OPINION

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Piloting a long distance clinician scientist trainee mentorship match in Canada

Abstract

Clinician scientists are physicians who are uniquely trained to bridge the gap between scientific discovery and clinical practice. However, the challenges of integrating research and medicine are often not directly addressed in the clinician scientist training programs. Furthermore, the demanding training path is financially and personally daunting. Previous studies have shown that MD/PhD trainees value the advice and expertise of senior mentors in navigating their academic career path. Despite this demand for mentors, there is a lack of formal mentorship initiatives at the institutional level across Canada. Recently, MD/PhD trainees have attempted to address this issue by implementing a nationwide mentorship match, with the aim of making mentorship more accessible to trainees across Canada.

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The training to become a clinician scientist is a significant and lengthy commitment. Multiple degrees, residency, post-residency subspecialty training and post-doctoral fellowships are required before trainees can begin to establish their careers. Clinician scientists have emphasized the importance of mentorship in retaining trainees and in setting them on a successful course along their dual career trajectory [1-3]. The guidance of an established mentor can provide opportunities to explore career paths and provide personalized feedback for charting a career.

In a survey of Canadian MD/PhD, MD/MSc and residency-level Clinician Investigator programs (CIP) trainees, Yoon et al. found that over half of trainees were “completely satisfied” with their program structure, financial support and quality of training. However, when asked about their satisfaction with the level of mentoring received through their training program, 66% were “completely dissatisfied”, “unsatisfied” or “mildly unsatisfied” [4].

This study by Yoon et al. also suggested that the perceived availability of mentorship was a key component of program satisfaction [4]. According to a survey of trainees and directors of Canadian MD/PhD programs, eight of 13 programs did not offer formal mentorship opportunities [5]. Despite this lack of institutional mentorship programs, 98% of trainees felt that adequate mentoring was “extremely important” or “important” to their success in a clinician investigator program [4]. Trainees ranked their top mentorship needs as career planning and development, transitions in training, and synergizing clinical and research interests [5].

No further work on mentorship of Canadian MD/PhD trainees has been published, although globally much literature exists on the impact of mentorship on residents and early clinician scientists’ success. This has led to a significant gap in knowledge of the need and importance of mentorship for training the next generation of clinician scientists in Canada.

Considering the lack of formal mentorship programs for clinician scientist trainees across Canada, the Clinician Investigator Trainee Association of Canada (CITAC) circulated a brief survey to our institutional representatives, who are trainees that liaise between CITAC and their respective institution’s student body. This survey had two purposes: 1) to inquire about pre-existing formalized peer-to-peer and student-to-faculty mentorship programs and 2) to gauge the interest of clinician scientist trainees in more structured mentorship opportunities. We received responses from institutional representatives at the following 11 medical schools across Canada: University of Alberta, University of British Columbia, Dalhousie University, University of

Manitoba, McGill University, McMaster University, Memorial University, University of Ottawa, Queen’s University, University of Saskatchewan, and University of Toronto. We found that while some universities have established province-wide student-to-faculty mentorship via provincial programs, these initiatives are open to all medical trainees and are not specific to the needs of clinician scientist trainees. While other schools have recently initiated formalized peer-to-peer mentorship programs, programs facilitating student-to-faculty mentorship opportunities are still lacking. Overall, our institutional representatives reported a lack of structured peer-to-peer and student-to-faculty mentorship programs for clinician scientist trainees across the nation.

We next asked our institutional representatives about their cohort’s interest in structured mentorship programs led locally by their programs or nationally through CITAC. Student representatives from most schools strongly agreed that there is a gap in longitudinal local and national mentorship opportunities for clinician scientist trainees and that such formalized programs would be beneficial. Many of these students stated that a mentorship program would be especially helpful for those students whose primary research supervisors are not clinician scientists. We also received interest for a centralized nationwide mentorship database where clinician scientist trainees could be matched with mentors across Canada in their field of interest. One proponent of this initiative explained, “I believe CITAC is in a unique position to create a national faculty-to-student mentorship program, which ideally would connect students and clinician scientists across different institutions... especially for students at smaller universities, this would provide a great opportunity to connect with experienced and productive clinician scientists across Canada.”

A counterargument to establishing formalized mentorship programs was raised by a trainee who suggested that finding mentors is an important skill that every trainee should develop as part of their training. While this is true, a formalized program would not prohibit students from contacting potential mentors of their own volition. Rather, these programs would facilitate networking opportunities across Canada and provide an initial contact, on which a productive mentorship relationship could be established.

In light of the above issues, CITAC has recently taken steps to address the lack of formal mentorship opportunities. One of CITAC’s main mandates is to establish programs that help Canadian MD/PhD trainees improve their post-graduate outcomes by promoting cross-institutional collaboration. Recently, CITAC has created a nationwide mentorship match program for MD/PhD and CIP trainees. In doing so, CITAC aimed to address one of

the main issues in establishing institution-specific mentorship programs: the paucity of interested clinician investigator mentors. Canadian MD/PhD programs vary widely in both their class size and their alumni pool. This variability limits the number of mentors that can be recruited for their respective programs at each institution. By establishing a national database of mentors, CITAC aimed to create a single resource that serves all institutions and to provide equal mentorship opportunities for all trainees. Moreover, the program promotes collaboration and networking opportunities to students across Canada. This is particularly important, given that trainees and clinician scientists only meet once per year at CITAC's Annual General Meeting, and the cost of attendance and travel and the timing are hindrances for some trainees. Creating an online platform provides students who cannot attend in-person meetings with an accessible and convenient medium for networking.

The CITAC's Mentorship Match Program was launched in 2019 with the intention of connecting 40 mentees with 20 mentors across various training programs in Canada based on research and medical disciplines of interest. Our brief post-match survey collected feedback from 16 mentees and three mentors. The purpose of the survey was to receive informal feedback about our inaugural match. The majority (n=13/16) mentees reported that they learned something valuable in long-term career planning, training programs and work-life balance, as well as the opportunities and challenges of being a clinician scientist. Mentors reported that mentees were open-minded and eager to ask questions, and the mentors felt that they were able to provide valuable advice to these mentees. Suggestions from both the mentee and mentor surveys touched on the importance of preparing a list of prompts in advance to guide the discussion. Regarding the compatibility of mentee-mentor matches, mentee respondents were overall satisfied and a mentor also commented that the match was relevant. In addition, a mentee suggested surveying what the mentees' priorities were prior to creating the matches. Importantly, we received feedback that n=9/16 mentees were put in touch with another clinician scientist or mentor through the match.

Our pilot mentorship match suggests that long-distance cross-country mentorship is a promising avenue for clinician scientist trainees to learn about career planning and develop their network with the help of a clinician scientist mentor. Moving forward, the program can be improved by creating a repository of discussion points accessible by all participants of the program, facilitating peer-to-peer mentorship through an online forum connecting all mentees, expanding the mentorship program by recruiting additional mentors

(particularly in basic and translation science and non-surgical disciplines, to better reflect the interests of mentees) and encouraging long term mentorship relationships beyond the initial point of contact.

As with any new initiative, there were several challenges that need to be addressed. Firstly, despite recruiting mentors from across institutions, the program does not have enough mentors to accommodate every interested trainee. Secondly, there was little data on whether long-distance mentorship relationships are equally effective as in-person meetings. Moreover, important aspects of local mentorship initiatives, such as shadowing [6], are more difficult in the long-distance setting. Participant feedback will be essential in addressing this gap in knowledge. Thirdly, structured mentorship programs provide the foundation for a mentor-mentee relationship by establishing initial contact. However, maintaining that relationship once the program has concluded relies on the continued interest of both parties. Long-term data collection will help establish whether continued contact is impaired by the long-distance nature of the program. Finally, previous work has highlighted that mentees and mentors do not necessarily have to have the same clinical and/or research interests in order for the mentorship relationship to be successful [6]. Moving forward, CITAC will not only work on expanding the number of clinician scientist mentors across Canada, but will also consider alternative metrics to match mentors and mentees, such as career objectives, mentorship expectations and life priorities.

Establishing meaningful mentee-mentor relationships and building strong professional networks are important aspects of clinician scientists' training and future careers. Despite this, a survey of our membership suggested that local formalized mentorship initiatives are lacking. To address this issue, CITAC has piloted a nationwide mentorship program that aims to make mentorship opportunities more accessible to students, regardless of their institution. In doing so, we hope to promote cross-institutional networking and help trainees expand their professional relationships.

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