EDITORIAL

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Physician-Scientist trainees: A “call to action” to confront future career challenges

Throughout their careers, physician-scientists must adapt to the dynamic landscape of the medical research environment. As such, current physician-scientist trainees must overcome unique obstacles on the path to productive research careers. In the paper by Levit et al. in this month's Clinical and Investigative Medicine issue, Canadian research leaders describe the challenges and opportunities for the next generation of physician-scientists [1]. They paint a cautiously optimistic picture. The current article is an outlook and concurrent “call to action” for how ongoing physician-scientist concerns can be conquered from the perspective of a current Canadian MD-PhD student.

Manuscript submitted 13th July, 2020

Manuscript accepted 28th July, 2020

Clin Invest Med 2020; 43 (3): E25-26.

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Based on the discussion in Levit et al. [1], the proposed solutions to challenges facing current trainees can be integrated into three themes: diversification through collaboration; fluency in translational research; and establishing early engagement in research activities. By implementing the framework of our predecessors, trainees can construct a stable research platform and become primary determinants of their future success in academia.

Modern-day research complexity requires extensive collaborations to ensure success and funding. Establishing and strengthening connections to related fields is critical for the trainee. In the time of COVID-19, the world has shifted to interaction through online persona. The effective borders of national and international communication have been removed, leaving unprecedented access to collaborative thought and the development of ideas. Trainees can use this time to expand their knowledge and showcase their skillset via scientific hubs on social media and web-based collaboration tools. Improved accessibility of virtual conferences now allows trainees to connect efficiently without having to travel [2]. Additionally, recent development of formal online physician-scientist mentorship initiatives may aid in advancing interinstitutional collaborations [3]. These connections can spark grant opportunities as part of larger projects, which are more prevalent in the changing landscape of modern research [1].

It is anticipated that the declining rate of students choosing to pursue a career as a physician-scientist will increase the knowledge gap in translational research [4]. Thus, retention of physician participation in research and collaboration between physicians and basic scientists are essential in bridging the translational divide. Academic institutions attempt to maintain physician involvement in translational research by creating and emphasizing medical student research projects. These serve the dual-purpose of catalysing early engagement in translational research and augmenting the scientific literacy of the medical student. Concurrently, one barrier to physician-scientist retention is the lack of protected research time. As discussed by Levit et al., the physician-scientist is situated perfectly to bring the results of basic science research to the clinic [1], which conveys a great need for institutions to connect medical student initiatives with career start-up packages that allow for continued research success. The responsibility lies at the institutional level to create these opportunities, which may also depend on financial allocations from government organizations. Nonetheless, trainees must be strong advocates for the integration of protected research time into their start-up packages, as this may ultimately decide their fate as a physician-scientist.

The future of the physician-scientist in Canada is dependent on three entities: the individual trainees; the institutions; and the government. Yin and et al. [5] laid out a pathway to success that focused on institutional change for the retention of research productivity after clinical training. However, in light of slow-moving bureaucracy, the burden shifts to trainees to shape our destiny. The current generation of trainees has a unique opportunity to capitalize on the virtual shift of the academic world, where access to connections and collaborations are unbound by geographical borders. Additionally, continued engagement in translational research may improve individuals' competitiveness for matching to residency programs, a common stressor amongst medical students. As trainees, by taking action through a bottom-up approach, we, in turn, are the best advocates for ourselves and for the future of the Canadian physician-scientist.

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