

Rethinking how we educate our future physicians: the Queen's-Lakeridge Health Medical Degree Family Medicine program: an innovative approach to medical education

Eugenia Piliotis,¹ Jennifer Turnnidge,² Cailie S McGuire,^{1,3} Nancy Dalgarno,² Anthony J Sanfilippo,¹ Arun Balasubramaniam,⁴ Michelle Gibson,⁵ Michael Green,⁶ Shayna Watson,⁷ Renee Fitzpatrick,⁵ Randy S Wax,⁸ Heidi McHattie,⁹ Nadia Ismiil,⁹ Ruzica Jokic,¹⁰ Natasha Aziz,⁴ Anthony Stone,⁷ Allan Grill,⁷ Richard van Wylick,¹¹ Denise Stockley,¹² Jane Philpott¹

*Author information is provided in the back matter of this manuscript

Abstract

Canadian healthcare, particularly family medicine, is experiencing a capacity crisis. To address this challenge, systems-level reform is required. Specific to medical education, there is an urgency for educational institutions to prepare the next generation of physicians to meet Canadians' healthcare needs. This will require not only the expansion of the number of physicians trained, but consideration of the specialty mix and types of practice those physicians are prepared to undertake. Building on an existing collaborative partnership, the Queen's-Lakeridge Health Doctor of Medicine - Family Medicine Program (QLH MD FM) launched in 2023. This initiative is designed to address the needs of Canadians through purposeful recruitment and the development of learners interested in, and committed to, careers in family medicine. This paper shares the experiences of the QLH MD FM team, and the steps taken in conceptualizing and implementing this educational initiative. A program description is provided, focusing on the six program pillars: (a) admissions, (b) curriculum, (c) faculty and staff engagement, (d) community engagement, (e) infrastructure and supports, and (f) learner experience. The QLH MD FM Program is an innovative approach to medical education that emphasizes an authentic focus on addressing the complex healthcare needs of individuals and their communities.

Repenser la formation de nos futurs médecins : le programme de médecine familiale de Queen's-Lakeridge Health : une approche innovante en formation médicale

Résumé

Le système de santé canadien, en particulier la médecine familiale, est confronté à une crise de capacité. Pour relever ce défi, une réforme à l'échelle du système s'impose. En ce qui concerne plus particulièrement la formation médicale, il est urgent que les établissements d'enseignement préparent la prochaine génération de médecins à répondre aux besoins des Canadiens en matière de soins de santé. Cela nécessitera non seulement d'augmenter le nombre de médecins formés, mais aussi de prendre en compte la répartition entre les spécialités et les types de pratique auxquels ces médecins seront préparés. S'appuyant sur un partenariat collaboratif existant, le programme de doctorat en médecine – médecine familiale de Queen's-Lakeridge Health (QLH MD FM) a été lancé en 2023. Cette initiative vise à répondre aux besoins des Canadiens grâce à un recrutement ciblé et à la formation d'apprenants intéressés par une carrière en médecine familiale et déterminés à s'y consacrer. Cet article présente les expériences de l'équipe du programme QLH MD FM, ainsi que les étapes suivies pour conceptualiser et mettre en œuvre cette initiative éducative. Une description du programme est fournie, mettant l'accent sur ses six piliers : (a) les admissions, (b) le programme d'études, (c) l'engagement du corps enseignant et du personnel, (d) l'engagement communautaire, (e) les infrastructures et les services de soutien, et (f) l'expérience des apprenants. Le programme QLH MD FM constitue une approche innovante de la formation médicale qui met l'accent sur une approche authentique visant à répondre aux besoins complexes en matière de soins de santé des individus et de leurs communautés.

Introduction

Canadian healthcare systems and the practice of family medicine in particular, continue to experience a capacity crisis, resulting in the increasingly complex medical needs of society going unmet.¹⁻⁵ Exacerbated by the COVID-19 pandemic, this ongoing capacity challenge has resulted in more than six and a half million Canadians and two million Ontarians lacking access to a family physician—causing a ripple effect across the entire healthcare system (e.g., increased wait times, use of walk-in clinics, overburdened emergency rooms, deferral of care).⁶⁻⁷ With family medicine serving as the foundation of our healthcare system, there is an urgent need to address the family physician capacity crisis to build a healthcare system that can support the current and ever-evolving needs of our country.^{1,2}

What are the issues?

The family medicine crisis (e.g., lack of access to quality comprehensive care) is a complex and dynamic concern in Canada. For instance, one in five Canadians, an estimated 6.5 million people, do not have a family doctor that they see regularly.⁸ Many factors shaping this crisis reflect intrapersonal to systems-level issues.⁴ A large proportion of family physicians are currently reaching the age of retirement.⁹ As one example, almost 40% of practicing family physicians in Ontario are considering retirement in the next few years.¹⁰ This issue is exacerbated by the declining interest in family medicine among medical students,^{2,11} with 30.3% of medical students choosing family medicine as their first choice for postgraduate training in 2023 in comparison to 38.5% in 2016.¹² Among those interested in pursuing a Certification with the College of Family Physicians of Canada (CCFP), fewer are choosing to engage in comprehensive longitudinal care,

reflected in nearly 30% of family physicians providing services beyond primary care (e.g., emergency medicine, psychiatry).¹³ This is, in part, due to the hidden curriculum associated with choosing specialization over generalist practice.^{3,14} There is growing recognition that a team-based approach to family medicine should not only be adopted more broadly, but be better structured and expanded to more effectively serve the needs of society and support team members (e.g., reduce burnout, enhance retention).¹⁵⁻¹⁷ To effectively shift to a universal family medicine team-based approach, there is a need to provide learning opportunities that are also situated in team-based educational contexts.¹⁸⁻¹⁹

At the systems-level, while medical science and clinical medicine have continued to evolve dramatically, the Canadian medical education, admissions, training, and healthcare systems have not kept pace with these changes.^{17,20} Although there are several systems-level challenges to practicing as a family physician (e.g., administrative burden, remuneration models),² the Queen's-Lakeridge Health Doctor of Medicine – Family Medicine Program (QLH MD FM) is specifically designed to address the educational challenges associated with becoming a family physician. More specifically, by transforming organizational structures, educational and clinical institutions can foster conditions that adequately prepare family medicine trainees to meaningfully meet Canadians' healthcare needs by providing care to diverse populations.²⁰

Given the urgency of these issues and their implications for Canadians' health and well-being, there have been increased calls from clinicians, medical educators, institutions, and governing bodies to rethink the Canadian healthcare systems—including the education infrastructure that trains future family physicians.^{3-4,11,21} To effectively address these challenges, merely increasing the number of family physician residency seats is insufficient.¹⁸ Rather, studies suggest that a long-term, systems-level approach to healthcare reform is required.³⁻⁴ As Newton and colleagues highlight, we need a family medicine residency education system that will, “successfully and continually adapt to the needs of society and improve outcomes of care and education while preserving the enduring core of knowledge, skills, and attitudes essential to practice

of family medicine” (p. 246).²⁰ Investment in novel medical training and education infrastructure,⁹ such as establishing family medicine-specific entry streams and mobilizing family physicians to serve traditionally marginalized populations and regions,⁴ could serve as starting points of this reform.

What are the role and responsibilities of educational and clinical institutions?

A key purpose of educational and clinical institutions is to equip future physicians with the competencies and skills required to address societal health needs.²² The Canadian medical education system is failing to fulfil its purpose.²³⁻²⁴ This represents a call to action for Canadian educators and physicians; now is the time to extend beyond teaching, research, and clinical practice to engage more actively in addressing complex societal challenges.²⁵⁻²⁷ Educational and clinical institutions can work together to address the challenges faced by the intersection of medical education and the healthcare system (e.g., single point entry, inflexible admissions process) by creating specialized admissions processes to identify motivated applicants, and tailoring educational experiences to prepare the next generation of family physicians to meet the needs of Canadian communities.²⁸⁻²⁹

How can educational and clinical institutions contribute?

Rooted in the desire to address these critical and contemporary issues facing Canada's healthcare system, the QLH MD FM program was developed. The program is focused on: (a) re-imagining medical school admissions processes to purposefully select learners interested in, well suited for, and committed to, family medicine, (b) reforming curriculum design and delivery with an intentional family medicine focus, (c) providing diverse and immersive opportunities for learners to develop connections with family physicians as teachers, curricular leads, and mentors, and (d) fostering learning opportunities in collaboration with communities to ensure that learners gain an understanding of, and experience working with, diverse populations, clinical profiles, and contexts.³⁰

Purpose

This paper outlines the conceptualization and processes through which the QLH MD FM program—an innovative program aimed at effectively selecting and training Canada’s future family physicians—was developed and subsequently implemented in September 2023. In the following sections, we describe the conceptualization, vision, goals, and the processes through which key components of the program were developed. In doing so, we aim to provide an overview of a novel approach to family medicine education that can serve to inform family medicine programs across Canada.

Description of the QLH MD FM program

The program was conceptualized as an opportunity to bring together the mutual goals, strategic priorities, and complementary resources of Queen’s University Health Sciences (School of Medicine, MD Program, Department of Family Medicine), Lakeridge Health, and Durham Region family physicians to develop and deliver innovative medical education to address the needs of the regional community.³¹ The development of this initiative was supported by recent calls to action by the Canadian Medical Forum,³² as well as support from the Government of Ontario. The program represents a paradigm shift towards ensuring that medical education structures are systematically designed to meet the needs of the community.

Vision and goals. The program’s vision is to advance an innovative medical education model to help address the shortage of family physicians.³¹ The goal for this model is to admit, train, and graduate family physicians who will provide comprehensive care.³³ The program involves an educational curriculum tailored to family medicine and engagement with community partners through all aspects of the program. It is located at Lakeridge Health—an integrated organization that includes five hospitals, four emergency departments, three critical care units, a long-term care facility, medical and surgical specialties, a simulation lab, and more than 20 healthcare communities in the Durham

Region—all of which are expected to support the achievement of the program’s goals.³⁴

Durham Region, situated on the eastern periphery of the Greater Toronto Area, is home to approximately 730,000 people and is among Ontario’s fastest-growing regions.³⁵ The residents are predominantly urban and richly diverse with a third of residents identifying as visible minorities and one in four residents being immigrants to Canada.³⁶⁻³⁷ Health outcomes vary substantially across the region and like many rapidly growing regions, socioeconomic inequities add to the complexity of health care delivery.³⁸⁻⁴⁰ Lakeridge Health and Queen’s Health Sciences have partnered for over a decade in providing clinical training to both undergraduate and postgraduate medical learners which has provided the grounding to develop our comprehensive QLH MD FM program focused on contextually grounded, team-based, and equity-oriented approaches to family medicine training in the region.

Timeline of program development. Program conception began in Fall 2021 with discussions among leadership and the development of preliminary working groups with representatives from Queen’s University, Lakeridge Health, and the Durham Region. Figure 1 provides an overview of the key milestones and timeline of the program’s development.

Key program components. The program is a collaborative initiative that emphasizes the need for collective action in the development, implementation, and evaluation of the medical curriculum. To achieve its vision and goals, the program is founded on six key components: (a) admissions, (b) curriculum, (c) faculty and staff engagement, (d) community engagement, (e) infrastructure and supports, and (f) learner experience. Appendix A provides an overview of each of the pillars, including key features, examples from the program, and an overview of lessons learned and ways forward. Team members worked together on each of these components to advance recommendations on how to best structure, develop, and implement the program.²³ The team was composed of members from Queen’s University and Lakeridge Health, along with representatives from the communities in the Durham Region with diverse backgrounds in clinical care, administration, education, and community service.

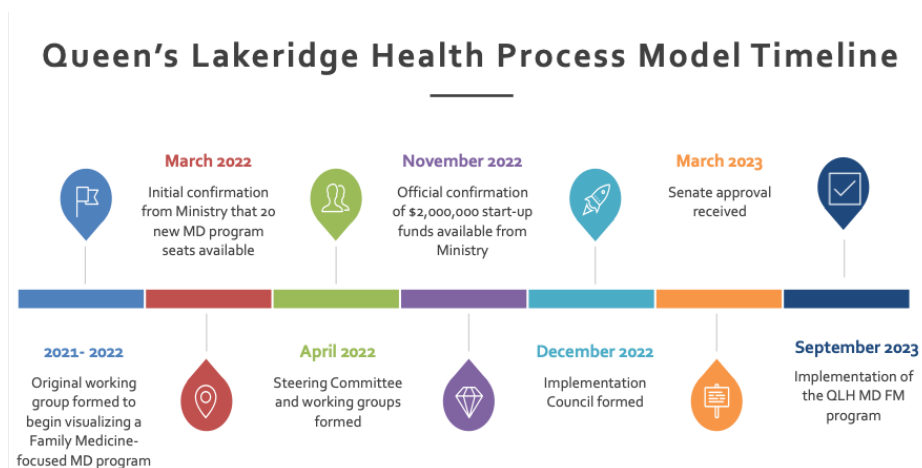


Figure 1. Organizational and structural timeline of the development of the QLH MD FM programs

The six program pillars are complemented by the program's focus on program evaluation and knowledge translation. In relation to program evaluation, a mixed-methods process- and outcome-based program evaluation is being conducted to explore partners' experiences in the program and to identify the support needed to improve program quality. The program evaluation will lend valuable insight into the program's influence on graduates delivering comprehensive primary care. The program evaluation also aids in ensuring that the program is both able to report on, and meet, all accreditation standards of the Committee on Accreditation of Canadian Medical Schools. The knowledge translation approach builds upon the program evaluation by developing intentional strategies for sharing the findings from this work with diverse audiences.

Admissions. To better align the Queen's University MD Program admissions process with Canada's healthcare needs, the program is founded in innovative principles and processes for identifying and selecting students who are committed to, and best suited for, a career in family medicine. The selection criteria for the program were collaboratively developed through a process of internal discussion, interactive polling, review of key literature, and discussions with an external consultant.^{17,31,41} Attributes deemed most relevant for individuals who would be successful and personally satisfied with a career as a family physician were first considered (Appendix A). Since the initial launch of the QLH MD FM program, the admission processes for both the QLH MD

FM program and the Kingston campus have evolved to be comprised of five steps: (1) Initial Assessment, including review of minimum thresholds and confirmation that all application documents have been submitted by the required deadlines, (2) Qualified Applicant Randomization Selection, (3) Multiple Mini Interviews (MMI), (4) File Review and Panel Interview, which involves a detailed file review focused on the attributes relevant to a career as a family physician, including the review of additional documents required by the QLH MD FM program (QLH MD FM specific short answer questions, autobiographic sketch activities and two additional QLH MD FM specific confidential assessment forms) and a QLH MD FM specific panel interview with questions and rubrics focused on attributes relevant to a career as a family physician, and (5) Final decision (see Figure 2).

The MD Program Admissions Committee reviews and ranks applicants based on a committee-approved weighting recommendation by the QLH MD FM Admissions Working Group. The MD Program Admissions Committee has representation from both family medicine and the family medicine residency program.⁴² The admission process is carefully structured to stream committed participants into the program. For example, the panel interview is generally a longer interview compared to the Queen's Kingston campus panel interview.

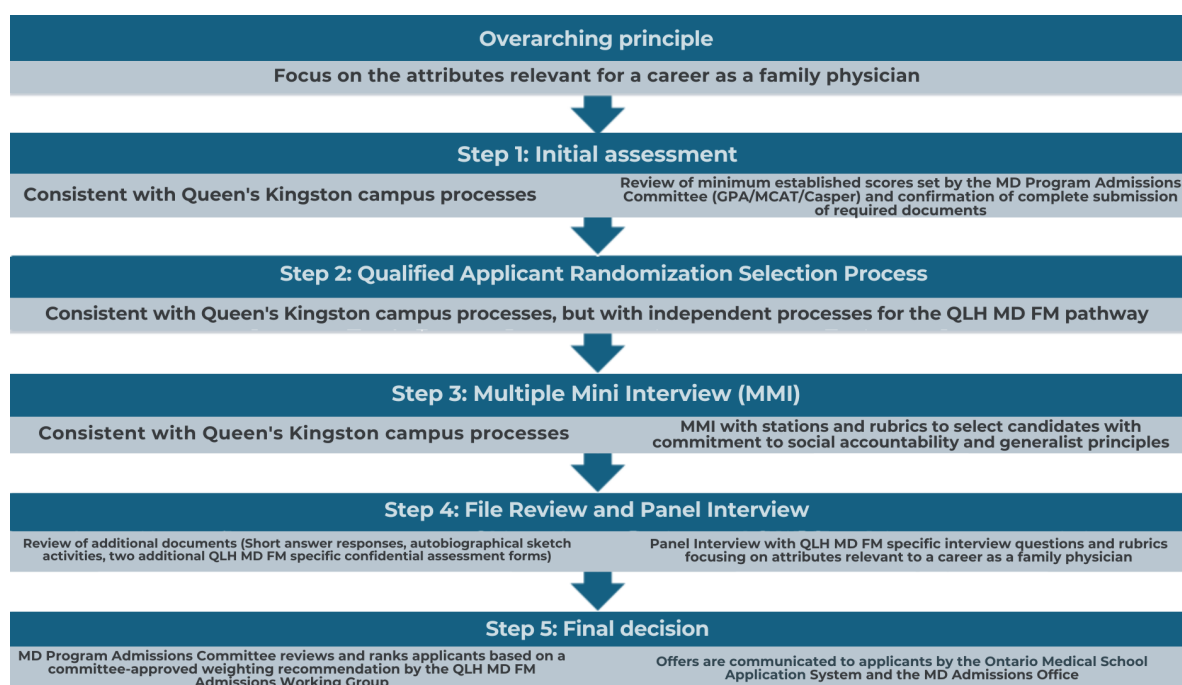


Figure 2. Overview of the QLH MD FM admissions processes

Curriculum. When considering the increasingly complex needs of today's patients, the curricular vision of the program was to develop an integrated, purpose-built curriculum that produces family physicians who are specialized in offering care for diverse patient populations in a wide range of settings.³⁰ The program offers an in-person curriculum that is complemented by some virtual and asynchronous components. The curriculum design is guided by a spiral curriculum approach, with medical presentations and patient cases returning in the curriculum over the course of training with escalating complexity. Learners are assessed through diverse assessment approaches, including direct observation by tutors, written assessments, examinations, and practical assessments.³⁰ See Figure 3.

In clerkship, students will participate in clinical rotations within the Durham Region, similar to the Kingston campus, which already has a distributed model. They will also complete the same classroom-based curriculum interspersed in clerkship, but the sessions, where applicable, will be modified to continue to be grounded in family medicine.

The case-based approach emphasizes complex, longitudinal family medicine cases, with presentations stemming from primary care scenarios that emphasize the complexities associated with patients'

cultural and socioeconomic contexts. Foundational science is woven into all cases and is reinforced through specific sessions addressing student-identified concepts and a capstone week at the end of Year 1 that includes intensive anatomy lab experience. The design of the curriculum represents a collaborative effort between a diverse team of experts from Queen's University, Lakeridge Health, and community family physicians, including those with expertise in family medicine, medical education, teaching and assessment of clinical and communication skills, basic sciences, epidemiology and population health, equity, diversity, and inclusion, Indigeneity, and accessibility principles, intrinsic roles, and learner wellness.²³ Learners are provided with a wide range of educational experiences from Queen's University faculty members across several departments, as well as engagement from healthcare professionals, patients, caregivers, community members, and key subject matter experts.³⁰ All the critical learning objectives of the existing MD program curriculum are covered, but through the lens of family medicine. The curriculum also provides learners with exposure to a wide variety of clinical profiles that will enable them to provide high-quality patient care, including enhanced skill development in areas such as addictions, anaesthesia, care of the elderly, emergency medicine, palliative care, sports medicine, and women's health (e.g., intrapartum obstetrics).³¹

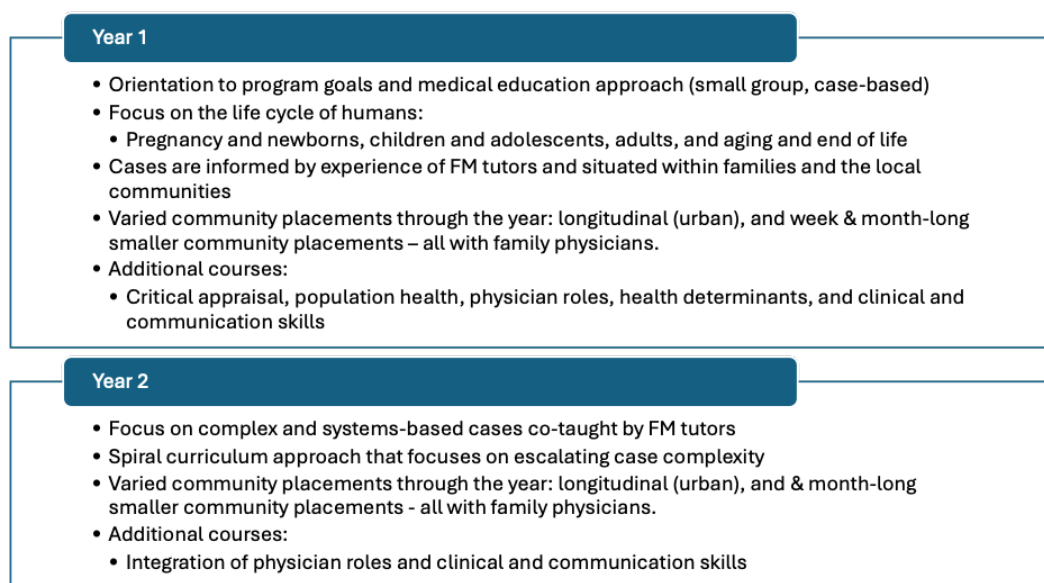


Figure 3. Overview of the first two years of the QLH MD FM curriculum

Faculty and staff engagement. Existing models of distributed faculty and staff support are insufficient to meet the needs of a new and robust distributed medical campus. Recognition and support of teaching and administrative activities were viewed as essential to enable faculty and staff to participate in program delivery, while incorporating the following guiding principles—“fairness, financial realities, and sustainability” (p. 25).³¹ The program is committed to exploring novel approaches to faculty and staff development, including designing inclusive and community-based recruitment strategies, creating new terms of appointment, developing governance structures for appointed regional faculty and staff, and designing alternative funding arrangements (see Appendix A). Additionally, formally engaging Family Health Teams or Organizations as sites for continuing placement of learners, initiating dialogue with family physicians and organizations, and providing ongoing development and supports are central to meaningfully engaging faculty and staff in diverse facets of the program (Appendix A).³¹

To fulfil the program’s vision for faculty and staff development, supporting infrastructure (e.g., regional departments, service contracts, and funding models) is being developed in collaboration with community partners. The program is also creating a plan to support initial and continuing faculty and staff development, recruitment, and retention efforts, as well as support for career pathways/promotion planning to enhance faculty and staff

development, satisfaction, and retention.³¹ While over 50 community physicians applied for new faculty positions (see Appendix A), a small cadre of clinical teachers were selected who are invested in the success of students and the program, and are taking on multiple teaching, mentorship, and curricular tasks. The program has also created opportunities for faculty to move beyond curriculum delivery to meaningfully engaging in diverse aspects of the program, including developing curriculum materials (e.g., cases) and program administration (e.g., admissions, community engagement).

Given the growing recognition of the value of interprofessional collaboration, the program is also focused on creating interprofessional faculty and staff development opportunities wherein faculty and staff learn about, from, and with diverse professions. Of note, the program has also developed collaborations with physicians from diverse specialties (e.g., Cardiology, General Surgery, Hematology, Internal Medicine, Psychiatry). In addition, the program is committed to recruiting faculty and staff of diverse backgrounds and experiences to ensure that faculty and staff can support equitable and inclusive learning environments.³¹

Community engagement. Another key component of the program is developing strong partnerships with communities focused on selecting, training, and developing family physicians. A partnership approach is intended to encourage learners to

ultimately practice where they trained. Members from the working groups were tasked with exploring avenues for sustainable community engagement, including working with partners to develop infrastructure support (e.g., bus passes, community business engagement, health services for students), recruit new, dedicated family medicine faculty, and foster meaningful and sustainable relationships with community partners.³¹ The Durham Physician Engagement Team (DPET) was developed to support learners in the QLH FM MD program foster strong social connections with the Durham Region community, in addition to developing short- and long-term strategies for enhancing physician recruitment in the Durham Region.⁴² The team includes representatives from diverse healthcare, academic, and community settings (e.g., business, government, service organization representatives; Appendix A). As a component of their broader recruitment and retention strategy, the Durham region, including its eight municipalities, has provided financial and in-kind contributions to support the development and implementation of the program. As such, the DPET team and the Durham Region represent key partners in the ongoing evolution of the program. Community partners are also integral to the development and implementation of the team's approach to knowledge translation and program evaluation.

While community engagement is primarily focused on the Durham Region and surrounding communities, the program intends to expand across South-central and Southeastern Ontario and beyond to ensure that partners represent diverse geographic areas and populations.³¹ To meaningfully engage communities, the program is collaborating with learners, faculty, community members, regional partners (e.g., Rural Ontario Medical Program, Eastern Regional Medical Education Program), and program leaders to build relationships, share capacity, and create synergy across partner groups. The program is focused on facilitating benefits for diverse populations and communities, including closing critical gaps in family medicine care and contributing to the sustainability of the healthcare system.

Infrastructure. To fulfil the program's mission and vision, it was necessary to ensure that the infrastructure was available to support the implementation of the program and facilitate positive outcomes for

learners, faculty and staff, and the community (Appendix A). An important facilitator in developing the required infrastructure was the high level of engagement with community partners (e.g., municipal and regional government representatives) in support of the program. The Lakeridge Health Education and Research Network (LHEARN) Centre is an established hub for training, education, and research and was an important enabler for the implementation of the program.⁴³⁻⁴⁴ Lakeridge Health provided an ideal site for the program given its longstanding relationships with Queen's University and community partners, including its role as a Queen's University family medicine Core Training site. Specifically, Lakeridge Health is an important partner in undergraduate and postgraduate education, including a well-established longitudinal integrated clerkship and existing residency program—in addition to its level of hospital and community investment as well as commitment to delivering high quality care to diverse populations—all while ensuring the sustainability of the healthcare system.^{31,45} Given that Durham is one of the fastest growing and diverse regions in Canada,⁴⁶ this community provides a valuable opportunity for medical education to adapt to the cultural, socio-economic, generational, and linguistic needs of an expanding population.

Learner experience. The program's learner experience emphasizes engagement in longitudinal and immersive family medicine learning experiences, including continuity of care with diverse populations of patients and families. The program provides several supports for learners, including academic and wellness resources (Appendix A). Regarding academic support, the small class size with a stable number of preceptors in the program enables individualized attention for learners and focuses on developing close connections between learners, faculty, and the community.³¹ Similarly, innovative learning opportunities are provided through high-fidelity simulation labs and community engagement projects, enabling residents to develop a well-rounded skill set. Durham region also provides access to a diverse patient population, including rural health and urban community medicine. Altogether, the learner experience of the program is focused on enabling learners to develop capacity to practice in diverse environments, while meeting community

health needs and fostering a culture of inclusion and collaboration.

Future program directions

There are several next steps for the program. Program evaluation and knowledge translation are crucial components of the program.⁴⁷ The team is committed to sharing their program development and implementation experiences with healthcare professionals, educational scholars, community-based organizations, and the Canadian public. The program's knowledge translation plan focuses on ensuring that the right information (message) is delivered to the right people (target audience) in the right format (strategy).⁴⁸ As such, several knowledge translation activities will be completed at multiple levels. To enhance the relevance and usefulness of program findings, the team will meaningfully engage invested partners throughout the knowledge translation process.^{33,49}

In relation to message, the team will share findings from the program evaluation regarding novel aspects of the program and its value for learners, faculty and staff, communities, and the broader healthcare system. This message will highlight how the program seeks to support closing the gap in family medicine within underserved communities. The team will also develop recommendations to aid other institutions when reflecting on how they can adapt and implement this educational approach in their own unique contexts. The knowledge translation activities will focus on disseminating knowledge to diverse target audiences invested in medical education and healthcare, including learners, healthcare providers, community members, researchers, organizations, and policy makers. The team will share their experiences using a variety of accessible knowledge translation strategies, including peer-reviewed journals, lay summaries, academic and community-based presentations, and social media platforms.

The inaugural cohort of learners began the program in Fall 2023. The curriculum is currently being implemented with this cohort and the program's governance structure continues to be refined. The team recognizes the ambitious nature of this educational initiative and that this change management process

will be complex and dynamic. As such, the team will employ an iterative and reflexive approach to continuously adapt and improve the program, including its design, content, and structure.⁴⁷ Lessons learned throughout this process will be shared with medical education partners to provide insight into how this model could be adapted and implemented in diverse communities and contexts. For example, the development process of the QLH MD FM program reinforced the importance of fostering strong, collaborative relationships among program partners and the community, developing clear communication channels, adopting creative approaches to program design and structure, and building capacity among program partners to facilitate the program's sustainability, particularly given resource constraints (e.g., funding, time).

With regards to *admissions*, the team has reviewed and refined the criteria and processes for the second cohort (Fall 2024). A key priority for 2023 was the implementation of the first iteration of the *curriculum*. As such, the team was focused on examining the delivery of this curriculum from the perspective of learners, faculty, staff, and community partners and engaging in ongoing curricular development efforts.³³ In relation to *faculty and staff development* and *community engagement*, the team has developed opportunities to bring together program and community partners to share capacity and develop sustainable partnerships. The first cohort of the program presented a valuable opportunity to examine how to best optimize the *infrastructure*. *Program evaluation* efforts are underway to assess the implementation⁴⁷ and outcomes of the program, and a comprehensive *knowledge translation* plan is being iteratively developed. Learners play an integral role in the program evaluation process, and the program is providing avenues for continuous learner feedback and engagement in the development of program supports and connections with student governing bodies. The team will also explore potential expansions to the program, including connecting with diverse health professions (e.g., nursing, rehabilitation therapy), working with postgraduate family medicine in enhancing the transition to residency curriculum in year 4, as well as implementing the program at different sites.³³

Conclusion

The complex challenges currently facing the Canadian healthcare system and family medicine represent an exciting opportunity to re-imagine underlying practices and policies of medical education. The program aims to help address these challenges by providing a model of innovative educational partnership focused on providing high-quality educational experiences for learners, faculty and staff, and community partners. Through community-led, team-based and collaborative approaches, in addition to ongoing program evaluation and knowledge translation initiatives, this novel educational approach aims to enhance the quality of family medicine education, with the ultimate goal of supporting the health and well-being of Canadians and their communities.

Author information:

- 1- Department of Medicine, Queen's University, Ontario, Canada
- 2- Professional Development and Educational Scholarship, Queen's University, Ontario, Canada
- 3- School of Kinesiology, University of British Columbia, British Columbia, Canada
- 4- Queen's Lakeridge Health MD Family Medicine Program, Queen's University, Ontario, Canada
- 5- MD Program, Queen's University, Ontario, Canada
- 6- NOSM University, Ontario, Canada
- 7- Department of Family Medicine, Queen's University, Ontario, Canada
- 8- Department of Critical Care Medicine, Queen's University, Ontario, Canada
- 9- Lakeridge Health, Ontario, Canada
- 10- Department of Psychiatry, School of Medicine, Queen's University, Ontario, Canada
- 11- Department of Pediatrics, Queen's University, Ontario, Canada
- 12- Higher Education, Queen's University, Ontario, Canada

Correspondence to:

Eugenia Pilotis

email: ep82@queensu.ca

Published ahead of issue:

Dec 9, 2025

© 2026 PILIOTIS, TURNNIDGE, MCGUIRE, DALGARNO, SANFILIPPO, BALASUBRAMANIAM, GIBSON, GREEN, WATSON, FITZPATRICK, WAX, MCHATTIE, ISMAIL, JOKIC, AZIZ, STONE, VAN WYLUCK, STOCKLEY, PHILPOTT; licensee Synergies Partners. This is an Open Journal Systems article distributed under the terms of the Creative Commons Attribution License. (<https://creativecommons.org/licenses/by-nc-nd/4.0>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is cited.

Conflict of Interest:

All authors are associated with the Queen's-Lakeridge Health Doctor of Medicine - Family Medicine (QLM MD FM) program. They have no financial interests to disclose.

Funding:

This work was supported by Queen's University Health Sciences and the Government of Ontario.

Acknowledgements

We would like to thank Queen's University Health Sciences and the Government of Ontario for funding this initiative.

References

1. Flood CM, Thomas B, McGibbon, E. Canada's primary care crisis: federal government response. *Health Manage Forum*. 2023;36(5):327-332. <https://doi.org/10.1177/08404704231183863>
2. Glazier RH. Our role in making the Canadian health care system one of the world's best: how family medicine and primary care can transform—and bring the rest of the system with us. *Can Fam Physician*. 2023;69(1):11-16. <https://doi.org/10.46747/cfp.690111>
3. Kiran T. Keeping the front door open: ensuring access to primary care for all in Canada. *Can Med Assoc J*. 2022;194(48):E1655-E1656. <https://doi.org/10.1503/cmaj.221563>
4. Li K, Frumkin A, Bi WG, Magrill J, Newton C. Biopsy of Canada's family physician shortage. *Fam Med Community Health*. 2023;11(2):1-4. <https://doi.org/10.1136/fmch-2023-002236>
5. Statistics Canada. *Table 13-10-0096-16 Has a regular healthcare provider, by age group*. 2023. <https://doi.org/10.25318/1310009601-eng>
6. Duong D. Primary care is facing a capacity crisis—can pandemic lessons help chart a path forward? *Can Med Assoc J*. 2022;7(194):1488. <https://doi.org/10.1503/cmaj.1096023>
7. Mathews M, Idrees S, Ryan D, et al. System-based interventions to address physician burnout: a qualitative study of Canadian family physicians' experiences during the COVID-19 pandemic. *Int J Health Policy Manag*. 2024;13(1):1-9. <https://doi.org/10.34172/ijhpm.8166>
8. Department of Family and Community Medicine at the University of Toronto. *Primary Care needs OurCare. The final report of the largest pan-Canadian conversation about primary care*. 2024. Available from: https://issuu.com/dfcm/docs/primary_care_needs_ourcare_the_final_report_of_the?fr=xKAE9zU1NQ [Accessed on Feb 24, 2025]
9. Premji K, Green ME, Glazier R, et al. Characteristics of patients attached to near-retirement family physicians: a population-based serial cross-sectional study in Ontario, Canada. *BMJ Open*. 2023;13(12):e074120. <https://doi.org/10.1136/bmjopen-2023-074120>
10. Ontario Medical Association. *Every Ontarian needs a doctor*. 2025. Available from <https://www.oma.org/advocacy/stop-the-crisis/?shpath=/priorities/every-ontarian-needs-a-doctor> [Accessed on Feb 24, 2025]
11. Lemire F. When, if not now? *Can Fam Physician*. 2022;68(6):474. <https://doi.org/10.46747/cfp.6806474>
12. Canadian Medical Association. *Insight: Why is it so difficult to find a family doctor?* 2024. Available from <https://www.cma.ca/latest-stories/insight-why-it-so-difficult-find-family-doctor> [Accessed on Feb 24, 2025]
13. Canadian Institute for Health Information. *Changes in practice patterns of family physicians in Canada*. 2024. Available from <https://www.cihi.ca/en/changes-in-practice-patterns-of-family-physicians-in-canada> [Accessed on Feb 24, 2025]

14. Schultz K, Cofie N, Braund H, et al. The hidden curriculum across medical disciplines: an examination of scope, impact, and context. *Can Med Educ J*. 2023;15(1):1-11. <https://doi.org/10.36834/cmej.75207>
15. Martin D, Bell B, Black G, et al. Primary care for everyone: an urgent to-do list for reform. *Public Policy Forum*; 2023. <https://ppforum.ca/publications/primary-care-for-everyone-an-urgent-to-do-list-for-reform/>
16. McCracken RK, Hedden L. What can publicly funded schools teach us about how to fix the family doctor shortage? *Healthc Manage Forum*. 2023;36(5):322-326. <https://doi.org/10.1177/08404704231183175>
17. Sanfilippo A. The doctors we need: imagining a new path for physician recruitment, training, and support. Sutherland House Experts; 2024.
18. Carney PA, Waller E, Dexter E, et al. Team training in family medicine residency programs and its impact on team-based practice post-graduation. *Fam Med*. 2017;49(5):346-352.
19. Poeppelman RS, Liebert CA, Vegas DB, Germann CA, Volerman A. A narrative review and novel framework for application of team-based learning in graduate medical education. *J Grad Med Educ*. 2016;8(4):510-517. <https://doi.org/10.4300/JGME-D-15-00516.1>
20. Newton WP, Magill M, Biggs W, et al. Re-envisioning family medicine residencies: the end in mind. *J Am Board Fam Med*. 2021;34(1), 246-248. <https://doi.org/10.3122/jabfm.2021.01.200604>
21. Sanfilippo A. *This is why you don't have a family doctor*. The Globe and Mail. 2023 Sept. Available from <https://www.theglobeandmail.com/opinion/article-this-is-why-you-dont-have-a-family-doctor/> [Accessed on Feb 24, 2025]
22. Taber S, Akdemir N, Gorman L, van Zanten M, Frank JR. A “fit for purpose” framework for medical education accreditation system design. *BMC Med Educ*. 2020;20(S1). <https://doi.org/10.1186/s12909-020-02122-4>
23. Busing N, Harris K, MacLellan AM, et al. The future of postgraduate medical education in Canada. *Acad Med*. 2015;90(9):1258-1263. <https://doi.org/10.1097/ACM.0000000000000815>
24. Hodges BD, Albert M, Arweiler D, et al. The future of medical education: a Canadian environmental scan. *Med Educ*. 2010;45(1):95-106. <https://doi.org/10.1111/j.1365-2923.2010.03737.x>
25. Katz A, Singer AG. Future of family medicine in Canada: four evidence-based strategies for health care transformation. *Can Fam Physician*. 2024;70(3):155-157. <https://doi.org/10.46747/cfp.7003155>
26. Sanaee L. Medical education reform: a catalyst for strengthening the health system. *Can Med Educ J*. 2019;10(4):e57-61. <https://doi.org/10.36834/cmej.61619>
27. The Association of Faculties of Medicine of Canada. *AFMC Strategic Plan*. The Association of Faculties of Medicine of Canada; 2024. Available from <https://www.afmc.ca/strategic-plan/> [Accessed on Feb 24, 2025]
28. Davis C. *Lakeridge Health Letter of Support - Regional Campus Partnership*. Lakeridge Health; 2021 Dec. Unpublished.
29. College of Family Physicians of Canada. *Residency training profile for family medicine and enhanced skills programs leading to certificates of added competence outcomes of training project College of Family Physicians of Canada*. 2021. Available from: <https://www.cfpc.ca/CFPC/media/Resources/Education/Residency-Training-Profile-ENG.pdf>. [Accessed on Feb 24, 2025]
30. Queen's University. *Queen's-Lakeridge Health MD Family Medicine Program*. 2023. Available from <https://meds.queensu.ca/academics/mdprogram/queens-lakeridge-health-md-family-medicine-program> [Accessed on Feb 24, 2025]
31. Sanfilippo T, Stone T, Wax R, et al. *Report of the steering committee and working groups*. Joint Queen's University – Lakeridge Health Integrated Medical Education Program (QLEP). 2022. Unpublished.
32. Osler F, Moineau G, Tunde-Byass M, et al. Call to action for comprehensive primary health care. *Canadian Medical Forum*. 2022. Available from https://www.afmc.ca/wp-content/uploads/2022/10/220705_CMF-Call-to-Action_Comprehensive-Primary-Health-Care.pdf [Accessed on Feb 24, 2025]
33. Piliotis E, Sanfilippo A, Turnnidge J, et al. Rethinking how we educate our future family physicians: Conceptualizing the Queen's

- Lakeridge MD Family Medicine Program. International Congress on Academic Medicine: 2024; Vancouver, British Columbia, Canada. Published abstract available in the 2024 ICAM Proceedings. *Can Med Educ J*, 15(3), 210. <https://doi.org/10.36834/cmej.79446>.
34. Lakeridge Health. *About Lakeridge Health*. 2023a. <https://www.lakeridgehealth.on.ca/en/aboutus/aboutlakeridgehealth.asp?mid=2034> [Accessed on Feb 24, 2025]
 35. Durham Region Census Data. *Planning for growth*. 2023. Available from: <https://www.durham.ca/en/living-here/planning-for-growth.aspx#Statistics> [Accessed on Oct 6, 2025]
 36. The Regional Municipality of Durham. *The regional municipality of Durham report to: planning and economic development committee from: commissioner of planning and economic development*. 2024. Available from <https://www.durham.ca/en/living-here/resources/Documents/2024-P-15-Durham-Region-Profile---Demographics-and-Socio-Economic-Data.pdf> [Accessed on Oct 6, 2025]
 37. The Regional Municipality of Durham. *Durham region profile*. 2024. Available from https://icreate7.esolutionsgroup.ca/11111068_DurhamRegion/en/living-here/resources/Documents/Attachment-1---DurhamProfile-Final-Infographic-Accessible.pdf [Accessed on Oct 6, 2025]
 38. The Regional Municipality of Durham. *Health neighbourhoods in Durham region*. 2022. Available from <https://app.powerbi.com/view?r=eyJrIjoiZmM4ZmE2MDItNDRIOS00MzI1LTgwNDMtMTMwZTMxOTM0NzBlliwiICI6IjUyZDdjOWMyLWQ1NDktNDFiNi05YjFmLTlkYTE5OGRjM2YxNiJ9&pageName=ReportSection2080f15a79d0884a7d58> [Accessed on Oct 6, 2025]
 39. The Regional Municipality of Durham. *Mental health in Durham region data from the Canadian community health survey*. 2024. Available from <https://www.durham.ca/en/health-and-wellness/resources/Documents/HealthInformationServices/HealthStatisticsReports/CCHS-Mental-Health-Report.pdf> [Accessed on Oct 6, 2025]
 40. The Regional Municipality of Durham. *Intentional self-harm hospitalizations and emergency department visits at a glance*. 2019. Available from <https://www.durham.ca/en/health-and-wellness/intentional-self-harm-hospitalizations-and-emergency-department-visits-at-a-glance.aspx> [Accessed on Oct 6, 2025]
 41. Queen's University, School of Medicine. *Admissions pathways & programs*. 2024. <https://meds.queensu.ca/academics/mdprogram/queens-lakeridge-health-md-family-medicine-program>
 42. Jadoon F. *Family physician recruitment program: report to executive committee*. City of Pickering; 2024. Available from <https://corporate.pickering.ca/WebLink/DocView.aspx?id=255034&dbid=6&repo=PICKERING&cr=1> [Accessed on Feb 24, 2025]
 43. Lakeridge Health. *Lakeridge Health Education and Research Network (LHEARN) centre*. 2023. Available from <https://www.lakeridgehealth.on.ca/en/trainingandresearch/lakeridgehealtheducationandresearchnetworklhearn.asp> [Accessed on Feb 24, 2025]
 44. Lakeridge Health Education and Research Network. *Venue - LHEARN Space. Lhearn*. 2021. Available from <https://lhearn.square.site/venue> [Accessed on Feb 24, 2025]
 45. Lakeridge Health Strategic Plan. *Reimagine the future of health care*. 2023. Available from <https://www.lakeridgehealth.on.ca/en/aboutus/resources/Strategic-Plan/LH---Strat-Plan-V11---Final.pdf> [Accessed on Feb 24, 2025]
 46. The Regional Municipality of Durham. *Planning for growth*. 2023. Available from <https://www.durham.ca/en/living-here/planning-for-growth.aspx> [Accessed on Oct 6, 2025]
 47. Queen's-Lakeridge Health MD Family Medicine Program Evaluation Team. *Queen's-Lakeridge Health MD family medicine program evaluation plan*. Internal Queen's University Report; 2023 Unpublished.
 48. Lavis JN, Robertson D, Woodside JM, McLeod CB, Abelson J. How can research organizations more effectively transfer research knowledge to

decision makers? *Milbank Q.* 2003;81(2):221-248. <https://doi.org/10.1111/1468-0009.t01-1-00052>

49. Watson S, Aziz N, Gibson M. Rethinking how we educate future family physicians – a direct entry MD Family Medicine Program. World Organization of Family Doctors (WONCA) Europe Conference: 2024, Dublin, Ireland. Abstract available in book of abstracts (Abstract ID: 718):
https://www.woncaeurope.org/file/1a66f325-0917-4afc-b5cb-670b04e15187/WONCA_BOOK_OF_ABSTRACTS_2024.pdf [Accessed on Feb 24, 2025]

Note: As some of the references refer to documents that are not publicly available, please contact the corresponding author for more details.

Appendix A. Overview of the six pillars of the QLH MD FM program

Pillar of the QLH MD FM program	Key Principles	Examples	Lessons Learned/Ways Forward
Admissions	Selecting students who are committed to, and best suited for, a career in family medicine Co-developing attributes most relevant for individuals who would be successful and personally satisfied with a career as a family physician Tailoring admissions review processes for the QLH MD FM program (Figure 2)	Identifying relevant personal qualities: - Interpersonal skills and communication - Commitment to service - Dealing with uncertainty - Resilience - Integrity and trustworthiness - Focus on community and societal needs - Principles of Indigeneity-Equity, Diversity, Inclusion, Accessibility, Anti-racism (I-EDIAA) - Diligence - Maturity	Create a program-focused working group, including representation from family medicine and the family medicine Residency Program Committee Ensure that admissions processes reflect the distinct requirements of the QLH MD FM program while being congruent with accreditation standards for both UGME and PGME Continue to review and revise the admissions practices for the program based on learner and faculty experiences/feedback
Curriculum	Providing early and ongoing exposure to family medicine practices Offering longitudinal and immersive experiences with patients and families Engaging with learning teams, guided by family medicine preceptors, curricular leads, and mentors Emphasizing integrated clinical presentations Learning from interprofessional faculty Integrating I-EDIAA content and concepts (e.g., addressing the Truth and Reconciliation Call to Action #24)	Year 1 is organized by a life cycle approach and adopts ongoing small group learning with family medicine tutors Year 1 offers three community placements: (a) longitudinal half-day placements with local family physicians throughout the academic year, (b) an early winter one-week placement, and (c) a spring one-month placement with a family physician, both in rural communities in the region Year 2 uses more complex and systems-based cases with a spiral curriculum approach	Adopt a person-centred approach to medical education curriculum which focuses on patients' health, rather than on organ systems Emphasize integrated clinical presentations Continue to engage family physicians in designing and delivering the curriculum Provide opportunities for community engagement, including varied longitudinal community placements and horizontal placements within family medicine
Faculty and Staff Engagement	Focusing on not only supporting learners in the community, but also facilitating the recruitment, development, and retention of invested faculty and staff over time Integrating diverse support systems to facilitate meaningful engagement between family physicians and a variety of diverse health professions	Developing new positions/roles: - Decanal position, Assistant Dean, started in August of 2023 to provide administrative, operational, and educational leadership - Curriculum director to oversee all content development and implementation	Develop inclusive and community-based recruitment strategies that explain the program's aims and faculty expectations Create meaningful teaching opportunities which involve greater time commitment, greater continuity with students, more engagement with program curriculum beyond their assigned lectures, and built in engagement in

© PILIOTIS, TURNNIDGE, MCGUIRE, DALGARNO, SANFILIPPO, BALASUBRAMANIAM, GIBSON, GREEN, WATSON, FITZPATRICK, WAX, MCHATTIE, ISMIIL, JOKIC, AZIZ, STONE, VAN WYLUCK, STOCKLEY, PHILPOTT



		Course directors to implement common curriculum with the Kingston campus from a family medicine perspective Clinical skills and small group tutors Clinical mentors for longitudinal and early clinical experiences	other program pillars (e.g., exam building, committee work, admissions) Create diverse hiring pathways that can be tailored to the interests, needs, and capacity of faculty and staff Develop appropriate and streamlined compensation packages that recognize the value of faculty and staff and allow for flexibility Provide ongoing professional development and support, including onboarding processes Engage faculty and staff in diverse aspects of the program (e.g., co-creating cases that are relevant to the local community) Expand on opportunities for interprofessional collaboration (e.g., nursing, occupational therapy, physical therapy, social work) Seek feedback from faculty and staff to enhance experiences within the program
Community Engagement	Raising awareness in the community about the QLH MD FM program and opportunities for the community to contribute to the Program Providing opportunities for learners to meaningful engage with, and understand, the richness and diversity of the Durham Region Facilitating learners' sense of welcoming and support from the community Building strong and collaborative partnerships between the QLH FM MD program, Lakeridge Health, and the Durham Region community	Collaborating with Community Partners: - Medical clinics - Healthcare professionals - Community organizations (e.g., rotary clubs, service clubs, sport organizations, recreational facilities) - Business partners - Government partners (e.g., Boards of Trade, Chambers of Commerce)	Develop sustainable partnerships that are mutually beneficial Continue to raise awareness in the community about the program AND the community's contribution to the program Develop connections between learners and the community (e.g., connecting with learners before they begin the program for supports with employment, childcare, housing, transportation) Balance learner involvement in the community with the realities of their educational responsibilities Develop intentional strategies that integrate opportunities for community engagement into program design (e.g., academic half days dedicated to community engagement, community placements) Develop service-learning opportunities Engage community leaders and champions who know the community and are trusted by the community

Infrastructure and Supports	Developing the infrastructure and supports required for facilitating positive outcomes for program partners (e.g., learners, faculty, communities) Fostering the sustainability and growth potential of the program	Developing Supports: Physical space: (LHEARN) Centre (e.g., auditorium, classroom and meeting spaces, simulation laboratories and equipment, and audio-visual equipment). Infrastructure capacity (e.g., small and large group spaces, clinical teaching spaces, lounge, library, and storage spaces) Information technology resources Learner supports (administrative, curricular, and community supports, linkages to student affairs specialized advisors)	Further develop and refine the infrastructure and supports that are needed to facilitate the implementation of family medicine-focused programs including: Physical spaces (teaching, simulation, library, lounge) Clinical capacity for teaching Engaged faculty and staff Community champions Funding
Learner Experience	Creating longitudinal and immersive family medicine-focused learning experiences Designing learning opportunities that can: (a) help learners develop a clear understanding of family medicine practice, (b) foster a shared identity among program learners specific to the QLH FM MD Program situated within the broader Queen's University community, and (c) strengthen the connections between learners and the Durham Region community	Enhancing the learner experience: Small class sizes Stable program preceptors Representative for Wellness and Learner Support connected to Student Affairs Dedicated career advisors to facilitate career development Embedded counsellors Representatives from the Community Team to connect learners (and their networks) with relevant community supports	Continue to develop diverse and tailored supports that facilitate learners' professional and personal development within the program and beyond Continue to develop on-the-ground supports that are tailored to the needs of the program Seek feedback from learners to refine the program and positively shape their program experiences