



Post MD Education  
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# **Best Practices in Evaluation and Assessment (BPEA) for Competency-Based Medical Education (CBME) in Residency Education**

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## 1. Executive Summary

An important shift is underway in medical education in Canada that de-emphasizes the amount of time it takes to educate a physician and, instead, puts the emphasis on demonstration of competency in key skills and abilities that are deemed essential for future practice. This move to competency-based medical education (CBME) necessitates some changes to how postgraduate residents are evaluated and assessed during their residency programs.

The Best Practices in Evaluation and Assessment (BPEA) Working Group was established in 2016 to help the University of Toronto Postgraduate Medical Education Office inform best practices in the area of resident evaluation and assessment. Information was gathered in the following nine areas.

- Change management and implementation of CBME in PGME
- Learner role and responsibilities
- Faculty role and responsibilities
- Programs of assessment
- Role of technology in assessment and data management
- Program evaluation and monitoring of assessment for Competency By Design
- Assessment/evaluation fatigue
- Residents in difficulty, remediation, Board of Examiners
- Learner handover and appropriate disclosure of learner needs

A high level of consistency was found across the literature, focus groups, and expert consultations, leading to the identification of the following recommended priority actions in the area of resident evaluation and assessment for competency based educational programs.

### **Guidelines**

- 1) Review PGME's *Evaluation Guidelines for Residency Education* with a view to reflecting and enabling CBME evaluation and assessment practices. This could include programs of assessment that use multiple assessment tools to measure performance, monitor progress, and determine promotion to different levels or stages. While the research and evidence grows, a generic approach that reflects general educational and assessment principles is likely prudent, given the current limits of evidence informing CBME practices in residency education.

### **Change Management**

- 2) Review all implications for Accreditation, Remediation, and CBME Implementation (see section 4), and ensure that mechanisms exist to address them.
- 3) Be innovators in the implementation of CBME as a strategic direction for postgraduate medical education, identify clear roles and responsibilities, and demonstrate a commitment to change based on results.

## **Faculty Development**

- 4) Enable faculty development and develop central resources and programs that build faculty confidence and skills in CBME, especially in the areas of feedback, workplace assessments, and coaching for improved performance.
- 5) Support learners in taking increased responsibility for their education by encouraging learners to take responsibility for requesting feedback, including assisting both learners and faculty to adjust to new assessment systems.
- 6) Implement a system-wide approach to supporting learner handover and disclosure of learner needs.
- 7) Broaden content and usage of the central shared repository of best practices and resources/tools on resident evaluation and assessment.
- 8) Create a one-pager with infographics of what BPEA means for learners and faculty and provide recommendations for practice.

## **Information Systems to Support CBME**

- 9) Centrally organize and support IT (mobile, lightweight, flexible, easy-to-use) for CBME (including CBD and Triple C), including support for reporting and data extraction.

## **2. Introduction**

Within the next decade, all residency programs at the University of Toronto (U of T) will be following a competency-based<sup>1</sup> curriculum, as mandated by the Royal College of Physicians and Surgeons of Canada (Royal College) and the College of Family Physicians of Canada (CFPC). The implementation of competency-based medical education (CBME) across all residency programs necessitates some changes to the programs' evaluation and assessment methods, including faculty performing resident evaluations more frequently and providing more in-depth feedback.

To help inform best practices in the area of resident evaluation and assessment, the Postgraduate Medical Education (PGME) Office established a working group (see Appendix 1 — BPEA Terms of Reference). This report summarizes the working group's findings, identifies priority areas in development of CBME resident evaluation and assessment, and outlines next steps for PGME to begin implementing Best Practices in Evaluation and Assessment (BPEA).

The following beliefs and values have guided the BPEA group's work:

- a) Competency-based education will continue to produce competent physicians with a potential to enhance patient safety and care;
- b) Learner-centredness is a central value;

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<sup>1</sup> **Competency-based medical education (CBME)** is an outcomes-based approach to the design, implementation, assessment, and evaluation of an educational program using an organized framework of competencies, e.g. CanMEDS 2015 Frank, J. R., L. S. Snell, O. Ten Cate, E. S. Holmboe, C. Carraccio, S. R. Swing, P. Harris, N. Glasgow, C. Campbell, D. Dath, R. M. Harden, W. Lobst, D. M. Long, R. Mungroo, D. Richardson, J. Sherbino, I. Silver, S. Taber, M. Talbot and K. A. Harris (2010). "Competency-based medical education: theory to practice." *Medical Teacher* 32(8): 638-645..

- c) Faculty development is essential to the success of competency-based education to ensure faculty are confident and prepared to give feedback; and
- d) Evaluation and assessment systems will be developed that continue to value due process, fairness, and a comprehensive approach to assessment planning.

BPEA is also guided by PGME's competency-based education principles and practices (see Appendix 2 — Guiding Principles for CBME Implementation in Residency Education).

## **3. Background**

### **3.1. Rationale for Change**

A major goal of the medical education system is to create practitioners who will meet the health needs of society (Cleary 2008, Wilkinson, Tweed et al. 2011). To achieve this, medical education should graduate students who are skilled in core competencies.

The clinical learning environment is often fragmented by specialization, demand for productivity, and competition with research and clinical practice for resources (Hirsh, Ogur et al. 2007). As noted by Hirsh, the fundamental model of clinical education has changed little since Osler. While the current model has strengths, it lacks connection or continuity across the learning experiences.

Educational continuity reflects progressive professional and personal development, yet the block system design (i.e. one or more months on a specific rotation, changing to one or more months on the next rotation, and so on, with few, if any, longitudinal experiences) does not provide the continuity required to ensure this growth. To avoid taking action is against the best interests of society and contrary to the duty to the profession (Cohen and Blumberg 1991, Hirsh, Ogur et al. 2007, Cleary 2008, Hemmer, Durning et al. 2010, Ziring, Danoff et al. 2015).

Additionally, faculty are usually transient in the clinical units (i.e. "on service"), so may not have much time to observe and provide feedback to students. The end result is a perpetual cycle of "starting over" with assessment, instead of using cumulative information for the resident's development and creation of suitable learning plans.

The move to CBME is timely and necessary, as is the PGME office's intention to support and guide postgraduate programs towards best practices in resident assessment and program evaluation.

### **3.2. Competency-Based Medical Education (CBME)**

CBME allows residents to become competent practitioners through the acquisition and application of skills and knowledge required for medical practice; it does not depend merely on the resident's length of training and clinical experiences. CBME is an educational model:

- more oriented to outcomes rather than time in training (i.e. what resident can DO),
- more flexible to learners' prior skills and current needs,

- that provides training using a coaching approach, with more regular feedback to improve, and
- that provides enhanced tracking of learners' progress and performance.

Two types of CBME have been developed by the postgraduate medical education accreditation bodies in Canada:

- i. Competency By Design (CBD) – the Royal College's approach; and
- ii. Triple C Competency-Based Curriculum – the CFPC's approach.

CBD will enhance CBME in residency training and specialty practice in Canada. It focuses on outcomes, asking the question "What abilities do physicians need at each stage of their career?" It will ensure that physicians continue to demonstrate the skills and behaviours needed to meet evolving patient needs.

Triple C is a competency-based curriculum for Family Medicine residency training that has three components:

- **Comprehensive** care and education
- **Continuity** of care and education
- **Centred** in Family Medicine

### 3.3. Working Group

In light of the CBME changes in the postgraduate programs' curricula, in 2016 the PGME office formed a Best Practices in Evaluation and Assessment (BPEA) Working Group to do the following:

- 1) Undertake an environmental scan, analysis, and literature review of current practices related to best practices in residency program evaluation and resident assessment guidelines for competency-based postgraduate medicine at the University of Toronto.
- 2) Review best practices in the context of accreditation requirements, Board of Examiner Guidelines – Postgraduate, CFPC Triple C Curriculum, Royal College CBD initiatives, and other related activities.
- 3) Draft updated Evaluation Guidelines for Residency Education
  1. Develop minimum requirements for residency program evaluation practices, and
  2. Draft minimum requirements for resident assessments.
- 4) Recommend implementation strategies, including consultations, resource development, and faculty development.

The Working Group established subgroups to investigate nine BPEA themes:

- Theme 1 – Change management and implementation of CBME in PGME,
- Theme 2 – Learner role and responsibilities,
- Theme 3 – Faculty role and responsibilities,
- Theme 4 – Programs of assessment,

- Theme 5 – Role of technology in assessment and data management,
- Theme 6 – Program evaluation and monitoring of assessment for Competence By Design,
- Theme 7 – Assessment/evaluation fatigue,
- Theme 8 – Residents in difficulty, remediation, Board of Examiners, and
- Theme 9 – Learner handover and appropriate disclosure of learner needs.

### **3.4. Methodology**

The BPEA working group met five times:

- January 19, 2016
- April 12, 2016
- June 3, 2016
- October 28, 2016
- January 20, 2017

Between meetings, members met in their theme groups to conduct literature reviews, discuss findings, and prepare reports. A summary of the theme group methodology is presented in Table 1. Group members presented their findings to the larger working group to solicit feedback and to help inform implications of key findings.

Simultaneously, focus groups were conducted with Orthopaedic Surgery and Palliative Medicine faculty and residents, two programs that had experience implementing a competency-based curriculum. In addition, a focus group was conducted at the June 3rd meeting with Family Medicine faculty to learn about their experiences with the Triple C competency curriculum implemented since 2011. Those consultations were summarized in Paper 10.

In addition, a focused review of the literature on residents in difficulty was conducted to help inform future revision of PGME guidelines.

**Table 1 Theme Group Methodology**

<b>Theme</b>	<b>Methodology</b>
1) Change Management and Implementation of CBME in PGME	Literature review
2) Learner Role and Responsibilities	Literature review and two focus groups with learners who trained in a competency-based environment
3) Faculty Role and Responsibilities	Literature review and consultation with U of T Orthopedic Program Directors
4) Programs of Assessment	Literature review and evaluation of assessment tools from Royal College, medical schools, etc.
5) Role of Technology in Assessment and Data Management	Literature review
6) Program Evaluation and Monitoring of Assessment for CBD	Literature review
7) Assessment/ Evaluation Fatigue	Literature review
8) Residents in Difficulty, Remediation, Board of Examiners	Scoping review and thematic analysis
9) Learner Handover and Appropriate Disclosure of Learner Needs	Literature review

Focus Groups: To inform the work of BPEA, input was sought<sup>2</sup> from those programs that had multiple years of experience implementing CBME into their residency programs, using best practices in CBME such as: comprehensive curriculum mapping, assessment plans, workplace-based assessments, faculty development, and program evaluation. Four semi-structured focus group consultations were conducted via phone with residents and faculty leaders from three programs.

Residents and faculty leaders were recruited who were part of the first or early cohorts so that their “lessons learned” could be gathered and shared with later cohorts embarking on the implementation of CBME in residency education.

Focus groups (Table 2) were conducted using a semi-structured interview approach with pre-circulated questions. Interviews were recorded and transcribed, and summaries of each interview were prepared using both the transcripts and the interviewer’s notes. The summaries were verified by participants and then refined based on their comments.

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<sup>2</sup> By Working Group Members Susan Glover Takahashi, Linda Probyn, Mariela Ruétalo, and Lisa St. Amant



**Table 2 Participant Groups Interviewed in Each Focus Group, by Program**

Focus Group #	Program	Participant Group(s) Interviewed	
		Learners	Faculty Leaders
1.	A	✓	
2.	B	✓	
3.	B		✓
4.	C		✓

In order to maintain the confidentiality of focus group participants, their affiliated program was de-identified.

As a result of all this work, ten papers were developed – one on each of the nine theme topics and one summary of the focus group consultations.

## **4. Findings and Implications**

### **4.1. Findings from Focus Groups**

The Theme Groups found that literature regarding assessment and evaluation in competency-based medical education is scarce. Notwithstanding, through the available literature, focus groups, and consultation with faculty currently experienced in CBME, each subgroup provided key findings. It is noteworthy that there was a high level of consistency between the literature, the focus group findings, and faculty input. Each of the theme papers is also explored with respect to the purposes of the BPEA project, namely accreditation, remediation in CBME, and CBME implementation generally (Table 3).

Table 3 BPEA Theme Groups — Summary of Findings and Implications for Accreditation, Remediation, and CBME Implementation

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
<p><b>Paper 1</b>  <i>Changing Curricula to CBME – issues and implications</i></p>	<ul style="list-style-type: none"> <li>• CBME is a large educational innovation.</li> <li>• Attention to key local factors (i.e. university, program, department, site) is important for successful implementation.</li> <li>• Attention to change management principles, processes, and practices is important for successful implementation.</li> <li>• The following challenges require management for successful CBME implementation:               <ul style="list-style-type: none"> <li>- Ensuring faculty buy-in</li> <li>- Defining and disseminating “how competencies are defined, developed, implemented and assessed”</li> <li>- Embedding a flexible learning plan [or multiple plans] effectively into a busy clinical environment</li> <li>- Accessing/leveraging financial support</li> <li>- Implementing assessment methodologies and the requisite documentation to reflect competence-based</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Accreditation process throughout system change will need to be flexible and recognize inherent ambiguity as well as the value of stakeholder agreement despite uncertainty.</li> <li>• More follow-ups will likely be required.</li> </ul>	<ul style="list-style-type: none"> <li>• Attention to change management principles, processes, and practices is important for successful implementation.</li> </ul>	<ul style="list-style-type: none"> <li>• Attention to key local factors (i.e. university, program, department, site) is important for successful implementation.</li> <li>• Attention to change management principles, processes, and practices is important for successful implementation.</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>rather than knowledge-based benchmarks</p> <ul style="list-style-type: none"> <li>Encourage and support faculty development to embrace the focus of resident-centred, task-oriented education and assessment.</li> </ul>			
<p><b>Paper 2</b> <i>Learners</i></p>	<ul style="list-style-type: none"> <li>The learner will be expected to take responsibility for her/his own learning. Residents should be prepared to actively engage in their assessments and to understand the goals and expectations of each module (e.g. creating a checklist of “to dos” at the beginning of each module).</li> <li>Competencies that will be evaluated and expectations of the learner must be developed and communicated to the learner.</li> <li>Learners will need support and skills to welcome feedback, seek coaching help, and use feedback to improve performance. Structures and resources to support resident/faculty feedback will need to be a part of each program’s implementation.</li> </ul>	<ul style="list-style-type: none"> <li>More active role of residents in program may necessitate change to role of residents in accreditation (internal and external reviews) to develop accurate picture of program.</li> </ul>	<ul style="list-style-type: none"> <li>No specific noted implications from this topic area.</li> <li>See <i>Faculty Role</i>.</li> </ul>	<ul style="list-style-type: none"> <li>Learners will need support and skills to welcome feedback and use feedback.</li> <li>Requires learner-specific training, development, support, and monitoring to ensure function with CBME roles and responsibilities.</li> <li>Learners will benefit from staged implementation and careful monitoring of what works / what does not work and adjustments as needed.</li> <li>Learner needs will be ongoing (i.e. new cohort each year and across the continuum of practice).</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
<p><b>Paper 3</b> <i>Faculty Role and Responsibilities</i></p>	<ul style="list-style-type: none"> <li>• Faculty will have new enhanced roles to provide effective feedback, based on more direct observation and transfer of clinical activities to residents.</li> <li>• Faculty work will need to be considered in the integration of new evaluation systems.</li> <li>• Ease and efficiency of use are key to faculty participation, including an on-line/app evaluation system.</li> <li>• Faculty will expect that the resident has the responsibility to seek out evaluations on a timely basis.</li> </ul>	<ul style="list-style-type: none"> <li>• Will have implications for Residency Program Directors and Residency Program Committees.</li> </ul>	<ul style="list-style-type: none"> <li>• Will have implications for Residency Program Directors and Residency Program Committees in the sorting out of what and how much of learner support (i.e. remedial) will be program-based and which are central/Faculty of Medicine Board of Examiners-based.</li> <li>• See <i>Residents in Difficulty</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Extraordinary volume of work for Program Directors, Site Directors, Residency Program Committee in local implementation, monitoring, and refinement.</li> <li>• Front-line faculty will benefit from a staged implementation and careful monitoring of what works / what does not work and adjustments as needed.</li> <li>• Requires faculty-specific training, development, support, and monitoring to ensure function with CBME roles and responsibilities.</li> <li>• Expectations of faculty need to be realistic.</li> <li>• Faculty development needs to be multi-method, just-in-time, accessible.</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
<p><b>Paper 4</b> <i>Programs of Assessment</i></p>	<ul style="list-style-type: none"> <li>• The rich academic literature on assessment tools for CBME creates expectations for rigorous local testing within specific contexts regarding reliability, feasibility, and validity with actual assessment tools and actual residents and teachers. Specific assessment tools that have worked in similar contexts are likely the best choices for implementation.</li> <li>• Training of residents and teachers in the use of specific assessment tools will help improve their reliability and validity.</li> <li>• Assessment programs must consider the consistency of resident performance, as well as the reliability of assessment tools.</li> <li>• Programs of assessment for CBME will be most successful if they explicitly: <ul style="list-style-type: none"> <li>- Delineate individual specific competencies required, rather than listing generic or summative expectations</li> <li>- Link each evaluation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Will need to pay close attention to ensure program of assessment approach is consistent between CBD and accreditation standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Will need to pay close attention to ensure program of assessment meets local requirements (e.g. university policies) and national standards (e.g. accreditation standards).</li> </ul>	<ul style="list-style-type: none"> <li>• CBME needs to have a program of assessment that meets local requirements (e.g. university policies) and national standards (e.g. national specialty standards, Royal College educational standards).</li> <li>• Will require partnership between Royal College, University, and Program Director.</li> <li>• Program of assessment implementation needs to balance local context, assessment theory and practice, ease of use, and acceptance by learners and faculty.</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>explicitly to a CanMEDS role</p> <ul style="list-style-type: none"> <li>- Evaluate each resident using multiple assessment tools, by multiple assessors, over time</li> <li>- Reflect key real-life and workplace factors</li> <li>- Consider the conditions needed to support the validity and reliability of the assessment results</li> </ul>			
<p><b>Paper 5</b> <i>Role of Technology in Assessment and Data Management</i></p>	<ul style="list-style-type: none"> <li>• Assessment of residents using technology ranges from online examinations and simulation training to workplace assessments, both formative and summative.</li> <li>• The PGME office has a responsibility to provide structure, leadership, and guidance to programs in the area of technology- assisted assessment of learners.</li> <li>• Technology should be set up in a collaborative way to enable management of data through the entire life-cycle of assessment, allowing data to flow not only between learners, faculty, programs, clinical learning environments, and</li> </ul>	<ul style="list-style-type: none"> <li>• Data collected for CBD likely will be used to demonstrate compliance with new accreditation standards.</li> <li>• Consideration should be given to role of internal reviews on determining efficiency of centralized systems to support assessment and data management for individual programs as well as tracking local program/site strategies.</li> </ul>	<ul style="list-style-type: none"> <li>• Data for CBD should be reportable for development of learner support and remediation plans.</li> </ul>	<ul style="list-style-type: none"> <li>• The PGME office has a responsibility to provide structure, leadership, and guidance to programs in the area of technology-assisted assessment of learners.</li> <li>• Technology should be set up in a collaborative way to enable management of data through the entire life-cycle of assessment, allowing data to flow not only between learners, faculty, programs, clinical learning environments, and</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>PGME, but also as needed between undergraduate medical education, PGME, and continuing professional development.</p> <ul style="list-style-type: none"> <li>• A central PGME office data management and analytics system needs to have the ability to gather data from a modular suite of assessment tools and formats, customizable to the needs of the individual programs.</li> </ul>			<p>PGME, but also as needed between undergraduate medical education, PGME, and continuing professional development.</p> <ul style="list-style-type: none"> <li>• A central PGME office data management and analytics system needs to have the ability to gather data from a modular suite of assessment tools and formats, customizable to the needs of the individual programs.</li> </ul>
<p><b>Paper 6</b> <i>Program Evaluation and Monitoring of Assessment for CBD</i></p>	<p><u>Program Evaluation</u></p> <ul style="list-style-type: none"> <li>• Need to take a systematic yet customized approach (program by program) to designing and implementing a program evaluation initiative for CBME.</li> <li>• Collection of meaningful relevant data. Adhere to basic measurement principles with high levels of validity and reliability.</li> <li>• “Utilization Focused” program evaluation is a personalized approach and includes principal</li> </ul>	<ul style="list-style-type: none"> <li>• Data collected for program evaluation will be used to demonstrate compliance with new accreditation standards.</li> <li>• Role/focus of internal and external review processes may fluctuate, based on quality of program-based evaluation systems.</li> </ul>	<ul style="list-style-type: none"> <li>• No noted implications.</li> </ul>	<ul style="list-style-type: none"> <li>• Attention to key local factors (i.e. university, program, department, site) is important to successful program evaluation.</li> <li>• Ensure necessary changes to program evaluation design, processes, and practices as implementation of CBD evolves.</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>stakeholders in the decision-making process. In this case, it includes learners and faculty who are critical to developing buy-in for the CBME assessment strategy.</p> <p><u>Monitoring and Assessment</u></p> <ul style="list-style-type: none"> <li>• Use checklists for development of assessment tools at beginning of course development – not as an afterthought.</li> <li>• Attention must be paid to setting standards, establishing procedures for providing feedback, and supporting mastery learning.</li> <li>• “What is important on paper should become a personalized and flexible clinical repertoire associated with good health care outcomes.”</li> </ul> <p>Cautions:</p> <ul style="list-style-type: none"> <li>- Ensure efforts to “measure” do not overshadow the need to learn and educate as part of the educational process.</li> <li>- Design questions/evaluations about teachers and learning environment that they are in</li> </ul>	<ul style="list-style-type: none"> <li>• Internal minimum standards for program evaluation could be considered.</li> </ul>		



Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>a position to answer.</p> <ul style="list-style-type: none"> <li>- Many models of program evaluation in education and health care settings appear cumbersome, and metrics may not capture the complexity of delivery of patient care.</li> </ul>			
<p><b>Paper 7</b> <i>Assessment Fatigue</i></p>	<ul style="list-style-type: none"> <li>• It is important to consider what structures faculty and learners need to complete additional assessments.</li> <li>• Assessments need to balance the desired qualitative and quantitative elements, while carefully limiting the length of assessment tools and frequency of administering them.</li> <li>• When designing new assessment tools, consideration should be given to: <ul style="list-style-type: none"> <li>- Time</li> <li>- Frequency of use</li> <li>- “Fit” for assessment purposes</li> <li>- Feasibility in the local context (i.e. consider the ‘big picture’)</li> </ul> </li> <li>• This subgroup developed a tool to guide educators in their decisions about the</li> </ul>	<ul style="list-style-type: none"> <li>• Paying attention to the risks of assessment fatigue, which could impact the quality of evaluations, will help to facilitate achievable, reliable, high quality metrics.</li> </ul>	<ul style="list-style-type: none"> <li>• Care will need to be taken in the design of remediation assessment tools to avoid fatigue in both evaluators and learners undergoing remediation.</li> </ul>	<ul style="list-style-type: none"> <li>• When designing or implementing new assessment tools or program evaluations, consideration should be given to: <ul style="list-style-type: none"> <li>- Time</li> <li>- Frequency of use</li> <li>- “Fit” for assessment or evaluation purposes</li> <li>- Feasibility in the local context (i.e. consider the “big picture”)</li> <li>- Risk of learner/faculty assessment and evaluation fatigue and burn-out</li> </ul> </li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	development and implementation of assessment tools, highlighting the potential risk of assessment/evaluation fatigue.			
<b>Paper 8</b> <i>Managing Residents in Difficulty within CBME Residency Education Systems</i>	<ul style="list-style-type: none"> <li>• Despite the increasing popularity of CBME systems globally, very few articles explicitly discuss remediation and/or residents in difficulty within competency-based frameworks.</li> <li>• Universities and programs will need to translate the research findings around resident remediation to make them applicable and/or functional for their CBME frameworks.</li> <li>• A key practice in the CBD system is the use of Competence Committees, where multiple faculty purposely review a resident's progress and modify their program as needed. Residency education systems will need to use general principles to implement Competence Committees into their CBME systems.</li> <li>• A number of articles have sought to identify and define common deficiencies in a range</li> </ul>	<ul style="list-style-type: none"> <li>• Will need to pay close attention to ensure program of remediation approach is consistent with accreditation standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Will need to pay close attention to ensure program of assessment meets local requirements (e.g. university policies) and national standards (e.g. accreditation standards).</li> <li>• Will benefit from updating local requirements within general CBME principles.</li> </ul>	<ul style="list-style-type: none"> <li>• Little specifically helpful to guide CBME in the context of resident remediation and/or residents in difficulty.</li> <li>• Focus on general assessment principles: multiple data sources, determining key problems, focused learning, teaching and assessment plans, close monitoring, and support.</li> <li>• Attention to due process, transparency, fairness, focusing on best possible outcomes for learners, patients, and systems.</li> <li>• Universities and programs will need to translate the research findings around resident remediation to make them applicable</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>of competencies (e.g. medical knowledge and procedural skills, professionalism, communication) as a first step to catching residents in difficulty earlier on in training.</p> <ul style="list-style-type: none"> <li>• General principles exist that can guide the implementation of CBME systems for managing residents in difficulty.</li> </ul>			<p>and/or functional for their CBME frameworks.</p>
<p><b>Paper 9</b> <i>Learner Handover</i></p>	<ul style="list-style-type: none"> <li>• Benefit from building a culture of improved learner handover and/or disclosure of learner needs.</li> <li>• Develop resources on disclosure of learner needs that reflects the values of fairness, transparency, educational focus, and patient and system needs.</li> <li>• Activities of the Future of Medical Education in Canada (FMEC) Learner Education Handover Committee: i) developed a handover tool to be used post-CARMS between UME and PGME, and ii) is currently planning a pilot test of the use of this tool.</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative mechanisms to share information among the division/department, other residency programs, the postgraduate office, undergraduate medical education programs, and continuing professional development programs should be developed and maintained as appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>• No noted implications.</li> </ul>	<ul style="list-style-type: none"> <li>• Benefit from building a culture of improved learner handover and/or disclosure of learner needs.</li> <li>• Develop resources on disclosure of learner needs that reflects the values of fairness, transparency, educational focus, and patient and system needs.</li> <li>• Future of Medical Education in Canada (FMEC) Learner Education Handover Committee: i) has developed a handover tool to be used post-CARMS between UME and PGME, and ii) is</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
				currently planning a pilot test of the use of this tool.
<p><b>Paper 10</b>  <i>Consultations with Learners and Faculty Leaders about Early Interventions in CBME</i></p>	<ul style="list-style-type: none"> <li>Residents' experiences in the CBME curriculum (Family Medicine and Orthopaedic Surgery) and Entrustable Professional Activities (EPA) pilot (Palliative Medicine) were deemed positive overall.</li> </ul> <p><b>Residents:</b></p> <ol style="list-style-type: none"> <li>Appreciated the increased direct observation and assessment they received from faculty supervisors.</li> <li>Were given more frequent, rich, and valuable feedback that helped to inform their learning.</li> <li>Cautioned against having too many assessments in a given time period that required the same means of evaluation (e.g. direct observation).</li> </ol> <p><b>Faculty:</b></p> <ol style="list-style-type: none"> <li>Appreciated the value of direct observation and increased assessment.</li> <li>There is still a proportion of</li> </ol>			<ul style="list-style-type: none"> <li>Resident and faculty reactions and resistance indicate that implementation of CBME needs to avoid having too many assessments in a given time period.</li> <li>CBME changes (e.g. assessments, feedback) require a cultural shift that can only occur slowly and gradually.</li> <li>Patience with CBME implementation must be expected, as cultural shifts require time, repetition, and sustained support of residents and faculty. Faculty development needs multiple approaches, team approaches, engaging champions and considerable, repeated efforts.</li> <li>Not all faculty (or</li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>faculty that remain non-engaged or minimally engaged,</p> <p>3) The CBME changes (e.g. assessments, feedback) require a cultural shift that can only occur slowly and gradually. The cultural shift required will be greatest in programs unaccustomed to giving direct observation and documenting feedback.</p> <p><b>Faculty Development:</b></p> <ol style="list-style-type: none"> <li>1) Took considerable, repeated efforts.</li> <li>2) Included ongoing workshops.</li> <li>3) Included one-on-one meetings with resistant faculty.</li> <li>4) Involved engaging faculty through “champions” or dynamic leaders in CBME and assessment.</li> </ol> <p>Programs such as Family Medicine and Orthopaedic Surgery have managed to build up their faculty participation levels. To improve</p>			<p>residents) will welcome or support CBME.</p> <ul style="list-style-type: none"> <li>• To increase engagement of faculty and residents, it is important to: <ol style="list-style-type: none"> <li>1) Minimize and simplify the expectations of them.</li> <li>2) Create easy-to-use online assessment platforms.</li> <li>3) Simplify tool design and purpose.</li> <li>4) Reduce the types of assessments required.</li> </ol> </li> </ul>

Theme Papers	Key Findings	Implications for Revised Accreditation Implementation	Implications for Remediation in CBME Systems	Implications for CBME Implementation
	<p>engagement of faculty, it is important to:</p> <ol style="list-style-type: none"> <li>1) Minimize and simplify the expectations of them.</li> <li>2) Create easy-to-use online assessment platforms.</li> <li>3) Simplify tool design and purpose.</li> <li>4) Reduce the types of assessments required.</li> </ol>			

## 4.2. Implications for Accreditation Implementation

The implementation of CBME will have a substantial impact on the accreditation of our training programs and the PGME office. While change is going on, accreditation will need to be flexible and recognize a certain amount of inherent ambiguity within the system. Based on the theme papers, some implications of how to address and meet the accreditation standards have been identified. The value of having all stakeholders invested in the process and understanding the importance of the change to the overall success of our educational mission is essential. There is potential for uncertainty, and therefore programs will require ongoing support to make necessary adjustments in order to meet the accreditation standards.

All stakeholders must be aware of the accreditation standards and have processes in place to ensure ongoing monitoring of all aspects of programs. Four main stakeholders have been identified and the implications for these groups are listed below (Table 4).

**Table 4 BPEA Theme Groups — Summary of Findings and Implications for Accreditation, Remediation, and CBME**

Stakeholders		Implications
1.	<b>PGME</b>	<ul style="list-style-type: none"> <li>• The internal review process must acknowledge that programs are in the midst of change, which takes time and often involves uncertainty.</li> <li>• The internal review process must recognize and validate that successful change is associated with leadership support, adequacy of human resources, evaluation of processes and outcomes, nurturing a cooperative climate, and broad participation by organization members.</li> <li>• The internal review cycle will likely include more follow-up instances to continue to monitor and support changes to ensure that the accreditation standards are being met.</li> <li>• Must ensure that review teams will be equipped to review and evaluate programs in a manner that maintains consistent expectations across programs.</li> <li>• Must facilitate the collection and documentation of learner assessments in order to ensure that programs are in compliance with accreditation standards given the new emphasis on feedback and assessment.</li> <li>• Should consider mechanisms to capture information on program-based solutions for assessment and data management.</li> <li>• Should monitor efficiency of centralized systems to support assessment and data management for individual programs to meet accreditation standards.</li> <li>• Along with the implementation of program-based and site-based evaluation strategies, PGME should determine how these can inform the internal review cycle so that processes are not duplicated.</li> <li>• The development of PGME minimum standards or Best Practice Guidelines for program evaluation should be considered.</li> </ul>
2	<b>Program Directors and Residency</b>	<ul style="list-style-type: none"> <li>• Must ensure the program of assessment approach is consistent between CBD and accreditation standards.</li> <li>• Must ensure that program and resident documentation and data management meet ongoing changes in accreditation and PGME</li> </ul>

Stakeholders		Implications
	<b>Program Committees (RPCs)</b>	<ul style="list-style-type: none"> <li>requirements.</li> <li>Should recognize that the focus of internal and external review processes may vary based on quality of program evaluations.</li> <li>Must recognize and address the challenges of potential assessment fatigue (on both residents and faculty).</li> <li>Must make sure remediation programs are consistent with accreditation standards.</li> <li>Faculty roles and responsibilities will be adjusted with CBME, which will require ongoing faculty development.</li> </ul>
3	<b>Residents</b>	<ul style="list-style-type: none"> <li>Should iteratively evaluate their training programs in a thoughtful manner and in the context of the accreditation standards. This should include informal (training program) and formal (PGME, Royal College) review processes.</li> <li>Will be actively involved in their programs and will need to communicate their experiences at the time of internal and external reviews of their programs so that reviewers get a fulsome view of their program.</li> <li>Must facilitate and participate actively in all elements of resident assessment.</li> <li>Must facilitate and participate actively in all elements of program evaluation.</li> <li>Assessment data collected could be used to demonstrate compliance with new accreditation standards.</li> <li>Must complete evaluations of faculty and sites to ensure appropriate, timely feedback and identification of issues.</li> <li>Remediation for trainees could be altered, or the approach could be adjusted, to ensure consistency with accreditation standards.</li> </ul>
4	<b>Faculty</b>	<ul style="list-style-type: none"> <li>Faculty will need to be aware of new accreditation standards and be invested in the process, which requires ongoing communication and dissemination of information.</li> <li>Must be engaged in the implementation of achievable, reliable, high quality resident assessment metrics to ensure that accreditation standards are being met.</li> <li>Should be aware of risks of assessment fatigue and develop strategies for prevention.</li> </ul>

### 4.3. Focused Review of Literature on Residents in Difficulty

Based on a comprehensive review of the current literature, eight common practices were identified to inform the implementation of CBME systems for managing residents in difficulty (Table 5). Note: This additional work was deemed necessary in order to identify potential changes to programs' evaluation and assessment methods related to residents in difficulty and to inform future revisions to PGME's Evaluation Guidelines for Residency Education.



**Table 5 Eight Common Practices for Managing Residents in Difficulty from the Literature**

<b>Practices for Managing Residents in Difficulty</b>		<b>Description</b>
1	Monitoring of All Resident Performance	<ul style="list-style-type: none"> <li>• Informal and formal methods for addressing concerning areas in residents</li> <li>• Faculty development for giving feedback</li> <li>• Formal methods for catching deficiencies in all competency domains</li> </ul>
2	Structural and Design Practices	<ul style="list-style-type: none"> <li>• Defining remediation terms (institutional)</li> <li>• Classification system for resident problems</li> <li>• Clarifying if wellness issues are associated with resident performance</li> <li>• System for classifying the level of seriousness of resident problems to help determine the best course of action, whether coaching, remediation, or probation (e.g. see the classification of levels of seriousness offered by Anderson (Anderson, Cachia et al. 2011))</li> <li>• Guidelines / Assessment measures / Protocols for identifying residents in difficulty (e.g. Ten guiding principles for managing residents in difficulty (Anderson, Cachia et al. 2011))</li> </ul>
3	Identify Resident Problem(s)	<ul style="list-style-type: none"> <li>• Faculty are tasked with observing and evaluating residents' performance and identifying those found to be underperforming or at risk of underperforming. Diagnosing resident deficiencies requires some faculty development</li> </ul>
4	Define / Describe Resident Problem(s)	<ul style="list-style-type: none"> <li>• Involves investigation of the reports made by faculty or other health professional staff (Papadakis, Paauw et al. 2012) to better classify and define the resident's problem and its level of seriousness</li> </ul>
5	Tailor Plan to Individual's Needs	<ul style="list-style-type: none"> <li>• Modify existing remediation plan / approach for customization to the individual resident in difficulty (personality, learning style, etc.) and the identified problem (e.g. clinical reasoning)</li> <li>• For guidance, see Domen's eight steps for the development of a remediation plan (Domen 2014)</li> </ul>
6	Define the Roles and Responsibilities of All Players Involved in Remediation	<ul style="list-style-type: none"> <li>• Remediation needs a team approach, including resident, Program Director, faculty, postgraduate leaders, educational design resources, and coaches including wellness, medical expert, communication, collaboration, and professionalism resources</li> </ul>
7	Remediate Resident	<ul style="list-style-type: none"> <li>• Structured, transparent educational programs with additional supports, coaching, mentorship</li> <li>• Focusing on primary problems first and limiting remediation to a small number of areas at a time</li> </ul>
8	Assess residents' progress during remediation and determine next steps	<ul style="list-style-type: none"> <li>• Regular assessment, regular monitoring, and effective feedback of resident are necessary for good remediation outcomes</li> </ul>

Identifying residents in difficulty, primarily through early and accurate assessment and faculty development, is thought to be a necessary first step in managing residents in difficulty. Several types of assessments have been shown to be effective in this aim. What is NOT provided in the literature is any specific information on when or how to differentiate “slower to achieve competencies” from “failure to achieve competencies” and from “unacceptable achievement of competencies” when evaluating resident performance.

Separate from the identification of residents in difficulty is the need to have a literature-informed standardized classification system to categorize and define the multitude of possible resident deficiencies. Some of the literature that was reviewed offered categorizations and definitions of commonly occurring resident problems or referenced other articles that did.

Residency education systems (e.g. PGME offices) and programs will need to make deliberate and purposeful choices about how to implement informal additional coaching, integrate structured enhanced support, and design formal remediation programs, given that this review, to date, revealed that:

- Most findings are not specific to CBME systems;
- Many of the articles may not be based in the same geographic context or be specific to their specialty; and
- The literature focuses on identifying, characterizing, assessing, and remediating only certain types of resident problems.

#### **4.4. Implications for CBME Implementation**

##### **1) CBME implementation requires local and national partnership.**

- CBME involves many local partners, including: residents, faculty, Program Directors, residency programs, PGME office, department educational leaders, and hospital educational leaders. Each partner has varying needs and priorities that affect their enthusiasm and readiness for CBME implementation.
- Will require partnership between Royal College, university partners, and Canadian College of Family Practitioners.

##### **2) CBME implementation needs to be staged, careful, flexible, sustained, and adaptable.**

- Learners will benefit from implementing CBME in stages and from careful monitoring of what works or does not and making adjustments as needed.
- Learner needs will be ongoing (i.e. new cohort each year and across the continuum of practice).
- Front-line faculty will benefit from a staged implementation and careful monitoring of what works/ what doesn't work and adjusting as needed.
- Expectations of Faculty need to be realistic.
- Ensure necessary changes are made to program evaluation design, processes, and practices as implementation of CBME/CBD evolves.

- The changes that come with CBME (e.g. assessments, feedback) require a cultural shift that can only occur slowly and gradually.
- Tolerance for the challenges arising during CBME implementation will be necessary, as cultural shifts require time, repetition, refinements and sustained support of residents and faculty.

**3) CBME implementation, monitoring, and refinement generates an extraordinary volume of new work for all partners, especially Program Directors, Site Directors, and Residency Program Committees.**

**4) CBME implementation depends on adequate faculty development.**

- Requires faculty-specific training, development, support, and monitoring to ensure function with CBME roles and responsibilities.
- Faculty development needs to be multi-method, just-in-time, and accessible.
- Faculty development needs team approaches, engaging champions, and considerable, repeated, efforts.
- Not all faculty (or residents) will welcome or be supporters of CBME.
- To maximize engagement of faculty and residents, it is important to:
  - o Minimize and simplify the expectations of them,
  - o Create easy-to-use online assessment platforms,
  - o Simplify tool design and purpose, and
  - o Reduce the types of assessments required.

**5) CBME implementation depends on a program of assessment that meets local requirements (e.g. university policies) and national standards (e.g. national specialty standards, Royal College educational standards).**

- Program of assessment implementation needs to balance local context, assessment theory and practice, ease of use, and acceptance by learners and faculty.
- When designing or implementing new assessment tools or program evaluations, consideration should be given to:
  - o Time,
  - o Frequency of use,
  - o “Fit” for assessment or evaluation purpose,
  - o Feasibility in the local context (i.e. consider the “big picture”), and
  - o Risk of learner/faculty assessment and evaluation fatigue and burn-out.

**6) CBME implementation requires that PGME provide structure, leadership, and guidance to programs in the area of technology-assisted assessment of learners.**

- Technology should be set up in a collaborative way to enable management of data through the entire life-cycle of assessment, allowing data to flow not only between learners, faculty, programs, clinical learning environments, and PGME, but also as

needed between undergraduate medical education, PGME, and continuing professional development.

- A central PGME office data management and analytics system needs to be able to gather data from a modular suite of assessment tools and formats, customizable to the needs of the individual programs.

#### **7) BME implementation involves a variety of new skill areas and topics, including**

- change management, feedback culture, learner handover with appropriate disclosure of learner needs, and assessment tools that focus on entrustment.

#### **8) Evidence to inform CBME implementation is very limited:**

- Little specifically helpful to guide CBME in the context of resident remediation and/or residents in difficulty.
  - o As such, focus on general assessment principles: multiple data sources; determining key problems; focused learning, teaching, and assessment plans; and close monitoring and support.
  - o Apply general principles, such as attention to due process, transparency, fairness, and a focus on best possible outcomes for learners, patients, and systems.
- Universities and programs will need to translate the research findings around resident remediation to make them applicable and/or functional for their CBME frameworks.

## **5. Analysis**

### **5.1. Priorities Arising from Theme Papers, Focus Groups, and Literature Review**

A number of consistent themes and priorities arose from the work of the nine BPEA theme groups and their assessment of the focus group results and literature review findings.

These themes will help PGME focus its efforts in CBME resident evaluation and assessment:

- 1) Enable faculty development (FD) in CBME, including creating a central shared repository and resources for faculty development and best practices for assessment.
- 2) Broaden content and usage of the central shared repository of proven education and assessment tools as options for individual programs.
- 3) Centrally organize and support IT for CBME (i.e. CBD and Triple C), including support for reporting and data extraction.
- 4) Ensure new IT assessment solutions are mobile, flexible, and easy-to-use.
- 5) Enable enhanced responsibility of learners for their own education, including adjustments to new assessment systems.

- 6) Create a clear strategic direction for CBME at U of T, including roles and responsibilities (i.e. Clinical Competence Committees (CCCs)), an assessment toolbox, change in terminology, and future development.
- 7) Implement a system-wide approach to supporting learner handover and disclosure of learner needs.
- 8) Undertake and support scholarship and program evaluation with clear roles, responsibilities, and commitment to ongoing improvement based on results.
- 9) Identify and provide support for CBD Champions.
- 10) Enhance feedback to faculty on their performance in assessment and feedback.
- 11) Update Best Practices in Application and Selection (BPAS) to reflect CBME and CBD approach.

Eighteen PGME office leaders and BPEA Working Group members voted on the importance of themes/priorities. Individuals cast a vote for up to five themes that were most important to them. Themes with eight or more votes are captured in Table 6.

**Table 6 Importance of BPEA Themes as Identified by the Working Group**

<b>Importance of BPEA Themes</b>	<b>Votes</b>
Faculty development (FD), including central shared repository and resources for FD and best practices for assessment	17
Central shared repository of proven education and assessment tools as options for individual programs	15
Centrally organized and supported IT for CBD, including support for reporting and data extraction	12
Mobile, lightweight, flexible, easy-to-use IT	9
Learner responsibility for their education, including adjusting to new assessment systems	9

## **5.2. Checklist of BPEA Working Group Activities**

A review of the BPEA Working Group Activities is presented in Table 7.

**Table 7 Checklist of BPEA Working Group Activities**

<b>BPEA Working Group Mandate</b>	<b>Checklist</b>
1. Undertake an environmental scan, analysis, and literature review of current practices related to best practices in residency program evaluation and resident assessment guidelines for competency-based postgraduate medicine at University of Toronto.	Complete
2. Review best practices in the context of accreditation requirements, Board of Examiner Guidelines – Postgraduate, College of Family Practice of Canada (CFPC) Triple C Curriculum, Royal College Competence By Design (CBD) initiatives, and other related activities.	Complete

3. Draft updated Evaluation Guidelines for Residency Education. a. Develop minimum requirements for residency program evaluation practices. b. Draft minimum requirements for resident assessments.	See recommended actions (section 6).
4. Recommend implementation strategies, including consultations, resources development, and faculty development.	See recommended actions (section 6).

## 6. Summary and Recommended Priority Actions

CBME is still a relatively new concept in residency education and so, necessarily, is how best to evaluate programs and assess residents in this context.

The BPEA Working Group found that best practices in CBME evaluation and assessment is an emerging topic in the literature, but at this point most of the themes and directions focus on general approaches that can be used in both traditional and CBME residency educational programs.

There is also some focused advice on the implementation of CBME, and through careful examination of nine related topics, the Working Group has identified priority actions where PGME and postgraduate programs can begin to implement and evaluate best practices in resident evaluation and assessment for CBME:

**Table 8 Priority Actions**

Priority Actions		Timeline	Responsible
1)	Review PGME's <i>Evaluation Guidelines for Residency Education</i> with a view to reflecting and enabling CBME evaluation and assessment practices. This could include programs of assessment that use multiple assessment tools to measure performance, monitor progress, and decide on promotion to different levels or stages. While the research and evidence grows, a generic approach that reflects general educational and assessment principles is likely prudent, given the current limits of evidence informing CBME practices in residency education.	Short-term (e.g. 2017)	-PGME -Faculty Council
<b>Change Management</b>			
2)	Review all implications for Accreditation, Remediation, and CBME Implementation (see section 4) and move forward the processes to address them.	Short-term (e.g. 2017)	-PGME -Accreditation team
3)	Be innovators in the implementation of CBME for postgraduate medical education, identify clear roles and responsibilities, and demonstrate a commitment to change based on results.	Short-term (e.g. 2017)	-PGME
<b>Faculty Development</b>			

<b>Priority Actions</b>		<b>Timeline</b>	<b>Responsible</b>
4)	Enable faculty development and develop central resources and programs that build faculty confidence and skills in CBME, especially in the areas of feedback, workplace assessments, and coaching for improved performance.	Short- to medium-term (e.g. 2017-18)	-PGME
5)	Support learners taking increasing responsibility for their education, including assisting them to adapt to new assessment systems.	Short-to medium-term (e.g. 2017-18)	-PGME -PDs -Learners
6)	Implement a system-wide approach to supporting learner handover and disclosure of learner needs.	Short- to medium-term (e.g. 2017-18)	-PGME -PDs
7)	Broaden content and usage of the central shared repository of best practices and resources/tools on resident evaluation and assessment.	Short- to medium-term (e.g. 2017-18)	-PGME -PDs
8)	Create an infographic of what BPEA means for learners and faculty and provide recommendations for practice.	Short-term (e.g. 2017)	-PGME
<b>Information Systems to Support CBME</b>			
9)	Centrally organize and support IT (mobile, lightweight, flexible, easy-to-use) for CBME (including CBD and Triple C), including support for reporting and data extraction.	Short- to medium-term (e.g. 2017-18)	-PGME

We are in the early part of the process of CBME in Canada; the postgraduate medical education landscape is actively changing. It will be very important to focus on the development of best practices in resident evaluation and assessment in tandem with the competency-based education changes underway.

The BPEA Working Group believes that by adopting the principles and undertaking the actions outlined in this report, and by continuing to update BPEA components over time, PGME is playing an important leadership role in supporting and guiding postgraduate programs in the implementation of CBME.



## 7. References

- Anderson, F., P. G. Cachia, R. Monie and A. A. Connacher (2011). "Supporting trainees in difficulty: a new approach for Scotland." Scottish Medical Journal **56**(2): 72-75.
- Cleary, L. (2008). "'Forward Feeding' About Students' Progress: The case for longitudinal, progressive, and shared assessment of medical students." Academic Medicine **83**(9): 800.
- Cohen, G. S. and P. Blumberg (1991). "Investigating whether teachers should be given assessments of students made by previous teachers." Academic Medicine **66**(5): 288-289.
- Domen, R. E. (2014). "Resident remediation, probation, and dismissal: basic considerations for program directors." American Journal of Clinical Pathology **141**(6): 784-790.
- Frank, J. R., L. S. Snell, O. Ten Cate, E. S. Holmboe, C. Carraccio, S. R. Swing, P. Harris, N. Glasgow, C. Campbell, D. Dath, R. M. Harden, W. Lobst, D. M. Long, R. Mungroo, D. Richardson, J. Sherbino, I. Silver, S. Taber, M. Talbot and K. A. Harris (2010). "Competency-based medical education: theory to practice." Medical Teacher **32**(8): 638-645.
- Hemmer, P. A., S. J. Durning and K. Papp (2010). "What are the discussion topics and usefulness of clerkship directors' meetings within medical schools? A report from the CDIM 2007 National Survey." Academic Medicine **85**(12): 1855-1861.
- Hirsh, D. A., B. Ogur, G. E. Thibault and M. Cox (2007). "'Continuity' as an organizing principle for clinical education reform." NEJM **356**(8): 858-866.
- Papadakis, M. A., D. S. Paauw, F. W. Hafferty, J. Shapiro, R. L. Byyny and for the Alpha Omega Alpha Honor Medical Society Think Tank (2012). "Perspective: the education community must develop best practices informed by evidence-based research to remediate lapses of professionalism." Academic Medicine **87**(12): 1694-1698.
- Wilkinson, T. J., M. J. Tweed, T. G. Egan, A. N. Ali, J. M. McKenzie, M. Moore and J. R. Rudland (2011). "Joining the dots: conditional pass and programmatic assessment enhances recognition of problems with professionalism and factors hampering student progress." BMC Medical Education **11**(29).
- Ziring, D., D. Danoff, S. Grosseman, D. Langer, A. Esposito, M. K. Jan, S. Rosenzweig and D. Novack (2015). "How Do Medical Schools Identify and Remediate Professionalism Lapses in Medical Students? A Study of U.S. and Canadian Medical Schools." Academic Medicine **90**(7): 913-920.



# 8. Appendices

## 8.1. Appendix 1 — BPEA Terms of Reference

January 15, 2016

# Best Practices in Evaluation and Assessment for Competency-Based Postgraduate Medical Education (BPEA for CB PGME)

### Purpose

To provide advice to the Postgraduate Medical Education Advisory Committee (PGMEAC) and Faculty of Medicine Council about best practices in residency program evaluation and resident assessment for competency-based postgraduate medicine at University of Toronto.

### Mandate

The (BPEA for CBPGME) Working Group will:

1. Undertake an environmental scan, analysis, and literature review of current practices related to best practices in residency program evaluation and resident assessment guidelines for competency-based postgraduate medicine at University of Toronto.
2. Review best practices in the context of accreditation requirements, Board of Examiner Guidelines – Postgraduate, College of Family Practice of Canada (CFPC) Triple C Curriculum, Royal College Competence By Design (CBD) initiatives, and other related activities.
3. Draft updated Evaluation Guidelines for Residency Education:
  - a. Develop minimum requirements for residency program evaluation practices.
  - b. Draft minimum requirements for resident assessments.
4. Recommend implementation strategies, including consultations, resource development, and faculty development.
5. Any identified issues that are beyond the scope of the working group will be communicated to the PG Dean for follow-up (i.e. waivers, admissions).

### Membership

The Working Group will include:

- Chair (Dr. Linda Probyn)
- 2 – 3 Program Directors or delegates (including site directors)
- 2 – 3 Residents
- POWER Steering Committee chair or delegate
- UGME representative
- Hospital representative
- BOE chair or delegate
- PGME Staff (Policy and Analysis, Research, and Education)

### Timeframe and Frequency

The group will meet a maximum of 4 times. Proposed timelines are as follows:

- January 2016 – Initial meeting – review T of R, identify themes
- April 2016 – Review environmental scan, lit. review, and other information obtained
- June 2016 – Report results, issues, implications, next directions on themes
- June to September 2016 – draft report
- Sept/October 2016 – final meeting to review report and provide edits
- October/November 2016 – report to PGMEAC
- Provide ongoing updates on progress to PGMEAC as needed

## **Administrative/Research Support**

Support will be provided by the Policy and Analysis Unit, PGME.

## **Reporting**

PGMEAC through BPEA for CBPGME Working Group Chair

## **Membership:**

Caroline Abrahams

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Catherine Moravac

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Lisa St. Amant

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Donna Steele

Eric Tseng

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## 8.2. Appendix 2 — Guiding Principles for CBME Implementation in Residency Education

U of T has established the following Principles Guiding Implementation of CBME in PGME programs:

1. Quality of patient care will not be adversely affected by the implementation of CBME and CBD.
  - Wherever possible, quality of patient care and patient safety will be enhanced.
  - Potential effects on previous on/off service commitments arising from CBME/CBD by programs will be centrally monitored by the PGME office.
  - Potential changes to on/off service commitments arising will be discussed with the relevant programs, departments, and services a minimum of six months in advance.
2. Functioning of the health care team should not be negatively affected by the implementation of CBME and CBD.
  - Potential effects on functioning of the health care team arising from CBME/CBD by programs will be centrally monitored by the PGME office.
3. Implementation will build on the excellence in residency education programs and practices.
  - Residency programs will figure out how to build on past success and improve residency education using CBME and CBD.
4. Implementation will employ best practices and apply best evidence.
5. Innovation and implementation progress will be shared early, often, and broadly to enhance collaborations locally, nationally, and internationally.
6. Evaluation of structures, processes, and outcomes will be used to inform needed refinements and improvements.
7. Given current fiscal restraints, no additional funds are available for the implementation of CBME and CBD.
  - Redeployment of available funds needs to be the primary source for central and program-based implementation of CBME/CBD.

### 8.3. Appendix 3 — Glossary of Terms

**ACCREDITATION** is a process that ensures that residency programs adhere to a set of minimum standards. In Canada, family medicine postgraduate programs are accredited by the College of Family Physicians of Canada (CFPC) and specialty postgraduate programs are accredited by the Royal College of Physicians and Surgeons of Canada (Royal College).

**ASSESSMENT** refers to the data collected and analyzed to understand the performance, progress, and outcomes of individuals.

**BOARD OF EXAMINERS** is a standing committee of the Council of the Faculty of Medicine that makes all final decisions related to a resident's standing and promotion.

**BEST PRACTICES IN EVALUATION AND ASSESSMENT (BPEA)** is an initiative undertaken by the Postgraduate Medical Education (PGME) Office in 2016 to inform best practices in the area of resident evaluation and assessment in light of the move by the CFPC and the Royal College to competency-based medical education.

**BEST PRACTICES IN APPLICATIONS AND SELECTION (BPAS)** is an initiative undertaken by the PGME Office in 2013 to inform best practices in applications and selection, with the goal of ensuring diversity and equity, and improving objectivity and transparency in PGME selection processes.

**CanMEDS** is a physician competency framework that identifies and describes the abilities physicians must have to meet patient care needs. These abilities are grouped thematically under seven roles: medical expert, communicator, collaborator, leader, health advocate, scholar, and professional. A competent physician integrates the competencies of all seven CanMEDS roles.

**COMPETENCY-BASED MEDICAL EDUCATION (CBME)** is an outcomes-based educational model that emphasizes the demonstration of competence in key skills and abilities deemed essential for future practice, and de-emphasizes time. Residents are assessed more frequently, with a preference for direct observation. Feedback is more timely, frequent, and constructive, and therefore helpful in the growth and progression of the resident. The ultimate goal of competency-based education is to graduate competent physicians and surgeons, align the medical curriculum with societal needs and expectations, and optimize patient outcomes.

**COMPETENCE BY DESIGN (CBD)** is the Royal College's multi-year, medical education, transformational change initiative aimed at implementing a CBME approach to education and assessment to residency training and specialty practice in Canada. The goal of CBD is to enhance patient care by improving learning and assessment across the continuum (from residency to retirement), ensuring that physicians have the skills and behaviours required to continuously meet evolving patient needs.

**COLLEGE OF FAMILY PHYSICIANS OF CANADA (CFPC)** is the professional organization responsible for establishing standards for the training, certification, and lifelong education of

family physicians and for advocating on behalf of the specialty of family medicine, family physicians, and their patients.

**CONTINUING PROFESSIONAL DEVELOPMENT (CPD)** refers to the discovery, application, and communication of knowledge that is provided both in person and through online programs and conferences to physicians and health professionals. The goal of CPD is to improve the health of individuals and populations by enabling the delivery of best outcomes based on best practices.

**DISCLOSURE OF LEARNER NEEDS** is *sharing information* about learner needs from one educator and/or educational setting to the next. This sharing will occur as needed during educational experiences.

**ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPA)** are tasks in the clinical setting that may be delegated to a resident by their supervisor once sufficient competence has been demonstrated. Typically, each EPA integrates multiple milestones and it is generally used for overall assessment.

**EVALUATION** means the data collected and analyzed to understand the effectiveness of the residency program and postgraduate systems and their outcomes, and includes annual program reviews, internal reviews, and accreditation (i.e. program evaluation).

**FUTURE OF MEDICAL EDUCATION IN CANADA (FMEC)** is a comprehensive suite of projects funded by Health Canada that are focused on ensuring that Canada's medical education system continues to meet the changing needs of Canadians, both now and into the future.

**LEARNER HANDOVER** is the *process* by which information about a learner's progress in a program is transferred between faculty members responsible for supervising, evaluating, and assessing the learner.

**ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA (Royal College)** oversees the medical education of specialists in Canada. The Royal College accredits the university programs that train resident physicians for their specialty practices, and writes and administers the examinations that residents must pass to become certified as specialists.

**REMEDICATION** is a formal program of individualized training aimed at assisting a trainee to correct identified weaknesses, where it is anticipated those weaknesses can be successfully addressed to allow the trainee to meet the standards of training.

**TRIPLE C** is a competency-based curriculum for family medicine residency training that has three components:

- **Comprehensive** care and education
- **Continuity** of care and education
- **Centred** in Family Medicine