PROGRAMMATIC ASSESSMENT IN COMPETENCE BY DESIGN

INTRODUCTION

The Royal College of Physicians and Surgeons of Canada (Royal College) Competence by Design (CBD) initiative highlights outcomes, learner-centeredness and sustained evidence of professional competency as an approach to medical education[1]. CBD transitions the focus of learning from 'looking competent' as defined by learners who have successfully completed high stakes assessments, to 'being competent' as demonstrated by repeated assessment measures[2]. CBD aims to restructure assessment by integrating a programmatic model of assessment into residency. Programmatic assessment is a purposeful mix of assessment activities that is "an integral approach to the design of an assessment program with the intent to optimize its learning, decision making and quality assurance function"[3].

A CULTURE SHIFT IN ASSESSMENT

Process: From the use of objective assessment tools to an assessment process that 'steers and fosters learning' of individual students through provision of meaningful feedback[4, 5].

Focus: Assessment will no longer be of individual components of a competency, knowledge, skills and attitudes but of integrated whole tasks or Entrustable Professional Activities (EPAs) [3, 6].

Roles: For faculty, evolution from assessor to coach or mentor while for residents a shift from participation to ownership of education and training.

KEY COMPONENTS OF PROGRAMMATIC ASSESSMENT

Subjective Assessment: A significant but necessary change to programmatic assessment in CBD is the transition from assessment tools as objective measures to subjective observations of the physician learner on integrated tasks in a variety of contexts by experts, with increased depth and quality of feedback[7].

Sampling: Purposeful sampling, a method that provides rigour in mixed methods research, is an important concept in programmatic assessment that is rapidly evolving[6]. Quality of data and fitness for purpose of learning opportunity or experience minimizes the quantity of sampling required.

Optimized Learning Environment: Enhanced relationships between providers and receivers of feedback are essential to the incorporation of feedback into practice[8].

Entrustment Decisions: Entrustment decisions must be grounded in sufficient assessment of current observable performance, and be focused on the transfer of the trainee's capability to new unfamiliar situations without direct supervision[9]. If EPAs are not met by a trainee, milestones will be analyzed to identify areas of further learning.

SIX ESSENTIAL ELEMENTS OF THE COMPETENCE BY DESIGN (CBD) ASSESSMENT STRATEGY

The Royal College has defined six "Essential Elements of CBD Assessment[10]:

1. Assessment requirements, as defined by the Specialty Committee, and inclusive of:
    a. EPAs, as defined by the Specialty Committee
    b. CanMEDS-based milestones, as defined by the Specialty Committee
2. Stages and progression of increasing entrustment, facilitated by entrustment decisions
3. Curation, collation, and group decision-making by a Competence Committee
4. Direct and indirect observation
5. Narrative, actionable, concrete recorded feedback
6. Many low-stakes observations of focused clinical tasks

SPECIALTY-SPECIFIC ASSESSMENT REQUIREMENTS

The assessment requirements, as defined by each Specialty Committee, are inclusive of:

- Entrustable professional activities (EPAs)
- CanMEDS-based milestones supporting each EPA
- A curriculum and assessment map
- An assessment plan

CURRICULUM AND ASSESSMENT MAP TEMPLATE

Program:

Stage of Residency	EPA	Assessment Methods	RTEs/Learning Experiences
Transition to Discipline			
Foundation of Discipline			
Core of Discipline			
Transition to Practice			

ASSESSMENT PLAN TEMPLATE

Stage of Residency:

	Assessment Method/ Tool	Where	Who	Minimum number of data points	Completed *(please. check)*
EPA 1					

THE FAMILY MEDICINE EXPERIENCE

The Family Medicine model for programmatic assessment is based on a process of continuous reflective assessment for training (CRAFT) [11]. CRAFT is designed around the CFPC's table on the roles and responsibilities for In-training Assessment [12]. It involves the accumulation of multiple observations by multiple observers with regular detailed review of progress by both the resident and a skilled faculty advisor. This progress review is used to guide development of individual learning plans and assist with progress decisions. It is built on the principles of qualitative research [13] and guided self-reflection [14]. The attestation of competence at the end of training involves demonstrating competence in the essential skills for Family Medicine across all domains of care [15, 16]. The experience of the College of Family Physicians of Canada at all levels of implementation will be a valuable resource as we roll out CBD in our specialty programs.

IMPLEMENTATION CHALLENGES*:* Ensuring documentation of high quality feedback in sufficient volume, resident understanding and engagement with the process, and faculty development and engagement around documentation of feedback and the periodic review process.

FAQS

1. WHAT WORK NEEDS TO BE DONE IN IMPLEMENTING CBD?

- Macro level: Work done by individual RCPSC Specialty Committees including development of EPAs and ongoing assessment policy recommendations from the RCPSC
- Meso level: Alignment with EPAs, learning opportunities and assessment resources at program level
- Micro level: Involvement of learners and teachers in the transition to a culture of assessment for learning through faculty and learner development and co-learning

2. WHAT ARE THE MAIN STEPS OF PROGRAMMATIC ASSESSMENT?

- Resident observations with multiple methods and in various contexts
- Feedback to, and coaching of resident; resident self-regulation of learning
- Documentation and aggregation of observations
- Periodic review of resident data by the Clinical Competency Committee for entrustment and promotion decisions

3. WHAT DOES PROGRAMMATIC ASSESSMENT LOOK LIKE WHEN IT IS DONE WELL?

- Direct and indirect observations
- Narrative, actionable, concrete, recorded feedback
- Many low stakes observations of focused clinical tasks
- Transparent mechanisms to synthesize data to make decisions about entrustment

4. DOES THE MOVE TO PROGRAMMATIC ASSESSMENT IMPLY AN OVERHAUL OF THE EXISTING ASSESSMENT SYSTEM?

- In implementing programmatic assessment, the goal is to build on what is already working well within each residency program such as learning opportunities including clinical, simulation and classroom and the strengths of each setting; human resources, skills, potential faculty champions and mentors; and current assessment tools that faculty and residents are familiar with and are fit for purpose

5. WHAT ARE SOME CHANGES IN YOUR CURRENT ASSESSMENT PRACTICES YOU WILL EXPECT?

- Many aspects unchanged
- Smaller, more frequent but directed assessment designed as learning opportunities
- Assessment of specific EPAs and not rotations

DOCUMENT REVIEW

This document will be subject to an annual review in view of the ongoing implementation process of the Royal College CBD initiative and cohort rollout to 2022.

REFERENCES

1. Bok HGJ, Teunissen PW, Favier RP, Rietbroek NJ, Theyse LFH, Brommer H, Haarhuis JCM, van Beukelen P, van der Vleuten CPM, Jaarsma ADC. Programmatic Assessment of Competency-based Workplace Learning: When Theory Meets Practice. BMC Medical Education 2013;13:123.
2. Giroux M, Saucier D, Cameron C, Rheault C. Adopting a Learning Stance: An Essential Tool for Competency Development. Canadian Family Physician 2016;62:86.
3. van der Vleuten CPM, Schuwirth LWT, Driesse EW, Govaerts B, Heenemen S. Twelve Tips for Programmatic Assessment. Medical Teacher 2015;37:641-646.
4. Schuwirth WTL, Van der Vleuten CPM. Programmatic Assessment: From Assessment of Learning to Assessment for Learning. Medical Teacher 2011;33:478-485.
5. van der Vleuten CPM, Schuwirth WTL. Assessing Professional Competence: From Methods to Programs. Medical Education 2005;39(3):309-17.
6. Dijkstra J, van der Vleuten CPM, Schuwirth LWT. A New Framework for Designing Programmes of Assessment. Adv in Health Sci Educ 2010;15:379-393.
7. Hodges B. Assessment in the Post-Psychometric Era: Learning to Love the Subjective and Collective. Medical Teacher 2013;35:564-68.
8. Govaerts M. Workplace-Based Assessment and Assessment for Learning: Threats to Validity. Journal of Graduate Medical Education. 2015; 7(2): 265-267.
9. ten Cate O, Hart D, Ankel F, Busari J, Englander R, Glasgow N, Holmboe E, Lobst W, Lovell E, Snell L, Touchie C, Van M, Wycliffe-Jones K. Entrustment Decision Making in Clinical Training. Academic Medicine 2016; 91:2, 191-198.
10. Royal College of Physicians of Surgeons of Canada. http://www.royalcollege.ca/rcsite/cbd/competence-by-design-cbd
11. van der Goes T, Schultz K, Donoff M, Lawrence K, Bethune C, Laughlin T. Continuous Reflective Assessment for Training, the Canadian Family Medicine Resident Assessment Process[abstract]. Paper presented at: Association for Medical Education in Europe; 2014 Aug 30-Sep 4; Milan, IT
12. College of Family Physicians of Canada, Working Group on Certification Process. Template for In-training Assessment Process. Triple C Toolkit. www.cfpc.ca/TripleCToolkit/<http://www.cfpc.ca/TripleCToolkit/>. Published June 2012.
13. Donoff MG. The Science of In-Training Evaluation: Facilitating learning with qualitative research. Can Fam Physician. 1990;36:2002.
14. Sargeant J, Lockyer J, Mann K, Holmboe E, Silver I, Armson H, et al. Facilitated Reflective Performance Feedback: Developing an Evidence- and Theory-Based Model That Builds Relationship, Explores Reactions and Content, and Coaches for Performance Change (R2C2). Academic Medicine, V 90 (12) pp 1698–1706.
15. The College of Family Physicians of Canada. Specific Standards for Family Medicine Residency Programs Accredited by the College of Family Physicians of Canada. The College of Family Physicians of Canada; 2013.
16. Section of Teachers; College of Family Physicians of Canada. Triple C competency- based Curriculum: The Scope of Training for Family Medicine Residency - Interim Version. College of Family Physicians of Canada; 2011.