

Scholarly Activity within Distributed Medical Education Programs: Reflections and Recommendations

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Report to the Council of Ontario Faculties of Medicine (COFM) from the Distributed Medical Education (DME) Committee

based on its meeting at the

Canadian Conference on Medical Education, April 12, 2019, in Niagara Falls, Ontario

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1.0 DME-COFM Committee Members

Dr. Alison Freeland, Associate Dean Medical Education (Regional), Faculty of Medicine, University of Toronto (Co-Chair)

Dr. Chuck Su, Director of Distributed Medical Education, Faculty of Medicine, University of Ottawa (Co-Chair)

Dr. Dorothy Bakker, Assistant Dean, McMaster Community and Rural Education, Faculty of Health Sciences, McMaster University

Dr. Brian Ross, Interim Associate Dean Undergraduate Medical Education, Northern Ontario School of Medicine

Dr. Ruzica Jokic, Assistant Dean, Distributed Medical Education, Faculty of Health Sciences, Queen's University

Dr. George Kim, Assistant Dean, Rural & Regional Community Engagement, Schulich School of Medicine & Dentistry, Western University

Celia Hammond, Senior Policy Analyst, Office of Health Sciences, Council of Ontario Universities

2.0 Executive Summary

DME programs are an established part of medical education in Ontario Faculties of Medicine (COFM Reports 2015, Murray 2019), and as such must create and support an academic environment that fosters curiosity, inquiry and knowledge sharing that promotes scholarly activity among students and faculty. The purpose of this report is to summarize the findings of a recent meeting of the DME COFM Deans, which explored current issues related to student and faculty engagement in scholarly activities across Ontario DME programs. From this, a list of key issues and recommendations to enhance and improve opportunities to advance this were developed.

Summary of Issues and recommendations:

1. Scholarly activity is part of the CanMEDS framework, and is considered an accreditation standard to be met within all medical school teaching sites (Section 3.1).

Recommendation #1: Promotion and support of scholarly work across DME programmes will ensure that students and faculty at all teaching sites have comparable opportunities to meet training requirements and standards.

2. The emerging role of scholarship within DME programs, as compared to established scholarship within academic health science centres, needs to be recognized and supported through strategies which reflect local context (Section 3.2).

Recommendation #2: Ensure the culture of scholarship in academic health sciences centres is extended to and valued within DME programs.

3. The increasing importance of scholarly activity in the career trajectories of individual DME faculty requires support and recognition both locally and from Faculty of Medicine department leadership (Section 3.3).

Recommendation #3: Enable DME program faculty to have required mentoring and support to achieve successful academic career trajectories.

4. The value proposition and branding of maturing DME programs must be re-established, and aligned with academic goals (Section 3.4).

Recommendation #4: DME program maturation necessitates incorporating scholarly activities into their value proposition and branding, in a way that is aligned both with the strategic goals of their faculty of medicine, as well as the needs of their local community.

5. Established resources, tools and measures of academic success should be adapted to the community context to increase interest in academic activity and promotion within DME settings (Section 3.5).

Recommendation #5: Support development of tools and metrics to acknowledge and value DME scholarly activities, recognizing there are differences between those that are established at academic sites and those that are evolving within distributed programs.

3.0 Additional Background

3.1 Scholarly activity is part of the CanMEDS framework, and is considered an accreditation standard to be met within all medical school teaching sites.

The Royal College of Physicians and Surgeons CanMEDS (Royal College of Physician and Surgeons of Canada 2019) and the College of Family Physicians CanMEDS (College of Family Physicians of Canada 2019) frameworks consider scholarship to be an essential role of competent physicians. Scholarly activity must be part of physician training along with the other core competencies: medical expert (the central role), communicator, collaborator, leader, health advocate, and professional. According to CanMEDS, scholarly activity involves being:

- Engaged in the continuous enhancement of their professional activities through ongoing learning
- Teaching students, residents, the public, and other health care professionals
- Integrating best available evidence into practice
- Contributing to the creation and dissemination of knowledge and practices applicable to health (Frank, Snell, Sherbino 2015)

Ongoing accreditation of medical schools is overseen by the Committee on Accreditation of Canadian Medical Schools (CACMS). Accreditation is a process by which institutions and programs voluntarily undergo an extensive peer evaluation of their compliance with accepted standards for educational quality. Standard 3 focuses on academic and learning environments and requires that a medical education program is conducted in an environment that provides sufficient opportunity, encouragement and support for medical student participation in research and other scholarly activities of its faculty. Given the increasing numbers of students at distributed sites, the need for developed opportunities for research supervision and mentoring is rapidly growing.

3.2 The emerging role of scholarship within DME programs, as compared to established scholarship within academic health science centres, needs to be recognized and supported through strategies which reflect local context.

Opportunities for scholarly activities within Ontario's DME programs differ widely, given the heterogeneity of the DME program models, and the resources assigned to each one (see Figure 1 below). The Northern Ontario School of Medicine (NOSM) is a distributed geographical program, without a central academic hub, that has required innovative approaches to engaging local faculty and supporting medical trainees in scholarly activities. The University of Toronto, McMaster University and Western University have DME campuses located in Mississauga (U of T), Waterloo (McMaster), Niagara (McMaster), and Windsor (UWO). They each have substantial numbers of local faculty who provide clinical teaching to students, and who are expected to contribute scholarly work as part of maintaining their yearly faculty appointment. The University of Ottawa and Queen's University do not have distributed campuses, but rather operate their distributed training centrally, through a network of community and rural training opportunities. In addition to resources through the university, DME placements are also supported by separately funded DME placement networks (i.e. ROMP, ERMEP, etc.)

The size of the DME programs in Ontario has increased over the last decade. The number of medical trainee days (MTD) in community hospitals has increased by 30% since 2011/12. As a result, the number of faculty appointed in distributed locations has also increased (for example, the Niagara Regional Campus has increased from 20 faculty in 2011 to 325 faculty in 2019). With these increases, scholarly activity, and the supports required to ensure this occurs, has begun to emerge as a key issue requiring recognition, leadership and sustainable growth.

Anxiety about Canadian Resident Matching Service (CaRMS) matching success has been identified among undergraduate students including those in DME programs (Palmer, Tepper, Konkin 2017). Some postgraduate programs have high expectations for scholarly activities which can create challenges for residents in DME programs. Similarly, DME programs may not have as many scholarly activity opportunities for undergraduate students than in the health sciences centre.

Ontario faculties of medicine should encourage residency program descriptions of scholarly activities on the CaRMS website (<https://www.carms.ca/contact/>) to include opportunities within their DME programs. This would be strengthened if DME faculty development resources related to scholarly activity were shared across Ontario faculties of medicine. For example, faculties of medicine could consider implementing DME research days that engage multiple Ontario schools of medicine. Currently, the Association of Faculties of Medicine of Canada (AFMC) has a DME research day in conjunction with the Canadian Conference on Medical Education. This day should be further supported and developed.

Furthermore, deans of faculties of medicine could consider reviewing their school's mission and vision to ensure it includes its DME program mandate. This would include promotion of scholarship among faculty as well as learners beyond their academic health sciences centre.

Ontario examples of DME programs actions that are strengthening their scholarly activity culture include the following:

- Schulich UWindsor Opportunities for Research Excellence Program (SWORP) provides funding for Schulich's Windsor Campus students to undertake a research project under the supervision of a University of Windsor faculty member.
- University of Ottawa, Western and Queen's University offer scholarships to undergraduate students working on research projects in DME
- The Waterloo Regional Campus of McMaster's Michael G. DeGroote School of Medicine offers sessions on evidence-based medicine for undergraduate students
- The Northern Ontario School of Medicine (NOSM) runs the yearly Northern Health Research Conference for faculty and trainees to share research and scholarship, with the conference taking place at a different distributed site each year. It has also established the MedEd – Café and Research Labs where research projects related to medical education scholarship are shared and openly discussed across sites.
- The Niagara, Waterloo, Mississauga and Windsor regional campuses each support on average 30 research and QI projects each year
- Queen's undergraduate students in integrated clerkship programs are supported by the University and ROMP in participating in quality improvement projects that are being presented at the annual Research day in Collingwood.
- Mississauga has held local research events for students to showcase their research activity

3.3 The increasing importance of scholarly activity in the career trajectories of individual DME faculty requires support and recognition both locally and from Faculty of Medicine department leadership.

For some faculty in DME programs, a faculty and interest in research accompanies them into and out of their clinical training as physicians. For others, it is a developmental process. The first 5 to 7 years of their professional lives are spent establishing a practice, a workable continuing medical education strategy and a balance among self with family and friends. By then, questions arise from their patients, their treatment and what the health science literature does and does not recommend. Seasoned physicians ask how these questions forward into a quality improvement project or a research project. (Bass 1987, Bernard 2014, Hennen 1988, Kelly 2008, Hogg et al 2009, Paige et al 2019)

DME faculty appointments continue to increase in response to the demand for more UGME student rotations. This increase may also be explained by clinicians rekindling their interest in teaching and beginning to see the benefits of academic activity within a community setting, where there may be more independence in the research questions to be studied as well as fewer barriers to accessing patients to participate in these studies than if they were based in an academic health sciences centre.

Creation of a cadre of DME program clinical researchers is beneficial to trainees, to other faculty, to the faculty of medicine and to health service organizations in the communities served by DME programs. DME faculty should be offered development opportunities, support and incentives to facilitate increased engagement and to respond to perceived inequity with faculty in academic centres.

Faculties of medicine should support local definition of a scholarship capacity plan for DME campuses, which aligns with both strategic goals of the respective university as well as the needs and values of the local community. This could include specific roles (e.g., DME 'Scholarship' Directors and Coordinators) as well as health services quality improvement and applied health research partnerships with local health service organizations.

There are currently efforts within each medical school to begin to develop DME scholarship planning, as evidenced by the following examples:

- NOSM has set up Local Education Groups (LEGs) which are the proxy for clinical practice plans in other Alternative Funding Plans (AFPs). LEGs are communities of practice of physician faculty members with a focus on academic activities including developing research capacity.
- McMaster's Waterloo Regional Campus offers faculty access to biostatistical and research and health services quality improvement methods consulting through its Research Director and Coordinator.
- The salary of McMaster's Waterloo Regional Campus' Director of Research is partially funded by a local health service organization.
- Both of McMaster's Niagara and Waterloo Regional Campuses have research directors and research staff who assist learners and faculty at different stages of their projects
- NOSM has a Director of Quality Improvement (of education programs) and accreditation.
- NOSM set up the Northern Ontario Academic Medicine Association (NOAMA) which has an AFP Innovation Fund and a Clinical Innovation Fund.
- Mississauga has a 0.5 FTE Research Activities Coordinator, working across both the distributed campus and the local hospital.
- The Institute for Better Health in Mississauga is formally engaged in expanding research support to local researchers and enabling medical learners to participate in research activities.
- Western University supports a 0.5 FTE Research Coordinator who supports scholarly initiatives from DME faculty.

3.4 The value proposition and branding of maturing DME programs must be re-established, and aligned with academic goals.

DME evolved initially as a response to physician shortages in rural areas, with the notion that by training doctors locally, there would be increased likelihood in those physicians remaining in underserved communities to practice. The physician health human resource issues in Ontario

have evolved to be a much more complex set of dynamics, influenced not only by numbers and location of medical trainees, but expanding scopes of practice of other health professionals, introduction of virtual health care delivery platforms, and innovation and artificial intelligence changing the way a specific health care service is delivered. This in no way negates the importance of distributed medical education, but rather highlights the need for academic work in local communities to explore and research how best to continue to shape the delivery of health care locally. The value proposition of DME should evolve to align with this rapidly changing health care environment, in a way that is different but complementary to research being done in traditional academic sites.

Through partnerships with community organizations including health service organizations, municipalities, and other agencies, DME programs can increase their capacity to support scholarly activities among undergraduate students and residents (Strasser 2017, Hays et al 2019, Frank et al 2010). The outcomes of these partnerships include:

- Quality improvement of health services
- Improved outcomes
- Innovative care
- Efficient systems
- More robust professional opportunities
- Augmented physician recruitment
- Leading practices
- High quality education for learners
- Increased knowledge translation of clinical guidelines into practice.

Support of scholarly activity including quality improvement of health services and clinical research by health professionals enable partner organizations to innovate beyond a regular clinic or hospital.

3.5 Established resources, tools and measures of academic success should be adapted to the community context to increase interest in academic activity and promotion within DME settings.

In many ways, DME programs work in the shadow of health sciences centres, and their unique contributions are not always explicit in the vision and mission of the faculties of medicine in Ontario. DME programs have developed strong relationships in their communities and are well positioned to initiate innovative community programs to improve the health of their communities. Quality improvement of health services is another area where DME is well positioned to support advances, and measure successes, in addition to what is being done at academic hospitals.

The opportunity to create research networks across DME programs is relatively unexplored. This report is a first step towards identifying opportunities to rectify this within the Ontario context. Standardizing available tools and reaching consensus on appropriate metrics to measure the success of DME needs to be revisited and understood based on the current DME climate, and the shifting rationale for distributed education within medical faculties.

Other required tools and supports include responding to the complex promotion and tenure processes set up for health sciences centres, which can be perceived as both inaccessible and irrelevant to faculty in DME programs. Reviewing how faculty in distributed sites can achieve

promotion through demonstrating accomplishments in equivalent, rather than equal, scholarly activity is an important area of consideration.

Below are some current examples of the development of local tools and resources being explored to support DME in Ontario:

- Incorporation of the CanMEDS definition of ‘scholarship’ rather than more narrow definitions of ‘research’
- Evolving conceptualization of a standardized scholarship capacity plan for DME campuses to include specific roles (e.g., Scholarship Directors and Coordinators) and/or research/scholarship partnerships with local health service organizations.
- Increased awareness of DME faculty regarding available scholarship development opportunities and support/incentives, and creation of new opportunities to respond to perceived inequity with faculty in academic health sciences centres.
- Health Sciences North in Sudbury has established the Health Sciences North Research Institute, and Thunder Bay Regional Health Sciences Centre set up the Thunder Bay Regional Health Research Institute.
- Niagara Health has established a research office, and it has a service agreement with the Research Institute of St. Joe’s Hamilton to provide support to researchers entering into contracts to conduct industry projects.
- Niagara Health has centralized ethics review for clinical research and clinical trials under the Hamilton integrated Research Ethics Board (HiREB).
- Mississauga has support for REB and development of research activities through the Institute for Better Health.

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Figure 1 Landscape of DME Programs in Ontario

Ontario Medical School	Model of DME
Northern Ontario School of Medicine (NOSM)	Entire medical school is distributed geographically
University of Ottawa	Centrally operated DME Programs

Queen's University	Centrally operated DME Programs
University of Toronto	DME Regional Campuses (Mississauga) Clinical Education Program DME Networks
McMaster University	DME Regional Campuses (Niagara, Waterloo) Clinical Education Program DME Networks
Western University	DME Regional Campus (Windsor) Clinical Education Program DME Networks

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Appendix Slide Deck: Scholarly Competencies and Distributed Medical Education Programs: Ontario Strategies. Report from the Distributed Medical Education Committee of the Council of Ontario Faculties of Medicine. 2019.