ROYAL COLLEGE
OF PHYSICIANS AND SURGEONS OF CANADA
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DES MÉDECINS ET CHIRURGIENS DU CANADA

Competence by Design
PROGRAM EVALUATION

Ready for Launch? Checking off Readiness Factors for CBD Implementation

CBD Program Evaluation Operations Team
Fall 2020

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Executive Summary

Introduction

This report outlines the findings of a study conducted by the Royal College to understand readiness factors as they relate to Competence by Design. This study uses the $R = MC^2$ framework (motivation, general capacity, innovation specific capacity). Understanding readiness to implement is important because it aids in the identification of factors that promote or inhibit a successful implementation of CBD. Implementation has a downstream effect on outcomes; by understanding what factors lead to a successful implementation, we can ensure that CBD is being implemented as intended and will lead to intended outcomes, while helping to explain any unintended outcomes.

Through a readiness survey, this study measured programs' motivation to implement CBD, general capacity for change, and if they had completed key readiness tasks in their preparation for CBD. This study focused on the 2020 launch disciplines just prior to launch, and had a 45% response rate.

Key Findings

General Capacity

Results showed that almost all respondents felt that leaders in their department or division were receptive to change. However, some programs struggled with having experience with change and adequate support staff to implement change – only approximately 50% of respondents agreed with those items. No significant difference was found in general capacity scores compared to the 2019 launch cohort.

Motivation

Results showed that most respondents felt that the successful launch of CBD was a priority, but were neutral about whether CBD was the right move, and if CBD was a manageable task. No significant difference was found in motivation scores compared to the 2019 launch cohort.

Innovation Specific Capacity

Programs completed, on average, 79% of the key CBD implementation activities. Categories that had the most activities completed, on average, were resident

orientation and Competence Committees. Activities that scored the lowest were faculty development for coaching and incorporating direct observation, updating program policies, and preparing off service disciplines.

The mean innovation specific capacity score for the 2020 cohort was significantly higher than the 2019 cohort. Three categories of CBD implementation activities also had significantly higher average scores in 2020 than in 2019: Competence Committees, resident orientation, and program monitoring.

Key Takeaways and Recommendations

Motivation, general capacity, and overall readiness scores were similar to the 2019 launch cohort scores. However, programs completed significantly more innovation specific capacity items than the 2019 launch cohort. In particular, there were improvements to resident orientation, electronic portfolio access, Competence Committees, and program monitoring.

However, there are still some areas that raise concerns. Less than half of respondents felt CBD was a manageable task, and just over half of respondents felt they had adequate support staff to implement change. Less than 60% of programs had completed faculty development activities involving training faculty to act as coaches and to incorporate direct observation. Similarly, fewer than 60% of programs had engaged off-service disciplines or had updated program policies to reflect competency-based medical education.

Recommendations

1. Further explore the administrative support and/or workload challenges with CBD implementation to determine whether there are tangible opportunities for the Royal College, PGME offices, and/or local programs to further address the issue.

2. Evaluate existing faculty development resources—particularly those focused on coaching and direct observation—to gauge stakeholder awareness, examine their effectiveness, and determine if further resource gaps exist.

3. Continue working with institutions and programs to encourage the engagement and training of off-service disciplines, and monitor this challenge in post-implementation studies to determine if it diminishes over time.

CBD Readiness to Implement Checklist

Background

Competence by Design (CBD) is the Royal College of Physicians and Surgeons of Canada's major change initiative to reform the training of medical specialists in Canada. It is based on a global movement known as Competency-Based Medical Education (CBME). The objective of CBD is to ensure physicians graduate with the competencies required to meet local health needs, thereby enhancing patient care by improving learning and assessment in residency.

In CBD, progression of competence occurs within a structured but flexible curriculum consisting of five core components (Appendix A). More specifically, in a competency-based approach, competencies required for practice form a **framework** and are accordingly organized into a **progressive sequence**. Promoting resident progression forms the basis for the design of all curricular elements: **learning experiences that are tailored** to the acquisition of competencies, **instruction that is competency-focused** and **assessment that is programmatic** in approach (Van Melle et al., 2019). For more information on CBD, please refer to the Royal College website.

CBD is being implemented across the system of specialty medicine[1] in stages, with a new cohort of disciplines launching each year on July 1st. This study was conducted just prior to July 1st, 2020, and focused on the nine disciplines in the 2020 cohort.

CBD Program Evaluation

The purpose of this study was to measure readiness for implementation for the nine CBD launch disciplines. This study will contribute to the longitudinal program evaluation of CBD, which involves many projects over the course of the evaluation.

[1] In Canada, Family Medicine programs use a different variant of competency based medical education called Triple C. CBD is a different model and extends to the rest of the specialty disciplines.

As CBD implementation moves forward, it is important that program evaluation contributes to identifying and removing barriers to implementation, and helps to define patterns and supporting conditions that add value and make a positive difference in CBD implementation. Program evaluation is also used to ensure CBD is being implemented as intended, and is having the desired impact.

The CBD program evaluation has three goals, each of which is addressed by a pillar of the evaluation (Van Melle, Frank, Brzezina, & Gorman, 2017).

1. To foster successful implementation of CBD.
    a. This will be addressed by the readiness to implement pillar.
2. To understand the influence of local contexts, adaptations, and innovations.
    a. This will be addressed by the fidelity and integrity of implementation pillar.
3. To build an evidence base of the impact of Competence by Design-Residency Education (CBD-RE) overtime.
    a. This will be addressed by the outcomes pillar.

For more information on the CBD program evaluation, please contact educationstrategy@royalcollege.ca.

Focus

This study focused specifically on the readiness to implement pillar. Using a Readiness to Implement Checklist, we measured a program's readiness to implement CBD by asking about their motivation and capacity for changes, as well as key readiness tasks completed as part of implementation.

Understanding a program's readiness to implement CBD aids in the identification of factors that promote or inhibit a successful implementation of CBD. This is in line with the CBD change process; program evaluation helps to identify conditions that add value and make a positive difference in CBD implementation. This understanding can then be used to help future programs in their respective preparation for CBD. Furthermore, implementation, and whether or not it is successful, affects downstream outcomes (Durlak & DuPre, 2008); understanding what factors lead to a successful implementation can help ensure that CBD is being implemented as intended and will lead to intended outcomes, while helping to explain any unintended outcomes.

This readiness to implement study is built on the $R = MC^2$ framework (Scaccia, 2016). This framework states that there are three components of readiness:

- **Motivation**. This component relates to the organization's motivation to implement CBD, and involves beliefs about CBD and support for CBD.
- **General capacity.** This component relates to an organization's ability to implement innovation and includes the program's context, culture, current infrastructure, leadership, resources, and organizational process that may help support or hinder any change.
- **Innovation-Specific Capacity.** This component focuses on the capacities that are important for successfully implementing CBD, such as knowledge, skills, behaviours, and habits.

These components are interactive (Scaccia, 2016), and together provide an overall picture of a program's readiness to implement CBD.

To understand how these readiness factors affect implementation, this pre-launch readiness checklist will later be examined in tandem with post-launch studies, including the CBD Pulse Check.

Methods

Participants

The participants of this study were program directors or program CBME leads of the 2020 CBD launch disciplines. The survey response rate was 45% (n=54) (see Table 1).

Discipline	Survey response rate
Cardiology (Pediatric)	37.5% (n=3)
General Surgery	23.5% (n=4)
Neurology (Adult)	50% (n=8)
Neurology (Pediatric)	30% (n=3)
Nuclear Medicine	40% (n=4)
Orthopedic Surgery	59% (n=10)
Physical Medicine and Rehabilitation	54% (n=7)
Plastic Surgery	33% (n=4)
Psychiatry	59% (n=10)

Table 1. Survey response rate.

Online Survey

Participants were contacted by email in June 2020, shortly before their implementation date of July 1st, 2020, and asked to complete a brief online survey (Appendix B). The survey was open for 7 weeks, and participants received three reminder emails, the first at three weeks, the second at 5 weeks, and the third at 7 weeks just prior to the survey closing. The survey was conducted through Survey Gizmo.

The survey design followed the $R=MC^2$ framework (Scaccia, 2016). It began by asking participants about their motivation to implement CBD and general capacity

to implement changes. Participants were presented with statements and asked to rate them on a five-point Likert scale, from strongly disagree to strongly agree. Respondents were then asked if 33 key readiness tasks had been completed. Possible responses were yes, no, and not sure; not sure was coded as no for the purpose of analysis. (Appendix B). These key readiness tasks were sampled from various faculty development resources that were designed to help programs and universities prepare for CBD. The decision to include a task/action in the survey was made through expert consensus by the CBD Program Evaluation Operations team (Appendix C), with the aim of ensuring that essential elements of CBD preparation were represented.

Considerations

In March 2020, when these disciplines were undertaking activities to prepare to implement CBD, Canada was impacted by the COVID-19 pandemic. Many disciplines expressed difficulty in preparing for CBD, and some disciplines slated to launch CBD in 2020 chose not to. While the disciplines in this study were able to go ahead with their CBD launch, it is likely that COVID-19 still impacted their ability to prepare for CBD launch. It is important to take this into consideration while reviewing the results.

Results

Overall Readiness Score

Individual component percentages were calculated by summing together all scores within each component, dividing by the maximum possible score, and multiplying by 100 to yield a percentage score. To find an overall readiness score, percentage scores for each component were added together and then divided by 3 to give equal weight to each component. The overall mean readiness score across all respondents was 75.1 (SD = 9.2), with a range from 47 to 95. Overall readiness scores were compared between disciplines; no significant difference was found between any disciplines, $F(8) = .921$, $p = .509$. This suggests that readiness score was not dependent on the discipline in this particular launching cohort.

An independent samples t-test was conducted to determine if there was a significant difference in readiness scores between 2019 (M = 73.3, SD = 12.6) and 2020 (M = 75.1, SD = 9.2); no significant difference was found $t(130) = -.943$, p = .347.

General Capacity and Motivation

Key findings

- When measuring general capacity, almost all respondents felt leaders in their department or division were receptive to change, but may struggle with having experience with change and adequate support staff to implement change.
- When measuring motivation, results showed respondents felt CBD implementation was a priority, but were more neutral about whether CBD is the right move and if implementation is manageable.

Mean scores for general capacity and motivation are presented in Table 2. Bivariate correlations were conducted to examine if there is a relationship between motivation, general capacity, and innovation specific capacity. A positive correlation was found between motivation and general capacity, $r = .675$, $p < .001$. No correlation was found between general capacity and innovation specific capacity, $r = -.002$, $p = .990$, or between motivation and innovation specific capacity, $r = -.035$, $p = .803$.

Question	2019 Mean	2020 Mean
General Capacity	3.81 (*SD* = .91)	3.74 (*SD* = .93)
Leaders within my department/division are engaged in, and supportive of, the residency training program.	4.34 (*SD* = .64)	4.37 (*SD* = .68)
Overall, people are receptive to change in my department/division.	3.81 (*SD* = .95)	3.67 (*SD* = .81)
My department/division has recent experience implementing effective change.	3.66 (*SD* = .76)	3.61 (*SD* = .88)
There is adequate support staff to implement change in my residency program.	3.43 (*SD* = .98)	3.31 (*SD* = .99)
Motivation	3.6 (*SD* = .86)	3.55 (*SD* = .80)
There is a general feeling in my department/division that CBD is a move in the right direction for residency training.	3.53 (*SD* = .90)	3.42 (*SD* = .80)
People in my department/division see CBD implementation as a manageable task.	3.38 (*SD* = .91)	3.41 (*SD* = .71)
Ensuring a successful CBD launch is a priority for my department/division.	3.89 (*SD* = .70)	3.83 (*SD* = .82)

Table 2. Mean scores for Motivation and General Capacity.

GENERAL CAPACITY

Almost all respondents (98%) agreed or strongly agreed that their leaders were supportive of the residency training program, up from 85% in 2019. 75% of respondents agreed that people in their department or division were receptive to change, similar to 2019 (74%). Similar to 2019, between 50-56% of respondents agreed or strongly agreed that they had previous experience with change, and had adequate support staff. The 2020 launch disciplines appear to follow a similar trend from 2019, with leadership being supportive of the residency program and people being fairly receptive to change, but perhaps not having experience implementing a large scale change and facing challenges with regard to adequate support staff.

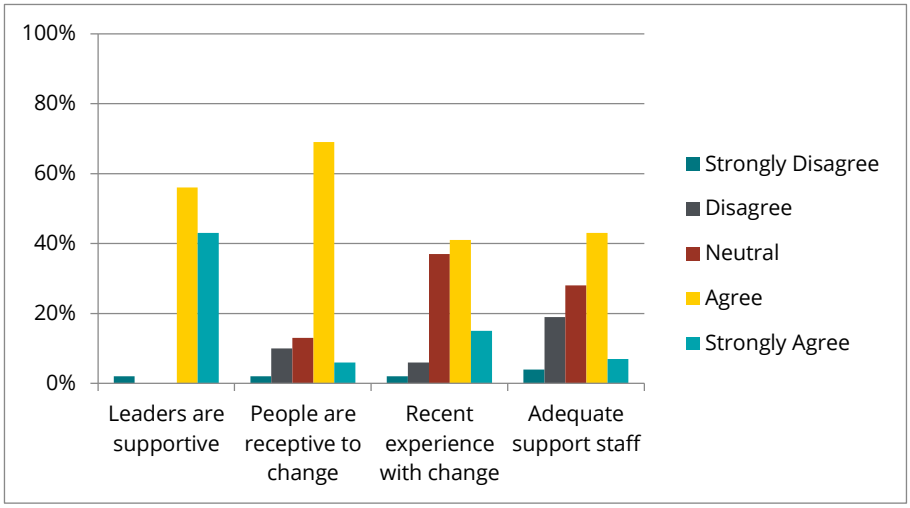

Figure 1. General Capacity to change.

MOTIVATION

Most respondents were neutral or agreed that there was a feeling in their department or division that CBD was the right move (38% neutral, 51% agreed or strongly agreed) and that CBD was a manageable task (44% neutral, 48% agreed or strongly

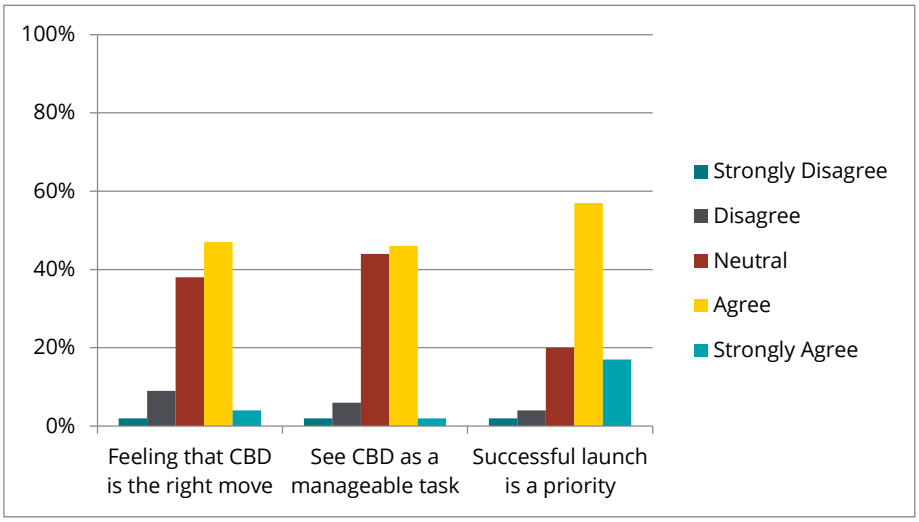

Figure 2. Motivation.

agreed). 74% of respondents agreed or strongly agreed that the successful launch of CBD was a priority. Responses to motivation questions appear slightly more neutral than in 2019, where 50-60% of respondents agreed or strongly agreed that CBD was a move in the right direction and was a manageable task. The same amount of participants felt a successful launch was a priority.

Innovation Specific Capacity

Key findings

- On average, programs had completed 79% of the key CBD implementation activities.
- Categories that had the most activities completed on average were resident orientation and Competence Committees.
- Most activities were completed by a higher percentage of respondents than in 2019, especially resident orientation, Competence Committees, program monitoring, and some electronic portfolio aspects.
- Activities that scored the lowest were faculty development for coaching and incorporating direct observation, updating program policies, and preparing off-service disciplines.

The percentage of respondents who had completed each key step in their CBD implementation is shown in the tables below. Overall, programs completed an average of 79% of activities, up from 72% in 2019. Most activities were completed by at least 50% of programs. Programs had completed a range of 31% to 100% of the activities.

The checklist was organized into key categories of CBD implementation activities; these categories are reviewed below.

CURRICULUM PLAN

Over 90% of respondents have created a CBD curriculum map and have ensured their learning experiences include opportunity for direct observation in authentic settings. Over 80% have considered the impact to off-service providers and have processes in place to support development of individualized learning plans. All of these are up from 2019.

Fewer respondents (37%) than in 2019 had jointly reviewed the process of obtaining EPAs in off-service. This was an area that posed challenges in post-implementation in the past, and may continue to pose challenges going forward.

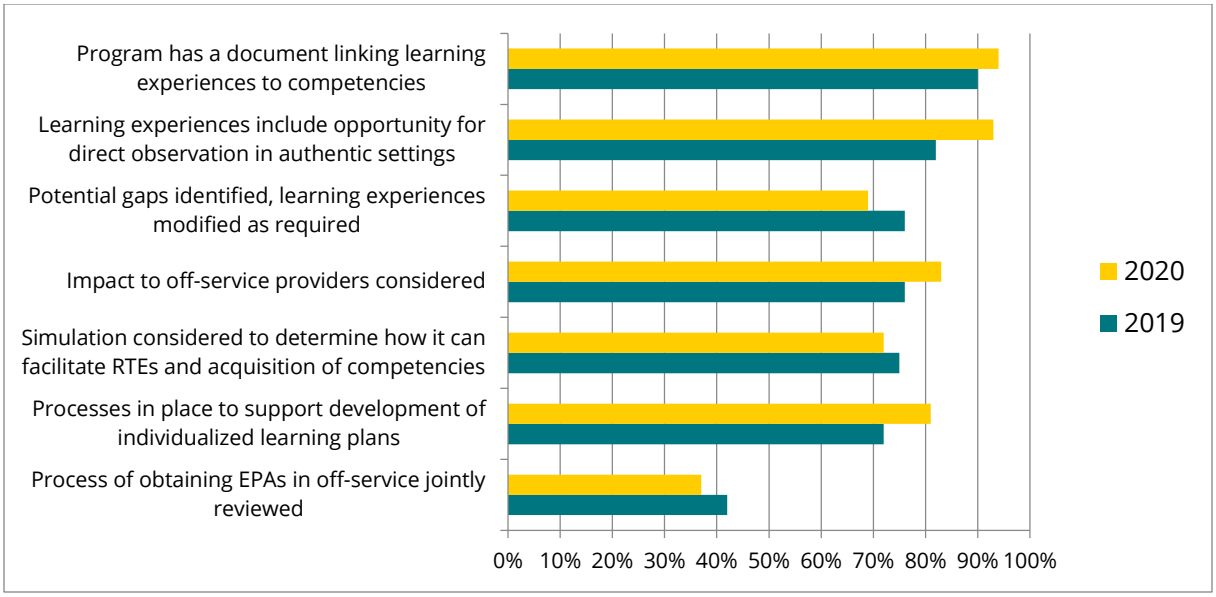

Figure 3. Percentage completed for curriculum plan activities.

ASSESSMENT

The majority of programs have completed most assessment activities (over 70% in almost all categories). Electronic portfolio registration and setup improved from the previous year, with 81% of programs completing this, compared to 71% in 2019. However, updating program policies continues to be an area that fewer programs have completed, with 54% of respondents saying they had updated program policies to reflect CBD.

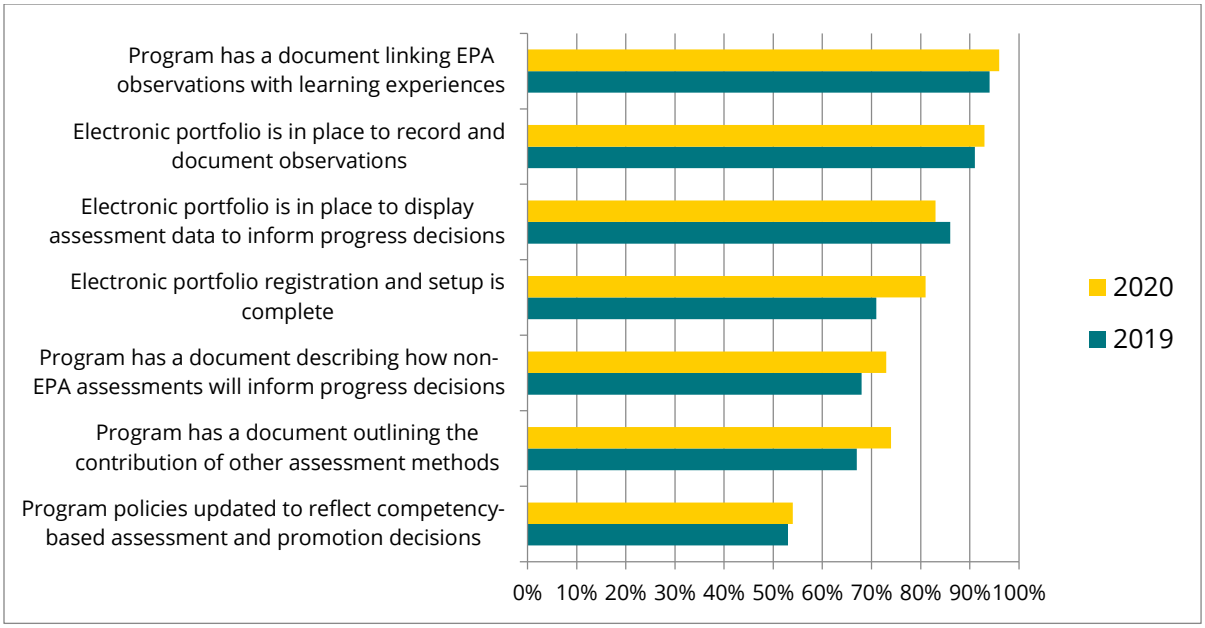

Figure 4. Percentage completed for assessment activities.

COMPETENCE COMMITTEES

All Competence Committee activities had over 70% of respondents complete them; 100% of respondents had identified Competence Committee members, 94% had completed a Terms of Reference, and 90% had created a meeting schedule. Items that scored lower last year (Competence Committee training, creating reporting templates, and creating a processes and procedures document for Competence Committees) showed improvement this year, with at least 12% more respondents for each item saying they had completed these tasks.

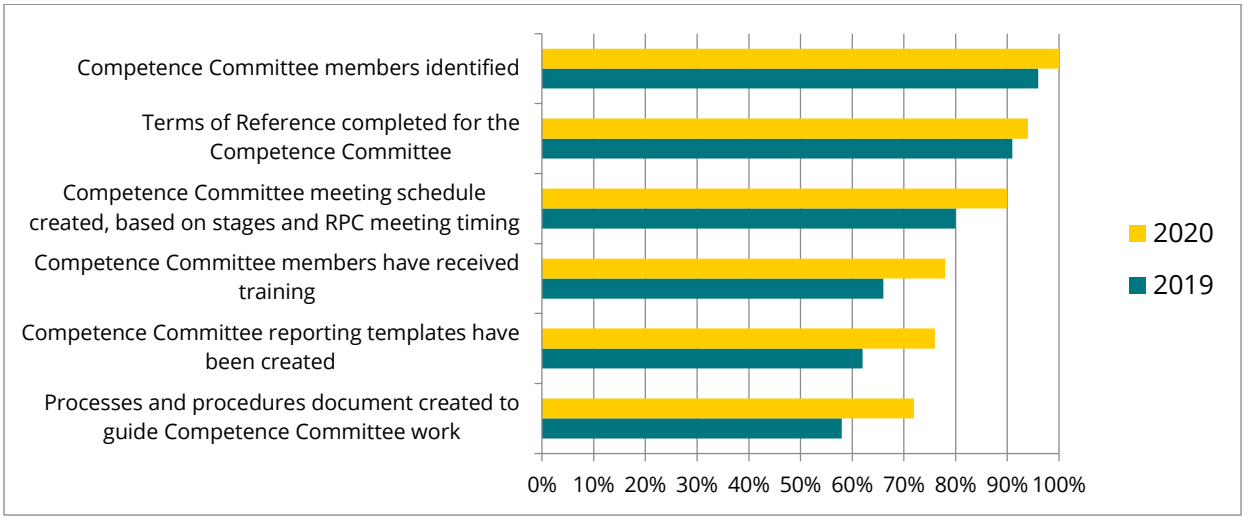

Figure 5. Percentage completed for Competence Committee activities.

PERSONNEL

ADMINISTRATIVE

70% of programs had administrative support in place and trained on key features of CBD, up from 61% in 2019. However, only 50% of respondents agreed or strongly agreed they had adequate support staff in the general capacity questions. Administrative support may still be an area that needs improvement.

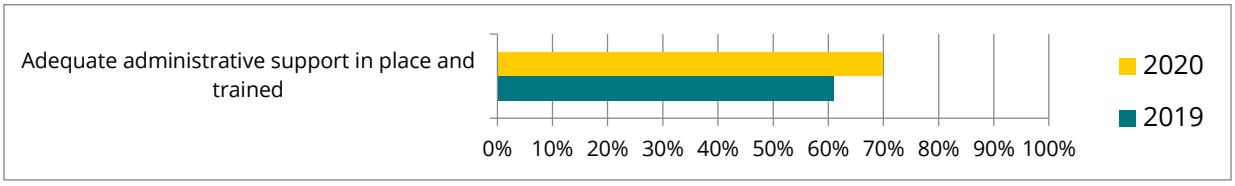

Figure 6. Percentage completed for administrative activities.

FACULTY

Most faculty were trained to complete EPA observations, and have and can access their electronic portfolio accounts. 18% more respondents in 2020 said faculty can access their electronic portfolio accounts than in 2019.

Fewer programs had trained their faculty to be prepared to act as coaches in the moment for performance improvement, and to incorporate direct observation and teaching into workflow. As these are areas that faculty in some programs struggle with post-implementation, it will be important to monitor this going forward and ensure faculty are appropriately trained. Training faculty from other disciplines is also a low scoring item, with 53% of respondents saying they had done this. This has been an area of challenge in the past. However, it is an increase from 2019; things may be moving in the right direction.

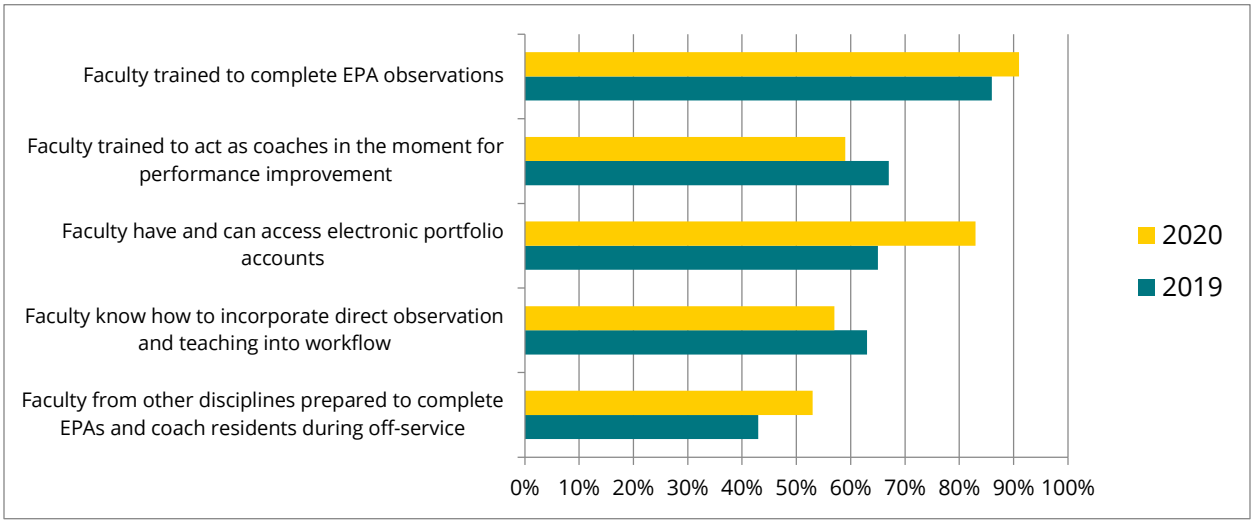

Figure 7. Percentage completed for faculty activities.

RESIDENT

Resident orientation was a high scoring category, with most activities having more than 85% of respondents indicating that residents had been oriented to them. The lowest scoring activity was orienting residents to coaching in the moment and coaching over time (76%), which was also a low scoring item in faculty training.

All aspects of resident orientation improved by at least 13% from 2019.

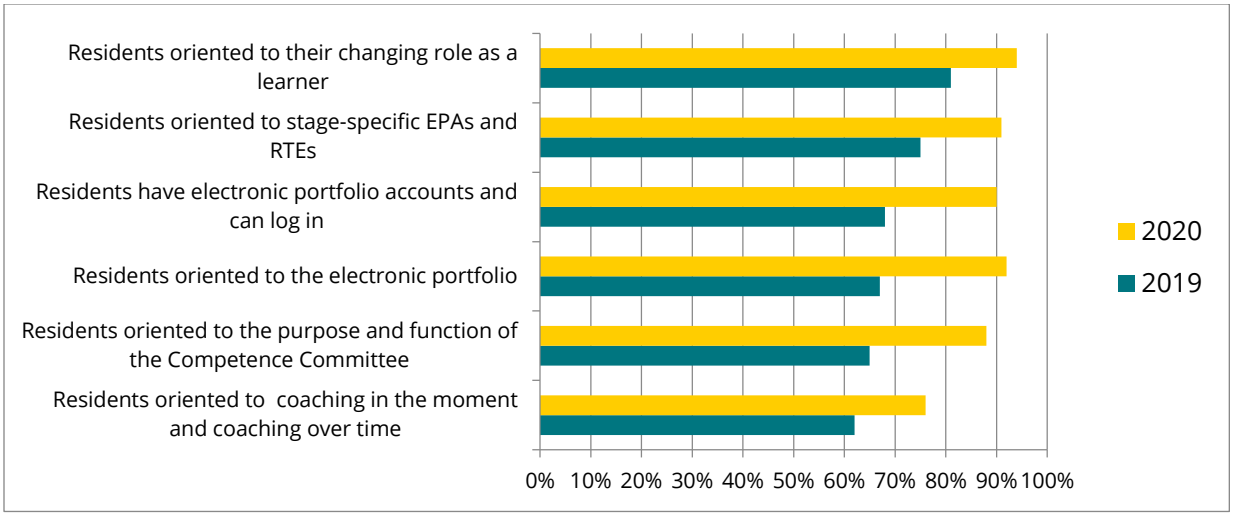

Figure 8. Percentage completed for resident activities.

PROGRAM MONITORING

83% of programs had an approach for the ongoing monitoring and adaption of their CBD program, up from 66% in 2019. Programs may now be preparing further in advance to monitor and adapt CBD.

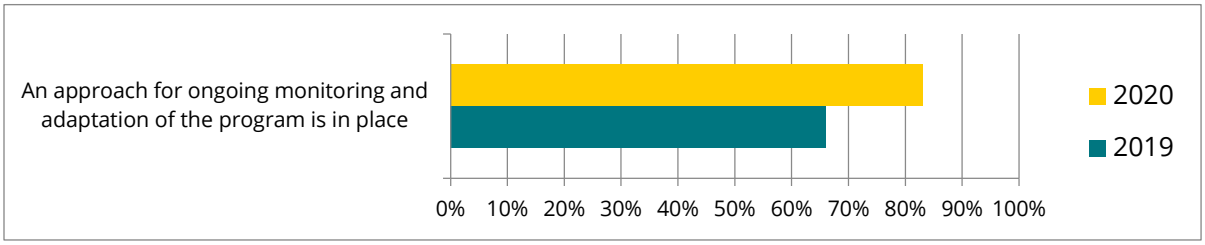

Figure 9. Percentage completed for program monitoring activities.

Differences from 2019

General Capacity and Motivation scores were, on average, slightly lower than in 2019. However, the differences were not large, and no significant difference between the years was found for either General Capacity or Motivation.

Most Innovation Specific Capacity items improved in 2020 in terms of the percentage of respondents that had completed them. On average, 7.7% more respondents completed activities than in 2019, and 27 activities had higher percentages of respondents complete them. Only 6 activities had lower percentages. The average Innovation Specific Capacity score was significantly higher in 2020 (M = .79 SD = .16) than in 2019 (M = .72, SD = .19), $t(131) = 2.399$, $p <$ .05.

Three categories of CBD implementation activities had significantly higher average scores in 2020 than in 2019: Competence Committees (2020 $M = .85$, $SD = .19$, 2019 $M = .76$, $SD = .23$, $t(131) = 2.5$, $p < .05$); resident orientation (2020 $M = .89$, $SD = .22$, 2019 $M = .70$, $SD = .35$, $t(130) = 3.8$, $p < .01$); and program monitoring (2020 $M = .83$, $SD = .38$, 2019 $M = .66$, $SD = .48$, $t(126) = 2.3$, $p < .05$).

Within the categories, electronic portfolio items also appeared to show an increase; an average of 16% more programs appear to have given people (including faculty and residents) access to the electronic portfolio.

Activities that had a lower percentage of respondents complete them than in 2019 were putting an electronic portfolio in place to display assessment data, considering how simulation can facilitate RTEs, reviewing obtaining EPAs with off-service, faculty knowing how to incorporate direct observation and teaching into workflow, faculty being trained to act as coaches in the moment, and identifying potential gaps and modifying learning experiences. The average decrease was 5%.

Discussion and Recommendations

Survey results demonstrated that programs have an average readiness score of 75%. Programs scored an average of 3.81 out of 5 on general capacity, and an average of 3.6 out of 5 on motivation. They had also completed an average of 79% of innovation specific capacity tasks.

Motivation, general capacity, and overall readiness are similar to 2019 scores, but programs have completed, on average, more innovation specific capacity tasks than last year's launch programs. This is encouraging to see, especially during the time of COVID-19, when preparing for launch was likely disrupted for many programs.

In particular, there were marked improvements to resident orientation and electronic portfolio access. Launched programs have reported challenges in these areas in the past. For example, in Quebec, the Fédération des médecins résidents du Québec (FMRQ) noted that approximately a quarter of residents did not receive training on CBD, and only approximately half of residents were satisfied with their training (FMRQ, 2020). Some programs in previous Pulse Check studies have noted that some faculty do not have access to the electronic platform, or have trouble logging in (CBD Program Evaluation Operations Team, 2019, 2020). It is possible that programs who have done more resident orientation and have electronic platform access ahead of launch will not face these challenges.

However, there are still some areas that raise concerns. Less than half of respondents felt CBD was a manageable task, and just over half of respondents felt they had adequate administrative support.

There are also challenges in areas of faculty development. Only 59% of programs had trained their faculty to act as coaches in the moment for performance improvement, and only 57% had trained their faculty to incorporate direct observation and teaching into their workflow. Additionally, engaging off-service seems to still be a challenge; 53% of programs had prepared faculty from off-service disciplines, and only 37% of programs had jointly reviewed obtaining EPAs in off-service.

Recommendations

Further explore the administrative support and/or workload challenges with CBD implementation to determine whether there are tangible opportunities for the Royal College, PGME offices, and/or local programs to further address the issue.

Results show that only about 50% of programs agree that the implementation of CBD is a manageable task and that there is adequate support staff for this undertaking. Previous reports (CBD Program Evaluation Operations Team, 2019, 2020; Resource Framework Working Group, 2019) acknowledged that the increased administrative workload may, in large part, be inherently related to the scope of change involved in implementation and may diminish over time as preparatory work is completed, training is rolled-out, and new systems take effect. In response to this challenge, the Royal College committed to reducing administrative stressors where possible by simplifying processes, streamlining information, and clarifying areas of flexibility in CBD implementation.

The Royal College will further explore whether there is a discernible role for the College, PGME offices, and local programs to play in addressing this complex challenge. The College will gather additional qualitative feedback via discussions with key stakeholder groups such as CBME Leads, Program Administrators, and Program Directors to probe the specific nature of the challenges, assess what particular efforts to-date (if any) have been helpful, and determine whether tangible opportunities exist to further shift the administrative burden. Data from subsequent post-implementation studies will also be examined to determine if this trend continues over time.

Evaluate existing faculty development resources—particularly those focused on coaching and direct observation—to gauge stakeholder awareness, examine their effectiveness, and determine if further resource gaps exist.

Results show that fewer programs were training faculty on "Coaching in the Moment" for performance improvement and incorporating direct observation and teaching into their workflow.

To date, the Royal College has created and made publicly available various faculty development resources focused on coaching and direct observation (e.g., videos, webinars, presentations, handouts, implementation guides, etc.). The College will gather evaluative feedback on some of the existing faculty development resources in order to ascertain whether stakeholders are aware of these materials, access them and find them effective (e.g., useful in content and format), and/or identify particular resource gaps for consideration.

Continue working with institutions and programs to encourage the engagement and training of off-service disciplines, and monitor this challenge in post-implementation studies to determine if it diminishes over time.

Results show that fewer programs were engaging off-service disciplines in their preparation for CBD implementation. This is a trend that has continued over time.

The Royal College has taken some steps to try and address this challenge (e.g., by creating resources that may be disseminated to off-service disciplines, providing guidance to program leadership on the importance of engaging off-service rotations, etc.). Moving forward, the College will continue to monitor the issue via post-implementation Pulse Check studies and further raise awareness on the importance of engaging off-service disciplines through discussions with key stakeholders.

Limitations

Participation in this survey was voluntary, therefore we do not know if programs that did not answer the survey have similar patterns of readiness for implementation as those who did respond. Self-selection and social desirability bias are also common with survey methodology and may impact the results.

Additionally, this survey was a simple checklist, and did not include narrative comments, which does not allow us to explore the barriers and enablers to readiness. However, the CBD Program Evaluation Operations team is currently engaging in multiple studies that apply qualitative methods, which will enable a

deeper understanding of the challenges and factors influencing CBD implementation.

Finally, it is unclear at this time how COVID-19 has impacted programs' readiness for CBD, and if trends from this year's results will continue, or if they are due, at least in part, to the impact of the pandemic.

Next steps

Results from this Readiness Checklist will be examined in tandem with post-launch studies, such as the CBD Pulse Check, to examine which readiness elements are associated with successful implementation. This will add to the overall program evaluation initiative, and help inform the implementation of future CBD cohorts.

This study was conducted just prior to programs' CBD launch. In the future, this readiness checklist may be deployed at different time points in a program's CBD preparation, to track preparation for implementation over time.

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Appendix A

CBME Core Component	CBD-RE Program Model – Main Features
COMPETENCY FRAMEWORK Competencies required for practice are clearly articulated	• Competencies and outcomes are aligned with societal needs and are **socially accountable** • **CanMEDS 2015** and discipline-specific competencies form the framework for aligning specialty training with competencies required for practice
SEQUENCED PROGRESSION Competencies and their developmental markers are sequenced progressively	• Discipline specific **Entrustable Professional Activities (EPAs)** and associated milestones provide discrete markers of competence • Discipline specific EPAs are organized into the **CBD Competence Continuum** to reflect how distinct, yet integrated stages of training are employed to support increasing progression towards readiness for practice
TAILORED EXPERIENCES Learning experiences facilitate the developmental acquisition of competencies	• **Learning experiences are based in authentic, work-based environments** that match the settings of future practice • **Learning experiences are organized** to acquire competencies and demonstrate EPAs • **A hybrid model** is used to organize learning experiences where time is still used as an organizing framework but there is flexibility in learner progression and acquisition of competencies • **Learners are motivated** to use competencies to guide and enhance their learning experience
COMPETENCY-FOCUSED INSTRUCTION Teaching practices facilitate the developmental acquisition of competencies	• Learning is guided by **real-time, high quality feedback** from multiple observations • **EPAs are used to structure learning and focus instruction** • **Teachers act as coaches** for the purpose of improvement, with repeated focused observation and feedback
PROGRAMMATIC ASSESSMENT Assessment practices support and document facilitate the developmental acquisition of competencies	• **Assessment is used for learning** through competency-based assessment focused on observations of EPAs in the workplace • **Assessment is used for progression** by linking promotion decisions and certification with successful completion of EPAs and progression through stages of training • A **Competence Committee is responsible for regular review** of learner progress using highly integrative data from multiple EPA and milestone observations and feedback in clinical practice • Changes to the **certification examination** to ensure entry to the Royal College examinations is **aligned with promotion decisions** entrusted to the Competence Committees Examinations will be maintained, but the timing and emphasis of such examinations will shift to occur earlier in training to promote a smoother

	transition to practice • An **electronic portfolio is used to demonstrate and record** developments in competence and independence

Appendix B

CBD Readiness to Implement Checklist

Part 1 - Demographics

Please select your specialty/subspecialty:

- Cardiology (Pediatric)
- General Surgery
- Neurology (Adult)
- Neurology (Pediatric)
- Nuclear Medicine
- Orthopedic Surgery
- Physical Medicine and Rehabilitation
- Plastic Surgery
- Psychiatry

Please select your institution

- University of British Columbia
- University of Alberta
- University of Calgary
- University of Manitoba
- University of Saskatchewan
- Western University
- McMaster University
- University of Toronto
- Queen's University
- University of Ottawa
- Northern Ontario School of Medicine
- McGill University
- Université de Sherbrooke
- Université de Montréal
- Université Laval
- Dalhousie University
- Memorial University of Newfoundland

What year is your discipline anticipated to launch?

- Dropdown list of years

What is your role? (Please note that only a single respondent for each program is asked to complete this survey)

- Program Director
- Associate Program Director
- Program CBD Lead
- Other (please specify):

Part 2 – General Capacity and Motivation

Based on your program, please indicate the extent to which you agree or disagree with the following statements.

General Capacity					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Leaders within my department/division are engaged in, and supportive of, the residency training program.					
Overall, people are receptive to change in my department/division.					
My department/division has recent experience implementing effective change.					
There is adequate support staff to implement change in my residency program.					

Motivation					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
There is a general feeling in my department/division that CBD is a move in the right direction for residency training.					
People in my department/division see CBD implementation as a manageable task.					
Ensuring a successful CBD launch is a priority for my department/division.					

Part 3 – Innovation Specific Capacity

Please choose your response to the following questions based on whether or not the activity is currently present in your program.

Innovation Specific Capacity	Yes/No/Not Sure
Curriculum Plan	
You have a document (curriculum map) that links the various learning experiences (rotations, academic sessions, etc.) to competencies of your discipline.	
Potential gaps have been identified and learning experiences modified as required.	
Simulation has been considered to determine how it can be used to facilitate required training experiences and acquisition of specific competencies based on EPAs and stages.	
Learning experiences include ample opportunity for direct observation in authentic settings.	
The impact of any changes to other service providers (e.g., off-service rotations) has been considered.	
The process of obtaining EPA observations during off-service rotations has been jointly reviewed.	
Processes are in place to support the development of individualized resident learning plans.	
Assessment	
You have a document that: a) Links opportunities for specific EPA observations with learning experiences (e.g. which EPAs are best observed during a specific rotation or learning activity b) Outlines how other assessment methods (e.g. simulation, OSCE) will be used to contribute to EPA observation data c) Describes how non-EPA assessments (e.g. in-training exams, ITERs) will be used to inform progress and promotion decisions	
An electronic portfolio is in place to:	

a) Record and document observations b) Display assessment data to inform decisions about resident progression and promotions	
The electronic portfolio registration and setup has been completed (i.e. potential assessors/observers are registered, EPAs are uploaded, etc.)	
Program policies (e.g., remediation policy) have been updated to reflect competency-based assessment and promotion decisions	
Competence Committee	
A terms of reference document has been created describing the role of the Competence Committee.	
A processes and procedures document has been created to guide the work of the Competence Committee.	
Competence Committee members have been identified.	
Competence Committee members have received training. This includes training on: • The electronic platform; • Terms of reference and process and procedures • Best practices in Competence Committee function	
A Competence Committee meeting schedule has been created based on the anticipated duration of stages and timing of RPC meetings	
Competence Committee reporting templates (e.g., agenda, minutes, resident report) have been created	
Personnel	
Administrative Support	
Adequate administrative support is in place and have been trained on: • Curriculum planning (e.g. rotations, schedules) • Electronic portfolio management • Competence Committee functioning	

Faculty	
Faculty have, and can readily access, their electronic portfolio accounts	
Faculty have received training to complete EPA observations	
Faculty have received training to serve as coaches in the moment for the purposes of performance improvement	
Faculty know how to incorporate direct observation and teaching into their workflow.	
Faculty from other disciplines are prepared to complete EPA observations and coach residents during their off-service rotations.	
Residents	
Residents have been oriented to a) Their changing role as a learner in CBD b) Stage specific EPAs and required training experiences c) The electronic portfolio system d) The model of in-the-moment coaching and coaching over time e) The purpose and function of the Competence Committee	
Residents have electronic portfolio accounts and are able to log in.	
Program Monitoring	
An approach for ongoing monitoring and adaptation of the competency-based training program is in place	

Appendix C

CBD Program Evaluation Operations Team

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