvement and Patient Safety	Christine Soong, University of Toronto Jennifer Myers, University of Pennsylvania

2.7.2 CQuIPS+ Masterclasses

2022	2023	2024 (planned)
Incorporating artificial intelligence into your QI work	Embedding environmental sustainability into healthcare quality improvement (co-developed with CASCADES)	Applying QI methods to address the climate crisis (co-developed with CASCADES)
Incorporating assessment into your QI curriculum (co-developed with CHIPS and Penn medicine)	Expanding the QI toolbox: how implementation and behavioural sciences can help you to overcome barriers	Design thinking
Optimizing data management for improvement (offered twice)	Getting the message out: How to strategically use social media to promote your QI work	Expanding the QI toolbox: how implementation and behavioural sciences can help you to overcome barriers
Planned experimentation	How to use control charts to evaluate the impact of your QI work	Including equity in your QI project
QI Academic writing	Optimizing data management for improvement	Making data easier to use for improvement: A data management masterclass
Qualitative methods	QI Academic writing	QI from start to finish: Project management for improvers
Statistical process control	QI Project management from start to finish	SQUIRE guidelines: Academic writing for QI
	Qualitative methods	

3.0 Research

3.1 CQuIPS Publications 2020–2024

2024

1. **Burra TA, Soong C, Wong BM.** Taking action on inequities: a structural paradigm for quality and safety. *BMJ Qual Saf.* 2024 Apr 30;bmjqs-2023-017027. doi: 10.1136/bmjqs-2023-017027. Online ahead of print.
2. Roberts A, Hallet J, Nguyen L, Coburn N, Wright FC, **Gandhi S**, et al. Neoadjuvant chemotherapy for triple-negative and Her2+ve breast cancer: striving for the standard of care. *Breast Cancer Res Treat.* 2024 Apr 27. doi: 10.1007/s10549-024-07282-1. Online ahead of print.
3. Gete M, Huang SH, Ringash J, Irish J, Su J, Ballal Y, Waldron JN, Witterick I, de Almeida J, Hosni A, Hope AJ, **Monteiro E**, et al. Causes and impact of delays during the COVID-19 pandemic on head and neck cancer diagnosis. *Head Neck.* 2024 Apr 25. doi: 10.1002/hed.27784. Online ahead of print.
4. Bhate TD, Sukhera J, Litwin S, Chan TM, **Wong BM**, Smeraglio A. Systems-Based Practice in Graduate Medical Education: Evolving Toward an Ideal Future State. *Acad Med.* 2024 Apr 1;99(4):357-362. doi: 10.1097/ACM.0000000000005612.
5. Sampieri G, Li H, Ataalla P, Merriman K, Noel CW, Hallet J, Coburn N, Karam I, Smoragiewicz M, **Wong B**, et al. Interventions for Concerning Patient-Reported Outcomes in Routine Cancer Care: A Systematic Review. *Ann Surg Oncol.* 2024 Mar;31(3):1495-1496. doi: 10.1245/s10434-023-14673-z.
6. **Soong C**, Horstman MJ. Introducing an addition to the family of quality improvement measures: Equity. *J Hosp Med.* 2024 Mar;19(3):243-244. doi: 10.1002/jhm.13283.
7. Frank JR, Karpinski J, Sherbino J, Snell LS, Atkinson A, Oswald A, Hall AK, Cooke L, Dojeiji S, Richardson D, Cheung WJ, Cavalcanti RB, Dalseg TR, Thoma B, Flynn L, Gofton W, Dudek N, Bhanji F, **Wong BM**, et al. Competence By Design: a transformational national model of time-variable competency-based postgraduate medical education. *Perspect Med Educ.* 2024 Mar 18;13(1):201-223. doi: 10.5334/pme.1096. eCollection 2024.
8. Rodin R, Stukel TA, Chung H, **Bell CM**, et al. Attending physicians' annual service volume and use of virtual end-of-life care: A population-based cohort study in Ontario, Canada. *PLoS One.* 2024 Mar 8;19(3):e0299826. doi: 10.1371/journal.pone.0299826. eCollection 2024
9. Brown A, La J, Keri MI, Hillis C, Razack S, Korah N, Karpinski J, Frank JR, **Wong B, Goldman J.** In EPAs we trust, is quality and safety a must? A cross-specialty analysis of entrustable professional activity guides. *Med Teach.* 2024 Mar 25:1-9. doi: 10.1080/0142159X.2024.2323177. Online ahead of print.
10. Carstensen K, **Goldman J**, Kjeldsen AM, Lou S, Nielsen CP. Engaging health care professionals in quality improvement: A qualitative study exploring the synergies between projects of professionalisation and institutionalisation in quality improvement collaborative implementation in Denmark. *J Health Serv Res Policy.* 2024 Feb 2;13558196241231169. doi: 10.1177/13558196241231169. Online ahead of print.
11. Kokorelias KM, Lee TJ, Bayley M, Seto E, **Toulany A**, Nelson MLA, Dimitropoulos G, Penner M, Simpson R, Munce SEP. A Web-Based Peer-Patient Navigation Program (Compassionate Online Navigation to Enhance Care Transitions) for Youth Living With Childhood-Acquired Disabilities Transitioning From Pediatric to Adult Care: Qualitative Descriptive Study. *JMIR Pediatr Parent.* 2024 Feb 7;7:e47545.
12. Mullan PC, Levasseur KA, Bajaj L, Nypaver M, Chamberlain JM, Thull-Freedman J, **Ostrow O**, Jain S. Recommendations for Choosing Wisely in Pediatric Emergency Medicine: Five Opportunities to Improve Value. *Ann Emerg Med.* 2024 Feb 11;S0196-0644(24)00017-9. doi: 10.1016/j.annemergmed.2024.01.007. Online ahead of print.
13. Sampieri G, Li H, Ataalla P, Merriman K, Noel CW, Hallet J, Coburn N, Karam I, Smoragiewicz M, **Wong B**, Fu R, Eskander A. Interventions for Concerning Patient-Reported Outcomes in Routine Cancer Care: A Systematic Review. *Ann Surg Oncol.* 2024 Feb;31(2):1148-1170. doi: 10.1245/s10434-023-14576-z. Epub 2023 Nov 23.
14. **Bell CM**, Thamboo AV, **Monteiro E**, Yip J. Prescribing Practices and Barriers of Biologics for Chronic Rhinosinusitis Amongst Otolaryngologists. *Laryngoscope.* 2024 Feb 27. doi: 10.1002/lary.31370. Online ahead of print.
15. **Shojania KG.** Is targeting healthcare's carbon footprint really the best we can do to help address the climate crisis? *BMJ Qual Saf.* 2024 Feb 19;33(3):205-208.
16. Hali K, Manzo MA, Koucheik R, Wunder JS, Jenkinson RJ, **Mayo AL**, et al. Use of virtual reality for the management of phantom limb pain: a systematic review. *Disabil Rehabil.* 2024 Feb;46(4):629-636. doi: 10.1080/09638288.2023.2172222. Epub 2023 Feb 1.
17. Sampieri G, Li H, Ataalla P, Merriman K, Noel CW, Hallet J, Coburn N, Karam I, Smoragiewicz M, **Wong B**, et al. Interventions for Concerning Patient-Reported Outcomes in Routine Cancer Care: A Systematic Review. *Ann Surg Oncol.* 2024 Feb;31(2):1148-1170.
18. **Soong C**, Horstman MJ. Introducing an addition to the family of quality improvement measures: Equity. *J Hosp Med.* 2024 Jan 20. doi: 10.1002/jhm.13283. Online ahead of print.
19. Verma AA, **Trbovich P**, Mamdani M, **Shojania KG.** Grand rounds in methodology: key considerations for implementing machine learning solutions in quality improvement initiatives. *BMJ Qual Saf.* 2024 Jan 19;33(2):121-131.

3.1.1 CQuIPS Publications 2020–2024 continued

20. Lyren A, Haines E, Fanta M, Gutzeit M, Staubach K, Chundi P, Ward V, Srinivasan L, Mackey M, Vonderhaar M, Sisson P, Sheffield-Bradshaw U, Fryzlewicz B, **Coffey M**, et al. Racial and ethnic disparities in common inpatient safety outcomes in a children's hospital cohort. *BMJ Qual Saf.* 2024 Jan 19;33(2):86-97.
21. Jeffs L, Kuluski K, Flintoft V, MacLaurin A, Asselbergs M, Zeng RL, Bruno F, Schonewille N, **Baker GR.** Reconceptualizing Patient Safety Beyond Harm: Insights From a Mixed-Methods Qualitative Inquiry. *J Nurs Care Qual.* 2024 Jan 10. doi: 10.1097/NCQ.0000000000000757. Online ahead of print.
22. Incze T, Pinkney SJ, Li C, Hameed U, Hallbeck MS, Grantcharov TP, **Trbovich PL.** Using the Operating Room Black Box to Assess Surgical Team Member Adaptation Under Uncertainty: An Observational Study. *Ann Surg.* 2024 Jan 9. doi: 10.1097/SLA.0000000000006191. Online ahead of print.
23. Hamidi S, Kim SJ, **Auguste BL.** Electronic Alerts in Acute Kidney Injury—More Questions Than Answers. *JAMA Netw Open.* 2024 Jan 2;7(1):e2351682.
24. Campisi ES, Hong CJ, **Monteiro E**, et al. A visiting otolaryngology team in northern Ontario – demographics, clinical presentation and barriers to access. *Rural Remote Health.* 2024 Jan;24(1):8574. doi: 10.22605/RRH8574. Epub 2024 Jan 31.
25. Bailey K, Avolio J, **Lo L**, Gajaria A, Mooney S, Greer K, Martens H, Tami P, Pidduck J, Cunningham J, Munce S, **Toulany A.** Social and Structural Drivers of Health and Transition to Adult Care. *Pediatrics.* 2024 Jan 1;153(1):e2023062275.
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3.1.2 Equity Publications

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*Note Tara Kiran was a core member until 2021.

3.1.3 Resilience Publications

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3.1.3 Resilience Publications continued

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3.2 CQUIPS Related Grants

	CQUIPS Member Name	Project Title	CQUIPS Member Role	Grant Agency	Scope	Amount
1	Alene Toulany	Quality Indicators for Transition from Paediatric to Adult Care for Youth with Chronic Physical, Developmental, and Mental Health Conditions: A National Consensus-Building Multi-Stakeholder Initiative	Nominated Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$817,616
2	Alene Toulany	Quality Indicators for Transition from Paediatric to Adult Care for Youth with Chronic Physical, Developmental, and Mental Health Conditions: A National Consensus-Building Multi-Stakeholder Initiative	Nominated Principal Investigator	PSI Foundation	Provincial	\$300,000
3	Alene Toulany	TransitionED: Co-Designing and Implementing Canadian Practice Guidelines for Transitions for Youth with Eating Disorders	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$959,725
4	Alene Toulany	Multimorbidity in Children and Youth Across the Life-course (MY LIFE): A Long-term Follow-up.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$200,000
5	Alene Toulany	Mapping the Journey for Youth Transitioning to Adult Care	Principal Applicant	Social Sciences and Humanities Research Council of Canada (SSHRC)	National	\$398,268
6	Alene Toulany	Transition to Adult Healthcare: Creating a National Research Agenda. Human Development, Child and Youth Health	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$10,000
7	Alene Toulany	Promoting Intensive Transitions for Children and Youth with Medical Complexity from Pediatric to Adult Care – The PITCare Study.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$951,512
8	Alene Toulany	Informing the Pediatric Mental Health Recovery Plan: Evaluating Delays to Diagnoses and Changing Characteristics of Children and Adolescents with New Neurodevelopment and Mental Health Disorders in Ontario, Canada during the COVID-19 Pandemic.	Co-Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$146,796
9	Alene Toulany	Transition to Adulthood during COVID-19: Lessons Learned from Canadian Youth with Special Healthcare Needs and their Families to Foster Effective Transitional Care Interventions	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$149,963
10	Alene Toulany	Equity of Virtual Mental Health Care Uptake for Children and Youth during COVID-19 Pandemic.	Co-Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$75,512
11	Alene Toulany	Transition to Adult Primary Care for Youth with Medical Complexity through the use of Telemedicine (TACT).	Co-Investigator	SickKids	Local	\$9,918

3.2 CQUIPS Related Grants continued

	CQUIPS Member Name	Project Title	CQUIPS Member Role	Grant Agency	Scope	Amount
12	Alene Toulany	Access to Care Across the Transition from Adolescent to Young Adulthood: Mental Health Service Use Among Transition-Age Youth in Ontario	Co-Investigator	Centre for Addictions and Mental Health (CAMH)	Local	\$60,000
13	Amanda Mayo	Improving limb loss rehab and prosthetic care in Ukraine	Principal Investigator	University of Toronto	Local	\$150,000
14	Amanda Mayo	Exploring Quality of Life Following Acquired Upper Extremity Amputation in Canada	Co-Investigator	The War Amps	National	\$240,149
15	Amanda Mayo	A Pragmatic Trial to Evaluate the Impact of an Inpatient Psychosocial Transitional Group to Improve Mental Health Outcomes Following Limb Loss	Co-Investigator	The War Amps	National	\$122,000
16	Amanda Mayo	Expanding Knowledge and Information Delivery around Improving Upper Extremity Function after Cervical Spinal Cord Injury.	Co-Investigator	Department of Defense (USA)	International	\$1,668,320
17	Amanda Mayo	Co-Designing a Cross-Continuum Peer Support Program for Trauma Patients.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$100,000
18	Amanda Mayo	Developing a Patient Reported Outcome for Amputation (PRO-AMP).	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$149,176
19	Amanda Mayo	A Psychosocial Transitional Group to Improve Adaptation, Coping and Mental Health Outcomes Following Trauma	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$99,986
20	Amanda Mayo	Rehab Program to Improve Vascular Patient Length of Stay and Outcomes	Principal Investigator	Sunnybrook Health Sciences Centre	Local	\$57,474
21	Amanda Mayo	Co-designing a Physical Activity Intervention for Individuals with Lower Limb Amputations.	Co-Investigator	The War Amps	National	\$108,000
22	Amanda Mayo	Precise and personalized prosthetic care through leading edge computer aided design, manufacturing and 3D printing	Principal Investigator	Sunnybrook Health Sciences Centre	Local	\$1,174,000
23	Amanda Mayo	Early Prototype of Low-Cost, Sensate Thumb Prosthesis: Assessment of Feasibility and Usability.	Co-Investigator	The War Amps	National	\$248,180
24	Amanda Mayo	Development of a Canadian Targeted Muscle Re-innervation (TMR) surgery protocol for neuroma and phantom limb pain management – to enhance treatment success and improve quality of life.	Principal Investigator	The War Amps	National	\$50,000

3.2 CQUIPS Related Grants continued

	CQUIPS Member Name	Project Title	CQUIPS Member Role	Grant Agency	Scope	Amount
25	Amanda Mayo	Usability Testing of Outcome Measure Data Collection Using the COMET Mobile App Integrated with the National Limb Loss and Preservation Registry.	Co-Investigator	American Orthotics Prosthetics Association (AOPA)	International	\$34,185
26	Amanda Mayo	Planning a National Limb Loss Registry.	Principal Applicant	Canadian Institutes of Health Research (CIHR)	National	\$20,000
27	Amanda Mayo	Assessing the Community Needs of Canadians with Limb Loss: Building the Foundation for Community Action	Co-Investigator	Social Sciences and Humanities Research Council of Canada (SSHRC)	National	\$25,000
28	Amanda Mayo	Exploring Physiatrists' Experiences with Compassionate Care in the Context of Telerehab: A Mixed Method Study	Co-Investigator	Associated Medical Services (AMS)	Local	\$20,000
29	Brian Wong	Meaningful Measurement of Ecological Impacts for Clinical Quality Improvement.	Co-Investigator	University of Toronto	Local	\$10,000
30	Brian Wong	Using an Artificial Intelligence Quality Indicator to optimize and evaluate delirium prevention efforts in hospitals.	Co-Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$100,000
31	Brian Wong	Real-time deployment of an artificial intelligence algorithm to decrease unnecessary blood work in critically ill patients: A pilot project	Co-Principal Investigator	Sunnybrook Health Sciences Centre	Local	\$82,458
32	Brian Wong	General Medicine Inpatient Initiative Medical Education Database (GEMINI MedED)	Co-Senior Investigator	PSI Foundation	Provincial	\$28,500
33	Brian Wong	General Medicine Inpatient Initiative Medical Education Database (GEMINI MedED): A Multicentre Study of Internal Medicine Resident Case Mix, Clinical Care, and Patient Outcomes.	Co-Investigator	University of Toronto	Local	\$9,479
34	Brian Wong	Disorienting Dilemmas in Virtual Care – Collaboration for transformation in virtual care.	Co-Investigator	Royal College of Physicians and Surgeons of Canada	National	\$37,860
35	Brian Wong	Harnessing a novel multi-institutional cross-sectoral partnership for providing enhanced COVID and non-COVID care in long term care homes	Co-Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$149,960
36	Christine Soong	A PILOT STUDY TO EVALUATE THE IMPACT OF 7 DAY vs 14 DAY CTU ATTENDING ROTATIONS	Co-Investigator	Sinai Health	Local	\$5,000
37	Christine Soong	Patient and Caregiver Priorities for Quality Improvement on General Medical Wards.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$100,000

3.2 CQUIPS Related Grants continued

	CQUIPS Member Name	Project Title	CQUIPS Member Role	Grant Agency	Scope	Amount
38	Christine Soong	Medical Safety Huddles – the multi-site implementation and evaluation of a novel patient safety strategy.	Co-Principal Investigator	Sinai Health	Local	\$189,364
39	Christine Soong	The UHN-SHS COVID-19 Bootcamp for Reassigned Health Care Workers	Co-Principal Investigator	Sinai Health	Local	\$147,200
40	Christine Soong	Development of a patient-oriented transfer tool for transition from ICU to a medical or surgical ward.	Co-Investigator	Sinai Health	Local	\$5,000
41	Patricia Trbovich	Improving equity in healthcare quality through hospital safety monitoring systems.	Nominated Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$558,451
42	Joanne Goldman	Integrating health equity into quality improvement education: a transformative approach.	Co-Principal Investigator	Sunnybrook Health Sciences Centre	Local	\$9,830
43	Joanne Goldman	Strengthening the position of continuing education as a foundational element of quality improvement	Co-Principal Investigator	Society for Academic Continuing Medical Education (SACME)	International	\$48,762
44	Joanne Goldman	Exploring the intersections and paradigms of interprofessional education and quality improvement to advance continuing professional development	Co-Principal Investigator	University of Toronto	Local	\$21,497
45	Joanne Goldman	Exploring the translation of quality improvement and patient safety from CanMEDS 2015 to the standards for competency-based medical education training across postgraduate specialties in Canada	Co-Investigator	University of Calgary	National	\$10,000
46	Joanne Goldman	A study of the Clinician in Quality and Innovation academic position	Principal Applicant	University of Toronto	Local	\$9,662
47	Joanne Goldman	Catalyzing H.E.A.L. Medicine: Humanities education and anticolonial learning for the transformation of medical learning and healthcare delivery in Canada.	Knowledge User	Canadian Institutes of Health Research (CIHR)	National	\$106,640
48	Trey Coffey	Improving Hospital Care for Children and Families with Limited English Proficiency (LEP): A Qualitative Study.	Co-Investigator	PSI Foundation	Provincial	\$29,000
49	Trey Coffey	Health Care inequities and child- and family centred care in pediatric hospital care; a multicenter mixed method study	Co-Investigator	PSI Foundation	Provincial	\$300,000
50	Trey Coffey	Improving Hospital Care for Children and Families with Limited English: A Qualitative Study	Co-Investigator	University of Toronto	Local	\$15,000

3.2 CQUIPS Related Grants continued

	CQUIPS Member Name	Project Title	CQUIPS Member Role	Grant Agency	Scope	Amount
51	Olivia Ostrow	Renal ultrasound after first febrile UTI in hospitalized children: reducing overdiagnosis and cascade effects	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$527,851
52	Olivia Ostrow	Low-value care and variation in practice in the care of children hospitalized with bronchiolitis in Canada	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$761,715
53	Olivia Ostrow	Renal ultrasound after first febrile UTI in hospitalized children: reducing overdiagnosis and cascade effects	Co-Investigator	PSI Foundation	Provincial	\$250,000
54	Kaveh Shojania	Optimizing audit and feedback: Personalizing delivery according to team differences	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$592,876
55	Adina Weirnerman	A "Choosing Wisely" Quality Improvement Project to Reduce Medically Unnecessary Surveillance CT scans in Patients with Stage II/III Colorectal Cancer.	Principal Investigator	Sunnybrook Health Sciences Centre	Local	\$41,328
56	Adina Weirnerman	Understanding the effects of hospital capacity strain on quality of hospital care for patients with non-COVID-19 illness during the pandemic and evaluating interventions to mitigate hospital capacity strain.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$499,577
57	Adina Weirnerman	Understanding How COVID-19 has Affected Hospital Performance	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$500,000
58	Adina Weirnerman	COVID-19 Variant Supplement - The COVID-19 Hospital Analytics Laboratory: Improving the Clinical, Organizational, and System Response to COVID-19.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$50,000
59	Adina Weirnerman	COVID-19 Variant Network - The COVID-19 Hospital Analytics Laboratory: Improving the Clinical, Organizational, and System Response to COVID-19	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$100,000
60	Adina Weirnerman	The COVID-19 Hospital Analytics Laboratory: Improving the Clinical, Organizational, and System Response to COVID-19.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$2,010,500
61	Bourne Auguste	Transitioning patients with advanced chronic kidney disease to home or facility dialysis: understanding the experience and quality of life for patients and their caregivers (TRANSIT-CARE).	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$420,750
62	Bourne Auguste	Clinical Efficacy and Usability of an Automated Digital Counselling Intervention for Patients with Chronic Kidney Disease	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$466,650

3.2 CQUIPS Related Grants continued

	CQUIPS Member Name	Project Title	CQUIPS Member Role	Grant Agency	Scope	Amount
63	Bourne Auguste	Optimizing Patient Recruitment for Home Dialysis with Early Modality Education: A Quality Improvement Initiative	Principal Investigator	University of Toronto	Local	\$40,000
64	Sonal Gandhi	Harmonized Electronic Records in Oncology to Improve Care (HEROIC).	Co-Investigator	University of Toronto	Local	\$30,000
65	Sonal Gandhi	Developing a Novel Prediction Model Using Machine Learning to Decrease Potentially Preventable Emergency Department (PPED) Visits in Oncology Patients	Principal Investigator	University of Toronto	Local	\$30,000
66	Sonal Gandhi	Expanding remote support for toxicity management to high risk populations receiving systemic cancer therapy.	Collaborator	Ontario Institute for Cancer Research (OICR)	Provincial	\$94,980
67	Tara Burra	A pragmatic randomized controlled trial of a scalable collaborative care model for perinatal mental healthcare delivery.	Co-Applicant	Canadian Institutes of Health Research (CIHR)	National	\$510,875
68	Tara Burra	Using co-design to implement a perinatal care pathway to guide nursing management of perinatal mental health.	Co-Investigator	Sinai Health	Local	\$5,000
69	Tara Burra	Integrating health equity into quality improvement education: a transformative approach.	Principal Investigator	University of Toronto	Local	\$13,725
70	Tara Burra	Measurement for Psychiatric Treatment (PROMPT): a Quality Improvement Project to Enhance Timely Access to Perinatal Mental Health Care.	Principal Investigator	Sinai Health	Local	\$10,000
71	Tara Burra	Implementation of a Perinatal Care Pathway Project.	Co-Investigator	Sinai Health	Local	\$5,000
72	Patricia Trbovich	Examining the Effectiveness and Implementation of a Patient-Managed Discharge Communication Tool: A Mixed Methods Hybrid Type 1 Design Study	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$1,419,076
73	Patricia Trbovich	Patient Partnered Diagnostic Center of Excellence.	Co-Investigator	Agency for Healthcare Research and Quality (AHRQ)	International	\$3,449,516
74	Patricia Trbovich	ICU-ROOM : Intensive Care Unit Rooms, Objectified, Observed and Measured.	Co-Investigator	Canadian Institutes of Health Research (CIHR)	National	\$1,392,301
75	Patricia Trbovich	Improving surgical safety: Understanding and aligning interventions for safety threats and resilience supports.	Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$543,149

3.2 CQuIPS Related Grants continued

	CQuIPS Member Name	Project Title	CQuIPS Member Role	Grant Agency	Scope	Amount
76	Patricia Trbovich	Developing a Pan-Canadian RiskAssessment Tool to Proactively Assess Hospital Opioid Safeguard	Principal Investigator	Canadian Institutes of Health Research (CIHR)	National	\$485,774
77	Patricia Trbovich	Designing Tools to Support Cognitive Decision Making Under Uncertainty	Principal Investigator	Natural Sciences and Engineering Research Council of Canada (NSERC)	National	\$240,000
78	Patricia Trbovich	Safe Surgical Checklist Redesign.	Co-Investigator	North York General Hospital	Local	\$5,000
79	Patricia Trbovich	Improving Surgical Safety with the Operating Room Black Box	Principal Investigator	North York General Hospital	Local	\$65,750
80	Patricia Trbovich	Research Capacity for a Climate Positive Health System: The International Research Network for Climate Positive Care (IRNCPC).	Co-Investigator	University of Toronto	Local	\$249,820
81	Patricia Trbovich	Embedding Human Factors in Critical Care	Principal Investigator	SickKids	Local	\$21,000
82	Patricia Trbovich	Utilizing high resolution physiological data and artificial intelligence to develop a pediatric cardiac arrest prediction tool for integration into bedside clinical practice	Collaborator	Canadian Institutes of Health Research (CIHR)	National	\$921,780
83	Patricia Trbovich	Assessing Safety of Hospital Pharmacy IV Compounding Practices	Principal Investigator	Becton Dickinson Technologies Canada	National	\$196,560
84	Patricia Trbovich	Design and Evaluation of a Practical Resource for Controlled Substance Management in Hospitals	Principal Investigator	Becton Dickinson Technologies Canada	National	\$98,900
85	Patricia Trbovich	Caring Safely with Human Factors: Supporting CLABSI Maintenance Bundle Implementation	Principal Investigator	SickKids	Local	\$44,000
86	Patricia Trbovich	Human Factors Analysis of Pediatric Critical Care (extension)	Principal Investigator	SickKids	Local	\$91,500
87	Patricia Trbovich	Prescription of opioids to opioid-naïve patients in primary and surgical care: a cohort study	Co-Investigator	North York General Hospital	Local	\$10,000
88	Patricia Trbovich	Providing appropriate opioid prescription quantities for acute pain treatment	Collaborator	Health Canada Substance Use and Addictions Program	National	\$15,300
89	Kelly Smith	Advancing an Equity-first Research Agenda in an East Toronto Ontario Health Team	Co-Principal Applicant	Canadian Institutes of Health Research (CIHR)	National	\$9,834

3.2 CQuIPS Related Grants continued

	CQuIPS Member Name	Project Title	CQuIPS Member Role	Grant Agency	Scope	Amount
90	Kelly Smith	Advancing Population Health by Exploring Equity Data Capture and Use in East Toronto	Co-Investigator	Michael Garron Hospital	Local	\$9,899
91	Kelly Smith	Association between enrolment in the winter Surge initiative and rates of repeated emergency department visits at Michael Garron Hospital	Co-Principal Investigator	Michael Garron Hospital	Local	\$5,833
92	Kelly Smith	Patient-Partnered Diagnostic Center of Excellence.	Principal Investigator	Agency for Healthcare Research and Quality (AHRQ)	International	\$976,000
93	Kelly Smith	Experiences of Patient Care Partners in a Specialized Weaning Center: A Qualitative Study	Co-Investigator	Michael Garron Hospital	Local	\$5,833
94	Kelly Smith	SHARING CHOICES PRAGMATIC TRIAL – Improving Advanced Care Planning for Patients with Dementia and Alzheimer's Related Disorders	Principal Investigator	National Institutes of Health – National Institute on Aging	International	\$3,765,215
95	Kelly Smith	Improving Diagnostic Safety Capacity	Co-Investigator	Agency for Healthcare Research and Quality (AHRQ)	International	\$8,800,989
96	Leahora Rotteau	Development of a new publication guideline for the reporting of quality improvement projects aimed at addressing the healthcare system's impact on the climate crisis	Principal Investigator	CASCADES	National	\$25,000

3.3 Methodology Details for Centre Comparison

For all Centres, we searched for the publications from the past 5 years of individuals identified as researchers and/or having a research program (including leadership team members, course directors, professors, and research associates) from the Centre to determine total publications. Research assistants, project managers, managers and fellows were not included.

We also tallied Centre publications with at least 2, 3, 4, 5 centre-based co-authors to gain an understanding of the number of centre publications each centre produces.

The list of Centre-based researchers and the search string for each centre can be found below.

From 2020 to last search date (April 2, 2024)

CQUIPS:

Bourne Auguste	Sonal Gandhi
Brian Wong	Edward Etchells
Patricia Trbovich	Christine Soong
Kaveh Shojania	Adina Weirnerman
Leahora Rotteau	Jessica Liu
Olivia Ostrow	Eric Monteiro
Amanda Mayo	Trey Coffey
Joanne Goldman	Chaim Bell
Tara Burra	
Alene Toulany	
Kelly Smith	

Search String: Bourne Auguste[au] OR Brian Wong[au] OR Patricia Trbovich[au] OR Kaveh Shojania[au] OR Leahora Rotteau[au] OR Olivia Ostrow[au] OR Amanda Mayo[au] OR Joanne Goldman[au] OR Tara Burra[au] OR Alene Toulany[au] OR Kelly Smith[au] OR Sonal Gandhi[au] OR Edward Etchells[au] OR Christine Soong[au] OR Adina Weirnerman[au] OR Jessica J Liu[au] OR Eric Monteiro[au] OR Maitreya Coffey[au] OR Chaim Bell[au] Filters: from 2020 – 2024 (removed all the incorrect Brians and Kellys)

408 total pubs, 19 included members (at least 1 member)
41 pubs with at least 2 members
12 (at least 3 members)
6 (at least 4 members)
1 with (at least 5 members)

CQUINS

James Calvin
Louise Moist
Alan Gob
Joan Binnendyk
Joseph Carson
Kaylee Tung
PLUS all Scholars: https://www.schulich.uwo.ca/cquins/people/cquins_members/index.html

Search String: Bourne Auguste[au] OR Brian Wong[au] OR Patricia Trbovich[au] OR Kaveh Shojania[au] OR Leahora Rotteau[au] OR Olivia Ostrow[au] OR Amanda Mayo[au] OR Joanne Goldman[au] OR Tara Burra[au] OR Alene Toulany[au] OR Kelly Smith[au] OR Sonal Gandhi[au] OR Edward Etchells[au] OR Christine Soong[au] OR Adina Weirnerman[au] OR Jessica J Liu[au] OR Eric Monteiro[au] OR Maitreya Coffey[au] OR Chaim Bell[au] Filters: from 2020 – 2024 (removed all the incorrect Brians and Kellys)

174 total pubs, 19 included members

9 with at least 2 members
2 pubs with at least 3 members

3.3 Methodology Details for Centre Comparison continued

PENN CHIPS

Jennifer Myers
Kathy Shaw
Jessica Hart
Susan Keim
Neha Patel
Shazia Siddique
PLUS all Course Directors: <https://chips.med.upenn.edu/people/core-faculty/>

Search string: Jennifer Myers[au] OR Kathy Shaw[au] OR Jessica Hart[au] OR Susan Keim[au] OR Neha Patel[au] OR Shazia Siddique[au] OR Tyneshia Harris Howzell[au] OR April Taylor[au] OR Renée Betancourt[au] OR David A. Horowitz[au] OR Daniel Hyman[au] OR Patricia Macolino[au] OR Sri Adusumalli[au] OR Leah Carr[au] OR Heather M. Greysen[au] Filters: from 2020 – 2024

253 total pubs, 15 included members

9 with at least 2 members
2 with at least 3 members

THIS Institute

Include – Directors, Professors, Research Associates (including senior, clinical etc.), not research assistants, project managers, managers or fellows

Search string: Mary Dixon-Woods[au] OR Graham Martin[au] OR Niels Peek[au] OR Akbar Ansari[au] OR Jane K O'Hara[au] OR Bothaina Attal[au] OR Alessandra Giusti[au] OR Sarah Kelly[au] OR Karolina Kuberska[au] OR Elisa Liberati[au] OR Rosie Lindsay[au] OR Joanne McPeake[au] OR James McGowan[au] OR Alison Powell[au] OR Robert Pralat[au] OR Carol Sinnott[au] OR Jan van der Scheer[au] OR M A Hussein Wahedally[au] OR Matthew Woodward[au] OR Maram Zahraa[au] Filters: from 2020 – 2024

368 total pubs, 20 included members

34 pubs with at least 2 members
18 at least 3 members
7 at least 4 members
4 with at least 5 members

Australian Institute of Health Innovation

<https://www.mq.edu.au/research/research-centres-groups-and-facilities/healthy-people/centres/australian-institute-of-health-innovation>

CHRIS & CHSSR – Include Professors, Associate Professors, Senior Research Fellows

CHRIS only: Jeffrey Braithwaite[au] OR Rebecca Mitchell[au] OR Robyn Clay-Williams[au] OR Yvonne Zurynski[au] OR Gaston Arnolda[au] OR Janet Long[au] OR Louise Ellis[au] OR Colleen Cheek[au] OR Johanna Westbrook[au] OR Andrew Georgiou[au] OR Reema Harrison[au] OR Ling Li[au] OR Magdalena Raban[au] OR Virginia Mumford[au] OR Mirela Prgomet[au] OR Md Bayzidur Rahman[au] OR Nasir Wabe[au] Filters: from 2020 – 2024 (manually removed all Ling L)

600 total pubs, 17 included members

288 pubs with at least 2 members
128 at least 3 members
36 at least 4 members
10 with at least 5 members

4.0 Internal and External Relationships

4.1 Organizational QI Training and Capacity Building QI Fundamentals Workshop Agenda Example (ECHO AuDIO)

ECHO AuDIO Quality Improvement (QI) Workshop Agenda

Goal and objectives

- To build Quality Improvement (QI) capacity and QI training to Project Extension for Community Healthcare Outcomes (ECHO) Autism Diagnosis and Integrated care Opportunities (AuDIO) across Canada and enable them to engage and support community physicians in autism diagnosis and integrated care support

Workshop #1

Wednesday October 25th, 12:00–3:00 PM ET via zoom

Time	Speaker	Session	Learning Objectives
12:00 –12:10 PM	Melanie Penner	Opening remarks	<ul style="list-style-type: none"> Welcome participants, introduce CQUIPS facilitators and highlight how this work relates to ECHO AuDIO goal and objectives
12:10–12:35 PM	Amanda Mayo	Session 1: Introduction to QI	<ul style="list-style-type: none"> List the 6 aims of healthcare quality Describe the Model for Improvement How to write an aim statement for a quality improvement initiative
12:35–1:15 PM	Beth Gamulka	Session 2: data & measurement	<ul style="list-style-type: none"> Discuss the key elements of a measurement plan – outcome, process (including fidelity) and balancing measures
1:15–1:30 PM	Break		
1:30–2:10 PM	Beth Gamulka	Session 3: QI Diagnostic Tools	<ul style="list-style-type: none"> Apply QI diagnostic tools (process mapping, fishbone diagram, pareto diagram) to fully characterize a QI problem Recognize (and avoid) the common QI pitfall of jumping to a solution
2:10–2:45 PM	Amanda Mayo	Session 4: Stakeholder engagement	<ul style="list-style-type: none"> Use stakeholder mapping to develop a stakeholder engagement strategy for your QI project
2:45–3:00 PM	Amanda Mayo	Session 5: Reflection, next steps, evaluations	<ul style="list-style-type: none"> Participants will discuss in large groups how the content taught in the workshop relates to their future practices and how they plan on incorporating new skills into their work

4.1 Organizational QI Training and Capacity Building QI Fundamentals Workshop Agenda Example (ECHO AuDIO) continued

Workshop #2

Wednesday October 25th, 12:00–3:00 PM ET via zoom

Time	Speaker	Session	Learning Objectives
12:00–12:15 PM	Amanda Mayo	Opening remarks	<ul style="list-style-type: none"> Welcome participants & reflection exercise Review what was covered during Workshop 1
12:15 –12:40 PM	Amanda Mayo	Session 1: Mapping Solutions to problems	<ul style="list-style-type: none"> Highlight the importance of understanding the target problem rather than rushing to a solution Framework for fleshing out the theory for the intervention as well as the use of driver diagrams to visually depict candidate changes to root causes
12:40–1:30 PM	Beth Gamulka	Session 2: PDSA	<ul style="list-style-type: none"> Develop a rationale for choosing an intervention that specifically targets the root causes of a quality prob-lem Use PDSA cycles to test out a change and iteratively refine an intervention Leverage PDSA methodology as an engagement strategy
1:30–1:45	Break		
1:45–2:20 PM	Beth Gamulka	Session 3: Displaying your data	<ul style="list-style-type: none"> Discuss the key elements of a measurement plan Recognize the importance of using small sample sizes in identifying local QI problems Application of run charts and statistical process control, two simple and powerful tools for assessing improvement over time
2:20–2:50 PM	Amanda Mayo	Session 4: Sustainability & change management	<ul style="list-style-type: none"> How to work with stakeholders and select targeted change strategies and interventions to focus on Highlight the application of run charts and statistical process control, two simple and powerful tools for assessing improvement over time Leverage PDSA methodology as an engagement strategy
2:50–3:00 PM	Amanda Mayo	Session 5: Reflection, next steps, evaluations	Evaluation

5.0 Glossary

Abbreviation	Full Name
AAIM	Alliance for Academic Internal Medicine
AAMC	Association of American Medical Colleges
AAP	American Academy of Pediatrics
ACGME	Accreditation Council for Graduate Medical Education
AFC	Area of Focused Competence
AHRQ	Agency for Healthcare Research and Quality
AI	artificial intelligence
AIHI	Australian Institute of Health Innovation at MacQuarie University
AMS	Associated Medical Services
ASPIRE	Advancing Safety for Patients in Residency Education
BMJ	British Medical Journal
BMJQS	BMJ Quality & Safety
BPSO	Best Practice Spotlight Organization
CACHE	Centre for Advancing Collaborative Healthcare & Education
CAMH	Centre for Addiction and Mental Health
CAPM&R	Canadian Association of Physical Medicine & Rehabilitation
CASCADES	Creating a Sustainable Canadian Health System in a Climate Crisis
CBS	Canadian Blood Services
CFD	Centre for Faculty Development
CIHR	Canadian Institutes of Health Research
CMO	Chief Medical Officer
CoP	Community of Practice
CPA	Canadian Psychiatric Association
CPSO	College of Physicians and Surgeons of Ontario
CQUINS	The Centre for Quality, Innovation and Safety at Western University
CQuiPS	Centre for Quality Improvement and Patient Safety
CWC	Choosing Wisely Canada
DFCM	Department of Family and Community Medicine
DoM	Department of Medicine
ED	emergency department
EDIIA	equity, diversity, Indigeneity, inclusion and accessibility
EDU	Extra-Departmental Unit
EQUATOR	Enhancing the QUALity and Transparency Of health Research
EQUIP	Excellence in Quality Improvement Program
ETHP	East Toronto Health Partners

5.0 Glossary continued

Abbreviation	Full Name
GEMINI	General Medicine Inpatient Initiative
GeMQIN	General Medicine Quality Improvement Network
GIM	general internal medicine
HBR	Holland Bloorview Kids Rehabilitation Hospital
HEC	Healthcare Excellence Canada
ID&R	organ donor identification and referral
IHI	Institute for Healthcare Improvement
IHPME	Institute of Health Policy, Management and Evaluation
IPAC	Infection Prevention and Control
LTC	long-term care
LTC+	Long-Term Care Plus
MGH	Michael Garron Hospital
MSc	Master of Science
NEJM	New England Journal of Medicine
NLOT	Nurse-Led Outreach Teams
NSERC	Natural Sciences and Engineering Research Council of Canada
NYGH	North York General Hospital
OBGYN	Obstetrics and Gynecology
OHT	Ontario Health Team
OICR	Ontario Institute for Cancer Research
PCP	primary care providers
PDPQ	Program Directors Patient Safety and Quality Educators Network
PDSA	Plan-Do-Study-Act
Penn CHIPS	The Center for Healthcare Improvement & Patient Safety (Penn CHIPS) at the University of Pennsylvania
PPCDE	Patient Partnered Centre for Diagnostic Excellence
PSI	Physicians' Services Incorporated
QI	quality improvement
QIPS	quality improvement and patient safety
QPS	Quality and Patient Safety
RNAO	Registered Nurses Association of Ontario
SACME	Society for Academic Continuing Medical Education
SBAR	Situation-Background-Assessment-Recommendation
SCPE	Shaw Centre for Paediatric Excellence
SHN	Scarborough Health Network
SHSC	Sunnybrook Health Science Centre

5.0 Glossary continued

Abbreviation	Full Name
SickKids	Hospital for Sick Children
SPARK	Sunnybrook Program to Access Research Knowledge for Black and Indigenous Students
SQUIRE	Standards for QQuality Improvement Reporting Excellence
STARS	Students and Trainees Advocating for Resource Stewardship
TAHSN	Toronto Academic Health Sciences Network
T-CAIREM	Temerty Centre for AI Research and Education in Medicine
Te4Q	Teaching for Quality
TFoM	Temerty Faculty of Medicine
THIS Institute	The Healthcare Improvement Studies Institute at the University of Cambridge
US	United States
VAQS	Veteran Affairs Quality Scholars Program
WCH	Women's College Hospital