COMMENTARY

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The path ahead for MD/PhD programs in Canada Commentary on *Jones et al.*

The paper by Jones and colleagues, published in this edition of Clinical Investigative Medicine, contributes to our understanding of Canadian MD/PhD Programs. While there has been little published on this subject by the Canadian programs, themselves, this paper is the most recent in a series by leaders of the Clinical Investigator Trainee Association of Canada (CITAC). The authors are to be commended for their efforts and productivity.

1st September, 2016

Clin Invest Med 2016; 38 (4): E140-E141.

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The paper by Jones and colleagues, published in this edition of *Clinical Investigative Medicine*, contributes to our understanding of Canadian MD/PhD Programs. While there has been little published on this subject by the Canadian programs, themselves, this paper is the most recent in a series by leaders of the Clinical Investigator Trainee Association of Canada (CITAC). The authors are to be commended for their efforts and productivity.

The authors surveyed students and program leaders within the thirteen Canadian MD/PhD programs that are currently enrolling students. The survey consisted of a series of questions related to clinical-research integration, mentorship and student financial support. The importance of these issues was recently highlighted in a commentary [1] of the latest NIH report on the Physician Scientist Workforce in the USA. Of those surveyed by Jones *et al.*, 44% of trainees and 69% of program directors responded; thus, it is likely that the data reflect the views of the majority within the MD/PhD Programs.

The authors graded types of integration between clinical medicine and scientific research as development of integrative knowledge and skills (level A), concurrent research and clinical training (level B) and exposure to types of integration (level C). Only two programs feature integrative curricula categorized by the authors as level A, and 31% and 69% of programs feature curriculum at level B and level C, respectively. While the authors acknowledged that their data do not inform regarding the impact of these integrative activities, published literature [2, 3] strongly suggests that MD/PhD Programs should design curriculum to support student development of a coherent representation of physician scientist expertise focused on the intersection of clinical practice and scientific research harnessed to solve health research questions. The authors suggested several ways to improve integration in MD/PhD programs. Given the paucity of integrative models in North American MD/PhD programs, there exists a great opportunity for Canadian universities to provide leadership in this area.

Jones *et al.* identified that a minority of Canadian MD/PhD programs feature structured mentorship programs. Such programs were contrasted with both the informal and formal mechanisms by which students meet among themselves and with faculty. Yet, mentorship has been reported to play a key role in diverse facets of physician scientist career development [1] and these data should motivate programs to re-examine their mentoring approaches.

What are the next steps motivated by this report? The authors called for MD/PhD program directors to examine

issues related to the central themes of this paper and to do so in collaboration with their students. One can only support this recommendation; and also suggest that program directors need to take leadership in doing so. While students contribute a great deal to these programs via their research and studies, their relatively short tenure as students limits their ability to engage in sustained analysis, re-development and evaluation of curriculum. This task lies with faculty. The relatively small size of most MD/PhD Programs also suggests that collaboration among program directors will be important for developing, evaluating, and sharing best practices. A vehicle for collaboration has been established via the Canadian Society for Clinical Investigation. Program directors are encouraged to be vigorous in seizing this opportunity. Finally, the important contribution of MD/PhD programs must be recognized at the national level with financial support of programs and trainees. At the same time, national agencies have a responsibility to ensure that these programs are of a quality that places Canada among the best in the world for the training of MD/PhDs.

References

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