



ASSESSMENT CONTINUUM FOR CANADA – TOWARDS A NATIONAL ASSESSMENT PROGRAM

A White Paper

The Assessment Continuum for Canada Working Group
May 2017

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Towards a National Assessment Program
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Executive Summary

In Canada, the competency-based medical education (CBME) movement has inspired significant changes at all levels of education. As these changes towards CBME occur within the silos of the various autonomous organizations, we must ask whether they collectively contribute to a coherent education and assessment system across the continuum. Can our assessment system provide authentic feedback and data for the purpose of continual performance improvement, support life-long development and most importantly be accountable to the public for meeting its healthcare needs?

Representatives from organizations involved in the education of students and residents, in the assessment for licensure, certification and maintenance of competence and health authorities met in Ottawa to start a conversation about an assessment continuum and have been meeting regularly for over 2 years. The group, now referred to as the *Assessment Continuum for Canada* has for purpose to: (1) define the “life of a physician” from the beginning of medical school to retirement in terms of the assessments that currently exist including both point-in-time examination of learning and ongoing assessments for learning; (2) review current assessment to suggest alignments; (3) define a common national (longitudinal) framework founded on a model of programmatic assessment; and (4) promote the framework through a white paper.

This white paper discusses the triumphs and challenges of the contemporary Canadian assessment system, the agreed upon principles of assessments, a future vision for a national assessment program and finally some recommendations for moving this program forward.

Assessment Continuum for Canada Working Group

Claire Touchie, MD, MHPE, FRCPC – **Chair**
Medical Council of Canada

Farhan Bhanji, MD, MSc (Ed), FRCPC, FAHA
Royal College of Physicians and Surgeons of Canada

Craig Campbell, MD, FRCPC
Royal College of Physicians and Surgeons of Canada

André De Champlain, PhD
Medical Council of Canada

Dan Faulkner, MBA, HBS
College of Physicians and Surgeons of Ontario

Nancy Fowler, MD, CCFP, FCFP
College of Family Physicians of Canada

Jason Frank, MD, MA(Ed), FRCPC
Royal College of Physicians and Surgeons of Canada

Tracey Hillier, BScN, MD, CCFP, FRCPC, MEd
University of Alberta

Ramona Kearney, MD, MMed, FRCPC
University of Alberta

Fleur-Ange Lefèbvre
Federation of Medical Regulatory Authorities of Canada

Anne-Marie MacLellan, MDCM, CSPQ, FRCPC
Collège des médecins du Québec

Karen Mazurek, MD, CCFP
College of Physicians and Surgeons of Alberta

Richard Pittini, MD, MEd, FRCPC
University of Toronto

Cindy Streefkerk
Medical Council of Canada

Sarita Verma, LLB, MD, CCFP
Association of Faculties of Medicine

Eric Wong, MD, MCISc(FM), CCFP, FCFP
College of Family Physicians of Canada

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Introduction

With the paradigm shift from the classic Flexnerian time-based approach to a deliberate model of competency-based medical education (CBME), there is a need for a 21st century approach to assessment of physician competence that is flexible and adaptable while still promoting a level of rigor and comparability expected in these professional environments. CBME is not new (McGaghie et al., 1978) but support for its implementation has gained momentum as issues of patient-safety and physicians not meeting expectations were brought to the fore (Neufeld et al., 1993; Kohn et al., 2000, Balogh et al., 2015). CBME is defined as an approach to designing medical training that is focused on outcomes in the form of the abilities of graduates (Frank et al., 2010). It is modelled on learner-centered education, and utilizes more frequent, lower-stakes assessments and feedback to ensure acquisition and maintenance of predefined outcomes in training and in practice.

In Canada, the CBME movement has inspired significant changes at the residency level through the Triple-C curriculum of the CFPC (Tannenbaum et al., 2011), the Competence by Design initiative of the RCPSC (RCPSC, 2014) and the *Future of Medical Education in Canada – A Collective Vision for Postgraduate Medical Education* report (FMEC-PG, 2012). Undergraduate medical education programs have also been challenged to adopt principles of CBME in their curricula through the *FMEC – A Collective Vision for MD Education* report (FMEC-MD, 2010). In addition, new assessments and new assessment strategies are necessary in order to document important new competencies required for today's practice such as: cultural safety, the ability to work in teams, the application of patient-safety and quality improvement principles, and the effective use of practice data to inform individuals and groups on how they care for their patients (Frank et al., 2015). As these changes towards CBME occur within the silos of the various autonomous organizations, we must ask whether they collectively contribute to a coherent education and assessment system across the continuum. Can our assessment system provide authentic feedback and data for the purpose of continual performance improvement, support life-long development and most importantly be accountable to the public for meeting its healthcare needs?

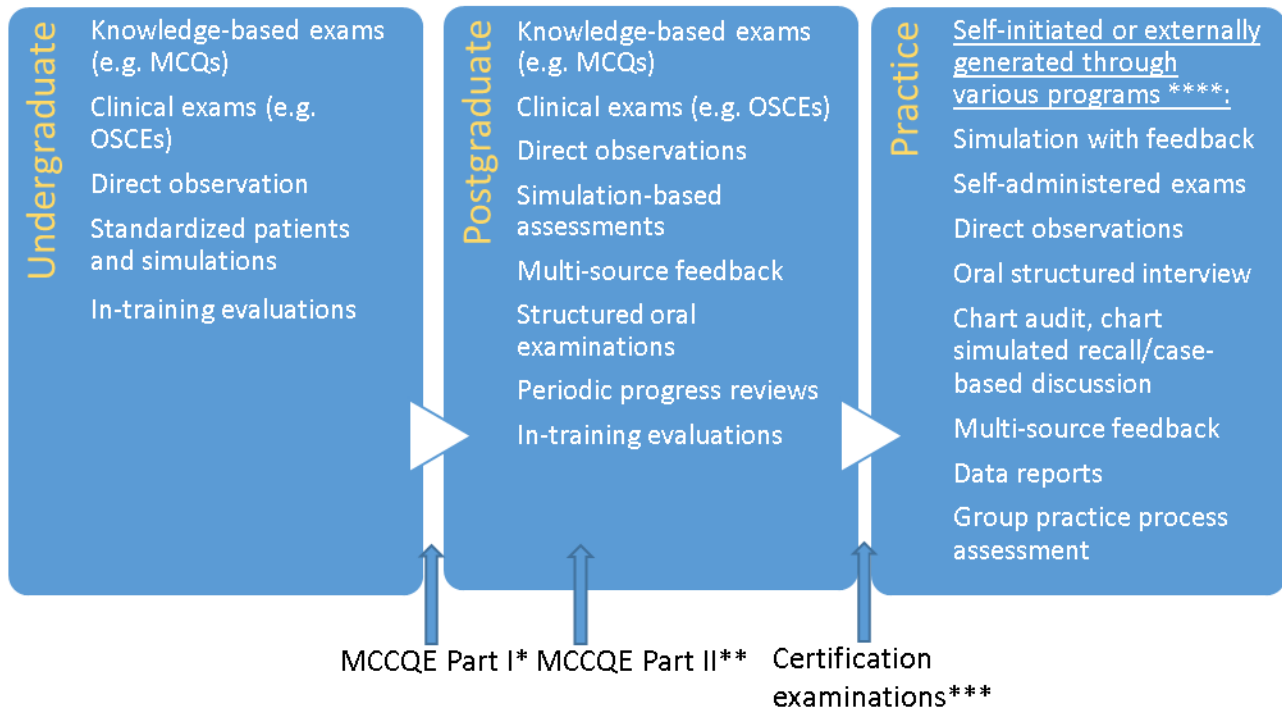
In November 2014, representatives from organizations involved in the education of students and residents, in the assessment for licensure, certification and maintenance of competence and health authorities met in Ottawa to start a conversation about an assessment continuum. The

group, now referred to as the *Assessment Continuum for Canada* (named originally the *November Group on Assessment*), had for purpose to: (1) define the “life of a physician” from the beginning of medical school to retirement in terms of the assessments that currently exist including both point-in-time examination of learning and ongoing assessments for learning; (2) review current assessment to suggest alignments; (3) define a common national (longitudinal) framework founded on a model of programmatic assessment; and (4) promote the framework through a white paper. The group held regular teleconferences to describe their present role in assessment of Canadian physicians and to define principles of assessment that should be considered in developing a coordinated assessment program. In April 2016, individuals representing assessment organizations across the continuum (see Appendix 1) held a one-day meeting in Ottawa to discuss what an ideal system of assessments for physicians should look like. This white paper is a result of that meeting and subsequent teleconferences.

Diagnosing the Contemporary Canadian System: triumphs and challenges

There are some key strengths in our current Canadian medical assessment system. Clear assessment expectations are articulated and monitored through rigorous accreditation systems for both undergraduate and postgraduate education, standardized high stakes examinations for both licensure and certification, and three national maintenance of competence systems encouraging assessment of and reflection on one’s practice. Figure 1 summarizes common current assessment strategies across the continuum.

Figure 1. Common Canadian assessment strategies across the continuum



*MCCQE Part I – Medical Council of Canada Qualifying Examination Part I

**MCCQE Part II – Medical Council of Canada Qualifying Examination Part II

***Family medicine: a written examination (short answer management problems [SAMP]) and a structured clinical examination (simulated office oral [SOO]); RCPSC specialties: written examinations and for certain specialties/subspecialties, clinical skills examinations, simulations or practical exams. The assessments may take place during training or at the end of training

****In-practice assessments are conducted through Maintenance of Competence programs, Regulatory Authorities assessments, Hospital assessments, etc...

However, the design and implementation of assessment of medical practitioners in Canada, from medical students to physicians in practice, occurs in silos within various organizations. Medical schools, residency programs, the College des médecins du Québec (CMQ), the College of Family Physicians of Canada (CFPC), the Royal College of Physicians and Surgeons of Canada (RCPSC), the Medical Council of Canada (MCC) and the 13 provincial and territorial medical regulatory authorities, all assess medical practitioners at some point in their lifetime. Each organization has clear roles and responsibilities (FMRAC, 2015), defined assessment purposes, examination blueprints to ensure their assessment tools are appropriate for these purposes, and evidence-based strategies determine appropriate pass/fail standards. This suggests that each is accomplishing its assessment mandate effectively. However, the current silo-approach to assessment leads to potential over-bureaucratization with risks of unnecessary

redundancies. Anecdotally, candidates report growing frustration and do not see the value of these multiple assessments throughout their education and beyond. It also leads to unintentional gaps where one organization may assume another is assessing certain domains. Finally, this potential disconnectivity also leads to discrete, unlinked events that do not capitalize on the complex interactions that may exist between assessments along the physician's training and practice.

Redundancy and gaps in assessment

Without cross-organizational discussion and agreement on who will assess what to what level and scope and the timing of various assessments, redundant assessment of the same skills at similar levels and the lack of assessment at appropriate timeframes in certain areas may result. The lack of coordination between organizations leads to missed opportunities on two fronts.

Firstly, there may be an inappropriate redundancy of testing that is not needed while relevant redundancy is not properly leveraged. That is, if the assessments lack integration of previous skill acquisition, the unnecessary retesting the same knowledge through various point-in-time examinations can result in a waste of precious testing resources and time, while opportunities for *intentional* retesting to assess the *developmental trajectory* of competencies (for competencies such as communication and professional behaviours) will not occur. Learners would benefit by having certain behaviours of critical importance repeatedly assessed, in contexts appropriate to their level of training, to ensure achievement and stability prior to licensure and certification (e.g., performance exams such as OSCEs assess communication skills and professional behaviours repeatedly but with increasing complexity).

Secondly, the lack of collaboration and coordination across organizations leads to missed opportunities to identify gaps in the assessment of certain skills or competencies and the incorporation of these in a master assessment plan (e.g., cultural safety and indigenous health).

An example of a gap in the assessment system is the demonstration of an individual's ability to systematically review their own practice using the principles of continuous quality improvement. This ability is at the core of the Federation of Medical Regulatory Authorities of Canada document "*Physician Practice Improvement*" (FMRAC, 2015), as well as in the CanMEDS 2015 document (CanMEDS 2015), and illustrates a competence which is critically important for 21st century practice but not well assessed. However how this ability to systematically review one's

practice might be assessed, even in practice let alone throughout training, has not been clearly operationalized.

Suboptimal feedback, assessment information transfer and alignment of assessment strategies with social mandate

For assessment to promote ongoing learning, high quality and credible feedback must be provided to the learner/physician. Lack of adequate feedback for learning is evidenced through the continuum and with various forms of assessment. Though critical for gatekeeping purposes, the value that point-in-time examinations provide with respect to feedback and promotion of ongoing-learning has been questioned (Eva et al., 2016). Despite many opportunities for directly observed assessments with feedback during clinical training at the undergraduate and postgraduate levels, evidence of this occurring consistently is lacking (Gil D et al., 1984; Issacson JH et al., 1995; Sender-Liberman A et al., 2005); although this likely is improving in programs where CBME is implemented (Ross et al., 2011; Smith, 2017). Notwithstanding having an extensive maintenance of competence programs, physicians are largely only accountable to self with self-designed programs that may have no relationship to actual knowledge or performance gaps (Naylor et al., 2015). For many physicians, feedback from outcome practice data facilitating reflection on practice and ongoing learning plans are not readily available to support gap identification.

Additionally, the current system promotes discontinuity of learning plans due to a lack of availability of assessment information that “follows” the learners/physicians across the continuum. This is a potential barrier to competence development and performance improvement. Any learning plans, if they exist, start and end within current segments in the continuum. This can have a negative impact on the learning in a continuous improvement model.

Summary

An integrated model of assessment across the lifespan of a physician provides an opportunity to offer routine feedback which in turn facilitates the development of appropriate learning plans to improve competence. Such a model would also identify unnecessary assessment redundancies and critical assessment gaps. Ideally, a purposefully coordinated Canadian program of assessment would support ongoing learning and permit attestation of key competencies throughout practice. Working across organizations to develop such a coordinated assessment

plan that reflects the needs of society would benefit learners, physicians, and ultimately patients.

In order to ensure that our trainees and practicing physicians obtain and maintain competence, the various assessment organizations need to develop a collective strategy to decide on:

- a) the competencies that are important to be assessed,
- b) the levels of competence that are most suitable to be assessed at the various stages of a physician's training and career,
- c) the nature of the assessment strategies that should be employed at various time points,
- d) the stakeholders who take the lead role in developing and implementing each of these assessments and,
- e) the framework which will underscore how the assessments align across the continuum to support and facilitate the gradual development of increasing competence during training and further refinement during practice.

Moving the System of Assessment Forward: Principles

To generate a vision of an ideal assessment program, the following common principles of assessment were identified by stakeholders during a meeting in April 2016:

1. Assessments should be fair and transparent to learners/physicians and outcomes should assure public safety.
2. Assessments should consist of multiple observations by multiple assessors over time, including various assessment strategies.
3. Appropriate sources of evidence to support intended and appropriate uses of assessments throughout the continuum should be purposefully collected and highlighted to continue to promote results that are valid, defensible as well as meaningful.
4. In order to facilitate ongoing learning, assessments should be as authentic as feasible, be workplace-based where and when appropriate and based on practice needs of the physician.
5. Assessments should be structured to support a competency framework by appropriately supporting continuous learning toward expertise and mastery.

6. Mechanisms to provide feedback from the assessment results should be developed to support and motivate physician to learning and if need be, help define improvement and remediation plans.

Future vision

Part I – Assessment for learning and Assessment of learning

Any good assessment strategy should have a positive influence on patient care by promoting lifelong learning (Eva et al., 2015). Assessment must be designed with consideration of both the implicit messages sent to learners/physicians and the unintended consequences of the assessment strategy design. Learners will “study to the test” and fulfill the requirements necessary to “pass”. Designing a program of assessment must keep this in mind and avoid driving undesirable learning strategies that poorly align to anticipated outcomes (van der Vleuten et al. 2012). Further, depending on the purpose of the assessment, assessment criteria such as those laid out by Norcini et al. (2011) (validity, reproducibility, equivalence, feasibility, educational effect, catalytic effect and acceptability) will need to be considered.

Two orientations of assessment have been defined in the literature: assessment *of* learning and assessment *for* learning. Assessment *of* learning refers to that which typically exists as separate from educational curricula and functions as a quality control measure – to ascertain whether learners have met predefined expectations of competence. Assessment *for* learning on the other hand is a philosophical reframing that recognizes the integral nature of learning and assessment. Assessments are most effective when they enhance learning and lead to improvements in knowledge, skills and/or behaviours. Assessment for learning is much more aligned with concepts of quality improvement. (Schuwirth and van der Vleuten, 2011). In a recent paper, Pugh and Regehr (2016) conclude that “it is likely that all assessment is used to assess a student’s current state of learning to some degree, and all assessment has the potential to inform and support further learning”. A national program of assessment could be designed to align with the two major themes so that the medical profession can confidently meet the social accountability mandate of ensuring that physicians are sufficiently competent but are also capable of being continuously responsive and adaptive to the evolving needs of the communities that they serve.

In Canada, medical schools as well as licensure and certification bodies have well established high-stakes point-in-time examinations that currently function mostly as assessments *of* learning. To design an assessment program that is both *for* learning and *of* learning, key areas for considerations include:

- Identifying the collaborations and actions necessary to enhance the formative function of these assessments so that they can be more useful for the purpose *of* learning and improvement throughout the continuum. Specifically, how might these assessments *of* learning complement the ongoing assessments *for* learning especially during the training years?
- Balancing the *for* and *of* learning in assessment to result in improved patient care/healthcare during the practicing phase of a physician's career. How can we make use of "data" on performance either from assessments or from practice to anchor feedback and to develop learning plans?
- Promoting a change of culture to accept feedback *for* learning. More precisely, how do we integrate principles of social learning and communities of practice across the continuum to support ongoing reflection, learning and improvement?

Part II - Programmatic assessment for the continuum:

According to van der Vleuten et al. (2005, 2012), programmatic assessment is an arrangement of assessment methods planned to optimize its fitness for purpose. The authors advocate that a program of assessment "should be constructed deliberately and its elements should be accounted for" amongst others. In the model proposed, programmatic assessment at its core has primarily two goals: 1) facilitation of learning through multiple low-stakes assessments, and 2) optimization of high-stakes decision making (van der Vleuten et al., 2012). However, this model is intended for the educational context. Can the principles of programmatic assessment be applied to a national program for licensure, certification and the maintenance of these over time?

Adopting such a program of assessment entails exploring a number of key considerations, including:

- The development of an overarching national assessment blueprint that will reflect evolving competencies.
- The elaboration of a framework where over-time assessments can be seamlessly integrated with periodic summative point-in-time examinations to assure valid and

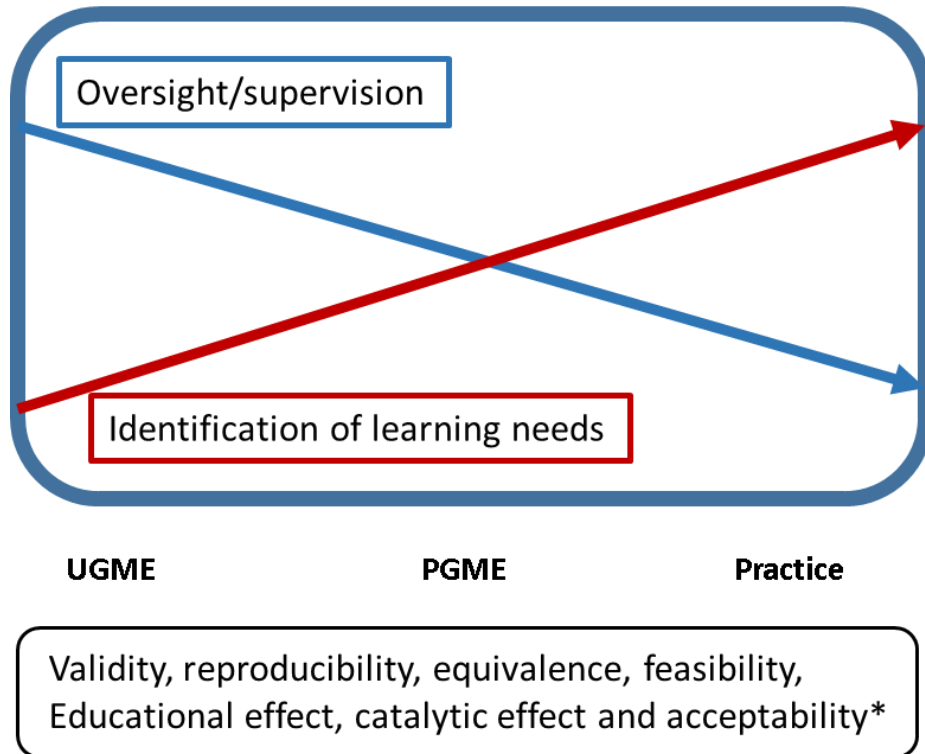
reliable licensure and certification decisions while promoting feedback, reflection on practice needs, continuous improvement strategies and ongoing learning.

As one moves through the continuum, there is a change in the level of oversight and direction from significant while in medical school to very little when in practice. Conversely, there is an expectation of the identification of learning needs for continuous practice improvement (FMRAC, 2015) as one enters practice (figure 2). This change in balance from oversight to identification of one's learning needs will have an impact on the types of assessments necessary, who chooses and imposes the assessments and the influence of these on an individual's learning. As well, along the continuum, the physician becomes accountable to stakeholders beyond supervisors and patients including administrators, regulators and governments. Information will need to be transmitted from one organization to the next in order to best support the learner (e.g., need for special accommodations) and create an assessment system that will reflect the needs of patients and support safe patient care.

Specific Recommendations:

1. Adopt a national framework for assessment with the purpose of ensuring that physicians provide safe and effective patient care through ongoing learning and improvement informed by the principles of assessment *for* learning and programmatic assessment to ensure fitness for purpose.
2. Align assessments with a) the clinical outcomes required to care for patients and society in Canada and b) the learning to meet those outcomes and support assessments through communities of practice within practice scopes
3. Engage in a process to develop a national blueprint for an assessment program across the continuum of a physician's career.
4. Develop a framework and principles for use of assessment data across the continuum to support learning and expertise development, especially across transition points within the continuum (UGME to PGME, PGME to practice).
5. Review current point-in-time, high-stakes examinations for licensure and certification to improve feedback provided to candidates.
6. Review mandates of the national assessment organizations leading to licensure to ensure alignment.

**Figure 2. Assessments across the continuum:
Relationship to oversight and self-direction**



*Norcini et al., 2011

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APPENDIX 1

National Assessment Retreat April 7th, 2016	
AFMC / CPD	Dr. Andrée Boucher Dr. Constance LeBlanc
CFPC	Dr. Richard Almond Dr. Eric Wong Ms. Amy Outschoorn Dr. David Ross Dr. Kathy Lawrence
CMQ	Dr. Anne-Marie MacLellan (<i>by phone – morning</i>)
FMRAC	Ms. Fleur-Ange Lefebvre Dr. Karen Mazurek Mr. Dan Faulkner
MCC	Dr. Ian Bowmer Dr. Claire Touchie Dr. André De Champlain Ms. Cindy Streefkerk
Ottawa Hospital / HealthCareCAN	Dr. Jim Worthington
PGME	Dr. Ramona Kearney Dr. Glen Bandiera
RCPSC	Dr. Jason Frank Dr. Farhan Bhanji Dr. Craig Campbell Dr. Suzan Scheeweiss Dr. Ken Harris
UGME	Dr. Richard Pittini Dr. Tracey Hillier
Facilitator	Dr. Glenn Regehr