Education decision making at medical schools: there must be a better way

La prise de décision en matière d'éducation dans les facultés de médecine : il doit y avoir une meilleure façon de procéder

Marcel F D'Eon,[1] Renee Page,[1] Mayland Reilly[1]

[1]Educational Innovation Institute of the Medical College of Georgia, Augusta University, Georgia, USA;
Correspondence to: Marcel D'Eon; email: marcel.deon@usask.ca

The common decision-making processes at medical schools regarding curricula and other education-related options are fraught with challenges and flaws and often fail to achieve the excellence sought.[1,2,3,4] Typically within universities and medical schools, we constitute groups and committees to make decisions and it is these bodies about which we are writing. In particular, we are concerned about the frequent and ubiquitous decision-making processes in medical schools related to educational direction, policy, and curriculum including assessment. Our editorial will continue to draw attention to this major flaw in the hopes of nudging medical education leaders to take the steps needed to strengthen decision-making within their schools and colleges.

While previous critiques of education governance and decision-making have been expansive,[1,2,3,4] we focus on one manageable issue: the inaccurate and/or incomplete mental models and cognitive structures related to learning and education of the individuals who are voting members on those decision-making bodies. Previous critiques of the decision-making at medical schools did not sufficiently highlight or, to our satisfaction, press for sustained action on what we consider a central weakness. We acknowledge and may in the future write about some of the other issues such as how the process of making decisions may be negatively influenced by social and time pressures, alliances, hierarchy, and resource investments. For now, we turn our attention to the lack of understanding of learning and education.

What we find particularly troubling is how committees make decisions based on inaccurate and/or incomplete cognitive structures and mental models regarding:

- learning in general and learning in medical schools in particular,
- organizing instruction and curricula, and
- evidence informed practices in assessment.

To illustrate our claim, we have provided three examples that we believe are all too common in medical schools. We remember when advocating that a medical school manage the excessive amount of content in their curricula, that some faculty argued this would dumb down the curriculum. That is a false and misleading claim based on a misunderstanding of how people learn, since excessive content actually dumbs down our students by impeding deep and lasting learning.[5] But that senior clinician's false claim convinced others on the committee.

We have observed a long-held fallacy that low performing students in the preclerkship (mostly basic science curriculum) will not do well with the clinical curriculum or in residencies after medical school. This fallacy has been used to prevent the introduction of clinical learning in the early years of medical schools. We have not found that to be the case but instead observed that clinical sciences and situations make the learning more meaningful and, therefore, longer lasting.[5,6] Rather than poor outcomes, we noticed that introducing appropriate clinical content from

the beginning has not overwhelmed the students and has been a valuable addition. Yet this myth continues to be used by many when making curricular decisions.

We have observed that often those who developed assessment instruments for use by supervising clinicians and/or facilitators had little to no training in psychometrics or even the fundamentals of assessment in general. Rather than use experts or evidence from the literature, medical education decision-makers gathered opinions formed from personal preferences and experiences of the members.[2]

There must be a better way to make decisions in medical schools.

Members of groups tasked with making decisions in medical schools need complete and accurate mental models about how both learning and education work. This fundamental knowledge should be required–a prerequisite–for membership on these decision-making bodies. Typically, people serve on committees without a clear and accurate understanding how learning and education work. We propose that leaders and chairs of these bodies make some courses and resources available or even required for those who are called to serve on various education committees.

Many (if not most) faculty in medical schools who are experts with national and international reputations have incomplete or inaccurate mental models about how medical education works and what strong teaching and learning practices might be. It is absolutely essential then, that they become trained in the theory and practices of medical education when they are going to be setting education policy and direction. How have we managed thus far without this fundamental expectation? We think not too well.

We need more evidence-driven decision making in professional schools such as medicine especially with respect to education. Multiple other decisions in the administration of medical schools are carefully considered, such as the hiring of faculty and staff, planning new construction, and setting strategic research directions. Education needs to be included in that club where expertise and strong evidence are valued and used in making important decisions.

To make ourselves as clear as possible, a prerequisite of membership on a committee must include learning opportunities related to that committee's scope. These could be formal or informal, in-person or remote and asynchronous. But they must be rigorous and involve some accountability to ensure both relevant and valuable contributions from all members.

Medical education leaders need to make important changes to the decision-making processes related to curricular and education matters. We have advocated for one change in particular: members of groups that make decisions related to education need to possess a better understanding of relevant educational principles and evidence informed practices. While it is not possible for everyone to be an expert in all areas, we have emphasized the need for improved mental models and better cognitive structures related to the issues and choices at hand. This will require increased time for preparation and the deliberative process. We call on medical education leaders to consider this singular recommendation as a necessary step towards improving decision-making in medical schools. They will need a tenacious commitment to better decision-making to see these changes through to implementation.

This area of medical education could use further research to support development of better decision-making practices. Similarly, the papers we present in this issue are themselves contributing to the improvement of other areas of medical education. We trust that you will find one or more of them helpful.

Major Contributions

In the study, Can we predict failure in licensure exams from medical students' undergraduate academic performance?[7] Janeve Desy and co-authors identified academic performance variables that would predict students who are at increased odds of failure on the MCCQE Part I Licensure examination. Their results showed that pre-clerkship GPA was a significant predictor of failure. They hoped that predicting students with increased odds of MCCQE Part I failure would allow for early interventions.

Teresa Chan and team in their work, Systems to support scholarly social media: a qualitative exploration of enablers and barriers to new scholarship in academic medicine,[8] identified barriers and enablers that fostered growth of academia through the use of social media. They hope results will be helpful to understand why other new forms of study thrive in academic medicine.

A proposed learning environment framework for virtual care by Liu et al.[9] discussed tailoring a medical education learning environment (LE) framework to a virtual clinical setting. They explored the four framework components of

personal, social, organizational, physical/virtual spaces and how they can be incorporated in virtual care. Their guide is a useful tool for shaping the LE in virtual care and highlights aspects of its integration that require further attention.

Performance of Black and Indigenous applicants in a medical school admissions process by Rashid et al.[10] compared the admission process for Black and Indigenous applications with applicants who did not self-identify. They found no difference in acceptance rates compared to non-self-identified applicants but were concerned about the substantially more declines by successful Black applicants after an offer of admission.

Educators and practitioners' perspectives in the development of a learning by concordance tool for medical clerkship in the context of the COVID pandemic by Marie-France Deschênes et al.[11] developed a learning by concordance (LbC) tool as a response to the decrease in clinical experiences due to COVID-19. They maintained that since the LbC tool is a new training method, further research is needed to refine their understanding of such a tool.

Learning needs of family physicians, pediatricians and obstetricians to support breastfeeding and inform physician education by Krista Baerg et al.[12] identified potential learning topics to address common breastfeeding concerns. While they identified latch assessment and delayed lactogenesis management as the top two priorities, they found that all the topics were important considerations for continued physician education.

Exploring the nature and focus of feedback when using video playback in gynecology laparoscopy training by Hall and Pyper[13] compared dialogue between residents and supervising surgeons when using video playback and intraoperatively. They identified a clear difference between interactions in the OR and interactions during video playback. In the OR, there was a strong emphasis on instrumental interactions and surgical technique. During video playback, the emphasis shifted towards teaching and professional improvement.

Brief Reports
Towards a better understanding of medical students' mentorship needs: a self-determination theory perspective by Neufeld and team[14] assessed the extent that meeting the three psychological needs for autonomy, competence, and relatedness, in a near-peer mentoring program, impacted learners' and mentors' competence in learning and teaching clinical knowledge. They found that the

program highly supported learners' basic psychological needs, and may promote perceived competence in both learning and teaching clinical skills.

In their report, Black students applying and admitted to medicine in the province of Quebec, Canada: what do we know so far?[15] Leduc and co-authors addressed the underrepresentation of Black students in medical schools in Canada and identified barriers in selection processes. Their results suggested that Black students applying to medical school are more often rejected at the first step compared to non-Black students. They encouraged further studies to identify the factors contributing to this underrepresentation to improve the equity of the selection processes.

Development of professionalism vignettes for the continuum of learners within a medical and nursing community of practice by Penelope Smyth and team[16] generated professionalism vignettes based on the pillars of their local code of conduct. They included "gray" vignettes to enhance group discussion and individual reflections. They hoped that creating professionalism vignettes would help educators in teaching professional values through role modeling.

Black Ice
Five ways to get a grip on the shortcomings of logic models in program evaluation[17] by Betty Onyura and team outlined some limitations to logic models- such as neglecting to identify adverse outcomes caused by the interventions. They provided five strategies—including recommending efforts to revisit and revise logic models as contexts changes—to help educators mitigate the shortcomings to logic models.

Canadiana
Dr Alexander Augusta sought medical education in Canada but became a medical educator in America after the Civil War by Persaud and team[18] acknowledged the need for Canadian medical education to teach medical trainees the history of racism within Canadian medical schools, and how that history helps explain current racial disparities. They cited the example Dr Augusta who fought racism more than a century ago.

Medical student wellness in Canada: time for a national curriculum framework by Bourcier et al.[19] called for the creation of a standardized wellness curriculum framework for Canadian undergraduate medical education. They argued that such a framework would support physicians

throughout their training and positively contribute to the quality of patient care.

You Should Try This!

A structured curriculum and procedure clinic to help family medicine residents diagnose and treat skin cancer by Christine Rivet and co-authors[20] piloted a curriculum for family medicine residents to help identify, diagnose, and manage skin cancers. They found that the residents who participated in the extended educational training improved in diagnosing and managing skin cancers compared to residents who did not receive the training.

The Opioid Awareness and Support Team: an innovative example of medical education and community partnership by Downer et al.[21] described a student-led initiative related to education on opioid use disorder through an Opioid Education Day with workshops by community partners. Their initial feedback suggests that medical students can benefit from supplemental learning surrounding opioid use.

In their article, Supported rural pre-medicine: a descriptive evaluation of a novel undergraduate program's first cohorts,[22] Sara McEwen and team described a Rural Pre-Medicine program designed to increase the number of students who pursue careers in rural healthcare through several initiatives such as outreach to rural high schools. Their program intends to contribute to reduced rural health disparities.

Stethopedia: an e-learning resource for medical students to supplement Canadian clinical skills education by Mao and team[23] created Stethopedia, an open-access library of clinical skills teaching videos, to help medical students perform clinical skills. Stethopedia was widely used, well-received, and endorsed by McMaster University. They encouraged other medical schools to develop similar resources for their clinical skills curricula.

Conducting a synchronous virtual multiple mini-interview using Webex for medical school admissions by Domes et al.[24] highlighted the methodology used to run successful synchronous multiple mini-interviews (MMI) in Canada during COVID-19. They observed that the advantages of virtual interviewing, such as reduced travel costs, may lead to a broader and more diverse applicant pool.

Commentary and Opinions

Challenging the inequities of family planning in medical training by Usmani and Sarma[25] commented on the challenges of motherhood for women in medicine. They called for a medical culture supportive of physician mothers to help bridge this gender gap of family planning in medicine.

Dermatology education in skin of colour: where we are and where do we go? by Onasanya and Liu[26] commented on the under representation of Skin of Colour within medical school dermatology curricula. They called for strategies to improve skin of colour dermatology education for medical trainees such as including sufficient images of skin diseases in darker skin tones lectures.

In their commentary, Beyond the mask, Chun and Hall[27] reflected on the challenges to patient-doctor interactions caused by COVID-19 and the necessary restrictions. They maintained that it was essential to preserve that human connection between patients and providers despite the separation caused by physical barriers and masks.

Letters to the Editor

Rao and Agarwal wrote Culinary medicine: exploring diet with tomorrow's doctors[28] as a response to the previously published article, Interprofessional culinary education workshops at the University of Saskatchewan by Lieffers et al.[29] They supported the role of nutrition within the medical education curriculum, and called for it as a compulsory teaching component

Works-in-Progress

Cutting corners: donning under duress – a VR teaching tool by Bansal and team[30] used videos as a teaching tool in response to the COVID-19 pandemic. They wanted to ensure that healthcare workers adhered to proper personal protective equipment donning procedures in both the high- and low-stress environments using virtual reality training. They plan to expand the content of these videos to a variety of settings surrounding pandemic.

Image

Karpinski and Liu presented an illustration of the relationship between medical educators and learners in Relationship-centered care in Canadian medical education.[31] Their image represented the trust and respect needed for a strong Canadian medical education and healthcare system.

Enjoy!

Marcel D'Eon, MEd, PhD
Editor, CMEJ

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