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CanMEDS, quality improvement, and residency: mind the gap CanMEDS, l'amélioration de la qualité et la résidence : méfions-nous de l'écart!

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The revised CanMEDS 2015 framework marked a turning point in education and standards of practice for physicians across Canada.¹ With a renewed vision that emphasized Quality Improvement and Patient Safety (QIPS) objectives, CanMEDS 2015 sparked the embedment of QIPS into postgraduate medical education and Competence by Design (CBD).¹ This change reflected a cultural shift within 21st Century medical practice that situated the modern physician as a component of a larger, multifaceted system that was prone to error. Although promising, CanMEDS 2015 is solely a physician competency framework and does not encompass minimum standards for curriculum delivery and evaluation across postgraduate programs. As such, Canadian postgraduate programs were tasked to undertake the integration of QIPS in their curricula which in turn, has yielded a unique set of challenges. Barriers such as widespread variation in curriculum delivery, program curricular support, resident evaluations, and the absence of national standards for QIPS curricula have emerged as examples of such obstacles. These all pose challenges to ensuring trainees are optimally prepared for practice with these essential competencies.

While there is a myriad of literature on innovative means of teaching QIPS, the majority of QIPS curricula publications are based on work completed in the United States.² Currently, Canadian studies comprise approximately 5.5% of QIPS educational research, and it seems that not all programs have fully incorporated a formal QIPS curriculum.^{2,3} For example, a 2020 national

survey of Canadian Emergency Medicine residents demonstrated that only one-third of Royal College programs included a formalized curriculum, although the majority of residents reported an interest in learning QIPS.³ Furthermore, a wide range of modalities have emerged such as didactic formats, simulations, or project directed learning that are challenging to navigate. A review summarizing QIPS teaching modalities internationally found that hybrid curricula combining both didactic and experiential components were most common, and were enhanced when faculty mentorship could be provided.² The challenges that arise however, are that programs have reported limited access to faculty with QIPS expertise, lack of funding, and uncertainly regarding long-term curriculum sustainability as obstacles to the expansion of QIPS.⁴ Given these challenges, the current and future implementation of QIPS in postgraduate education is far from delineated.

Beyond addressing gaps in curriculum implementation, guidance for the evaluation of resident competencies following the implementation of CBD is needed. CBD evaluates residents longitudinally through milestones as they transition to professional practice, and the requirements of QIPS curricula and evaluation should be outlined within a similar framework of graduated responsibility that is consistent across programs. Additionally, evaluation methods will benefit from standardization at a national level. Many QIPS curricula utilize satisfaction or experience surveys and completion of independent projects as evaluation measures, yet they do

not necessarily assess resident knowledge or competency.⁴ Without addressing these baseline discrepancies between programs, ensuring that postgraduate training is optimally incorporating, teaching, and evaluating QIPS competencies as part of the CanMEDS roles will remain a challenge.

Given the unanticipated barriers in the integration of QIPS teaching at the postgraduate level, there are examples of solutions that may help bridge these gaps. For example, a co-learning curriculum in which residents and faculty engage in QIPS training together could aid the issue of limited faculty expertise.⁵ Within this curriculum, content is tailored and standardized according to specialty, thus modeling a potential format for standardized QIPS teaching at a national level.⁵ In terms of resident assessment, greater application of validated assessment methods such as the Quality Improvement Knowledge Assessment Tool (QI-KAT) can provide uniform data on resident competencies.⁶ Collectively, these examples represent a fraction of growing literature on innovative teaching formats in QIPS that solutions could be drawn from, but would certainly require a national undertaking.

CanMEDS 2015 introduced a vision that recognized the intersection of QIPS with the core principles of medical training and practice.¹ Although spearheading the role of QIPS as a competency in medical training, wide variation in curriculum delivery, standards, and resident evaluation seem to have left postgraduate education with more questions than answers.¹

The remaining questions that will need to be addressed as a consensus amongst postgraduate programs include:

- I. What are the resource constraints and access issues faced by residency programs to implement, facilitate, and sustain effective QIPS curricula?
- II. What are the minimum standards of QIPS curricula in residency programs?
- III. How should residents be evaluated for QIPS competencies at each stage of training?

Without addressing these questions, these gaps will remain barriers to the exemplary vision of CanMEDS 2015 that sought to train future physicians to provide better, safer care for patients.

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