FÉDÉRATION DES MÉDECINS RÉSIDENTS DU QUÉBEC

Year 3 of implementation of *Competence by Design*:

Negative Impact Still Outweighs Theoretical Benefits

Observations on the day-to-day reality of CBD and its progression since July 2017

Report on the survey conducted by the *Fédération des médecins résidents du Québec* (FMRQ) on the 2019-2020 cohort registered for their first year under CBD in Quebec and summary of discussion groups with resident doctors in their third year of CBD (2017-2018 cohort)

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NOTA BENE :

In case of incompatibility between the English and French versions, the French version prevails.

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INTRODUCTION

For several years now, the Royal College of Physicians and Surgeons of Canada has been trying to implement a new training and assessment system within the postgraduate training programs in Canada's medical schools. This system is based on a competency-based approach which the Royal College calls Competence by Design (CBD), and is intended to enhance the existing training and assessment model.

The CBD model of resident doctor training represents a paradigm shift in that its main feature is that it is based on the acquisition of competencies through observable behaviours. Under CBD, the stages in learning are placed in a continuum comprising competencies attained as learners each progress at their individual pace.[1] In this way, the time and duration of rotations are seen as an advantage for learning new competencies, and not as a rigid constraint, and assessment data become longitudinal tools that facilitate learning in a continuous growth mentality. In theory, CBD promises greater flexibility from training sites and teaching structures to the benefit of learners, generation of continuous feedback based on direct observations in a coaching relationship, resident doctors whose competency upon certification is enhanced, and finally, doctors better able to maintain their competencies once they are in autonomous practice.

Since July 2017, 20 disciplines in Canada have officially transitioned to CBD, and several other specialties are preparing for the upcoming months and years. Such a revamping of the learning system in PGME programs involves numerous changes which inevitably require many adjustments once implementation has begun.

To develop a structure for continuous evaluation of the implementation of CBD in Quebec and its impact on the quality of medical education (program evaluation), the FMRQ set up a research program three years ago aimed at documenting resident doctors' experience in CBD on the ground. This exercise serves to ensure that deployment of CBD in all PGME programs occurs in a positive manner and in line with the principles based on which CBD was promoted. The exercise also provides an opportunity for making proposals for improvement. Where necessary, this structure also makes it possible to bring up issues and raise red flags if consequences detrimental to learners should arise from implementation of CBD in the programs, or from the way in which CBD is structured in training sites.

The FMRQ allocated human and financial resources in order to put such a continuous evaluation structure in place, and mandated its Academic Affairs Committee – Specialties to supervise its operationalization. Thus, several studies and surveys of resident doctors were carried out in order to build a comprehensive overview of CBD issues at each stage of postgraduate education. As early as Year 1 of CBD implementation, the FMRQ questioned 26 of the 32 PGY-1 resident doctors under CBD, via semi-structured interviews carried out in February 2018. Analysis of these interviews led to a first report containing 15 recommendations for enhancing the CBD implementation process in the first two launch disciplines.

[1] In practice, residency in Quebec, even for programs under CBD, continues to be built around 28-day-long rotations, with a minimum duration-of-training requirement in order to obtain a permit to practise (typically 2 years in family medicine, and 5 years in other specialties). Each rotation is thus assessed by one or more supervising physicians or the Competence Committee, to determine pass or fail. While resident doctors are postgraduate trainees first, they are also paid by the Quebec government for the care they deliver to the population. In that regard, the organization of residency, and of work and call schedules, is established on the basis not only of objectives conducive to learning, but also of sound organization of care teams responsible for meeting patients' needs.

In winter 2019, the FMRQ wanted to measure how the implementation of CBD in Quebec had progressed in relation to the recommendations it had made one year earlier. To do so, and in view of the growing number of resident doctors under CBD, the FMRQ drew up a questionnaire which it administered via the SurveyMonkey platform to all resident doctors in the eight CBD programs. In all, 67% of the resident doctors targeted completed this survey, and this enabled the FMRQ to conclude that a great deal of work remained to be done before it could be claimed that CBD had been somewhat successfully implemented.

In this third year of CBD implementation in our residency programs across Canada, the FMRQ decided to survey once again all Quebec resident doctors who had entered a CBD program for the first time in July 2019, by means of a questionnaire intended exclusively for them. Also, the FMRQ wanted to know how things were going with CBD implemented 30 months earlier with resident doctors (now PGY-3s) who started their residency under CBD in July 2017, who were thus by this time halfway through their postgraduate education.

This report therefore presents highlights of the poll of resident doctors starting under CBD in July 2019, along with a synthesis of the group discussions with resident doctors in their third year of CBD. The goal is to establish observations on the day-to-day reality under CBD, its progress since July 2017, and the evolution of various elements of CBD raised in our initial surveys, and to submit recommendations in line with these observations.[2]

[2] Note that the survey of resident doctors recently entering a CBD program and the PGY-3 discussion groups were completed before the COVID-19 pandemic reached Quebec. So participants' responses were not coloured by the crisis caused by the pandemic. That being said, COVID-19 will certainly have an impact on the transition to CBD for the specialties which have already begun transitioning, and for those in future, particularly in terms of workload for resident doctors and supervising physicians, who are already overloaded, physically, emotionally and cognitively. This crisis will possibly have exposed the fragility of the medical education system in Canada and demonstrated the need for a degree of flexibility in the application of CBD in our programs, so as to protect the mental and physical health of our learners, and our supervisors.

NOTE ON METHODOLOGY

The questionnaire used for the 2020 survey was drawn up in consultation with representatives of the FMRQ's Academic Affairs Committee – Specialties, on the basis of the main recommendations made by the FMRQ in spring 2018, and of the 2019 questionnaire. It was then tested on several resident doctors in different disciplines. The purpose of the survey was to measure the evolution of CBD implementation and its impact on resident doctors newly under CBD in Quebec. The questionnaire comprised some 40 questions, including more than half a dozen calling for extended answers. It was also agreed to administer this questionnaire at the same time of year as in 2019, that is, after seven months of exposure to this new pedagogical approach for resident doctors in CBD programs.

A total of 358 resident doctors newly entering one of the CBD programs in July 2019 received email invitations to take part in the survey. That figure includes resident doctors in all programs newly subject to CBD in 2019-2020[3] and those who began their training in July 2019 in programs that had already transitioned to CBD in previous years (Anesthesiology and Otolaryngology/Head and Neck Surgery, as well as Emergency Medicine, Forensic Pathology, Medical Oncology, Nephrology, Surgical Foundations, and Urology). The invitation to take part in the poll was sent to the resident doctors concerned on February 7, 2020, and three email reminders went out, on February 14 and 21, and March 2, 2020. Unlike last year, no telephone reminders were made, but the survey period was extended by one week in order to enable the largest possible number of resident doctors to take part in it. The data collection period thus ended on March 5, 2020. The survey participation level was 45% (161/358), with a margin of error of 5.7%, 19 times out of 20.

As to the PGY-3 discussion groups, the FMRQ contacted 32 resident doctors in Anesthesiology and Otolaryngology/Head and Neck Surgery who began their training under CBD in July 2017. Finally, 20 (63%) of them were met at four meetings arranged in three cities, namely, Montreal (2 meetings), Quebec City, and Sherbrooke. These discussion groups were held in February 2020 in neutral meeting rooms away from training sites. Each participant was given a meal and an attendance fee[4] for participating. Three FMRQ representatives attended each of these sessions. Discussions were led by the FMRQ's research director, and notes were taken by the other two representatives. These discussion groups were not recorded, and only non-identifying comments are used in this document, in order to maintain the confidentiality of the discussions.

[3] The 12 new programs beginning under CBD in 2019-2020: Anatomical Pathology, Cardiac Surgery, Critical Care Medicine, Gastroenterology, General Internal Medicine, General Pathology, Geriatric Medicine, Internal Medicine, Neurosurgery, Obstetrics and Gynecology, Radiation Oncology, and Rheumatology.

[4] The FMRQ paid each participant in the discussion groups $105 as reimbursement for the costs associated with these meetings, in line with the FMRQ's policy on participation in external academic and pedagogical committees.

PRINCIPAL FINDINGS

We present here the findings from both the survey of resident doctors in their first year under CBD and from the discussion groups. The findings are grouped together by general topic summarizing the main issues raised. First, quantitative data from the surveys are discussed, then the qualitative interpretation of group discussions provides details on or illustrates certain aspects. Resident doctors' day-to-day experience of CBD essentially consists in planning, identifying and performing entrustable professional activities (EPAs) and having them evaluated using the O-SCORE Entrustability Scale, and having them approved by their supervising (staff) physicians while hoping for a positive response from a Competence Committee subsequently with respect to their progress. So it is no surprise that these elements of CBD should be central to the comments gathered from the four discussion groups.

Training of resident doctors

Summary

- More than a quarter (27%) of resident doctors receive no training on CBD on starting residency.
- Content of training has improved, but satisfaction levels remain relatively low.
- There is a lack of clarity concerning several key elements: EPAs, O-SCORE Entrustability Scale, and progress under CBD.
- There are great variations among the training received by resident doctors and faculty.

Since implementation of CBD in Canada began, the FMRQ has recommended that dissemination of information for and training of resident doctors and supervising physicians, including senior resident doctors who are not in a CBD cohort but whose program is now under CBD, should take place before or at the very beginning of the academic year. In 2020, 40% of resident doctors newly under CBD had received training before the academic year began, much the same as in 2019 (44%). As to training on CBD received after the year began, 33% of 2019-2020 resident doctors newly under CBD said they had taken training on CBD in their first three rotation periods. So, this year, close to 3 out of 4 resident doctors received training on CBD at the start of residency, while 27% did not.

As to the content of the training, while a growing proportion of resident doctors appear generally satisfied with it (54% in 2020 vs. 38% in 2019), the level of satisfaction is still relatively low. Also, several resident doctors are still reporting a lack of clarity concerning a number of CBD key elements, including EPAs, the O-SCORE Entrustability Scale, and progression. Several mentioned that they would have appreciated receiving slightly more specific pointers and tips on how to have EPAs completed on the ground. There also appears to have been great variability in the training received by resident doctors in the various programs, and the training received by resident doctors compared with faculty. As one participant put it: "The process is explained partially, little by little, both to staff physicians and teaching offices, and to resident doctors. We all have different sources and information."

Curriculum mapping and acquisition of competencies

Summary

- Resident doctors' familiarity with curriculum mapping was no better than last year.
    - 61% of resident doctors reported having received such a rotation grid, compared with 69% in last year's survey.

This year, the FMRQ wanted to measure specific elements relative to the operationalization of CBD on a day-to-day basis with resident doctors. The first question raised concerned the organization of CBD and the integration of individual progression in the traditional organization of residency rotations in time and space. This often involves matching the acquisition of competencies measured by EPAs with rotations conducive to the acquisition of those competencies, often known as curriculum mapping.

In that regard, when the FMRQ asked resident doctors newly under CBD whether they had been provided with such curriculum mapping, 61% of respondents to the 2020 poll responded in the affirmative, and 29% in the negative, while 9% did not know. Last year, 69% of resident doctors newly under CBD said they had received such mapping.

The FMRQ had recommended that the programs make sure they provided a firm timeline for matching each EPA with a specific rotation conducive to its assessment. Indeed, this practice is already part of the programs' tasks, in anticipation of the implementation of CBD, as recommended by the Royal College. We can only conclude that there has been no improvement this year in the production of timelines, or mapping, in order to permit a match between CBD and rotation requirements.

EPAs and milestones on a day-to-day basis

Summary

- A larger proportion of resident doctors say EPA assessment criteria and milestones were presented to them, at least partially.
- The number of EPAs, milestones, and observations to be carried out remains excessive.
- EPA and milestone descriptions are often hard to apply in practice.
    - Tangible examples help clarify the interpretation.
- There is an increase in the number of resident doctors who feel EPAs do not reflect their clinical practice.
    - The relevance of certain EPAs needs to be reviewed.
- Resident doctors have the impression of being in a race to acquire EPAs which is detrimental both to their learning and to the delivery of patient care.

Generally speaking, resident doctors have a sound understanding of how CBD works overall, including EPAs, milestones, and the number of observations required. Indeed, resident doctors were asked whether the assessment criteria for EPAs and individual milestones had been presented to them and clearly defined. A very slight improvement was seen in this regard over last year. While a very similar proportion of resident doctors answered this question affirmatively this year compared with last year (32% in 2020 vs. 33% in 2019), a larger proportion of resident doctors said they had only partial presentations on the assessment criteria for EPAs and milestones (53% in 2020, up from 45% in 2019).

While the number of EPAs and milestones was revised downward in some programs last year, this seems still to be an important issue for resident doctors. We asked resident doctors about the number of EPAs, milestones, and observations required in each of the programs. Generally speaking, the majority of resident doctors found that the number of EPAs (51%), milestones (63%), and observations per EPA (71%) required is excessive.

At the same time, and despite adjustments made in the past to the number of EPAs to be completed, this aspect of CBD remains a challenge for those resident doctors in Year 3 of CBD implementation who took part in the discussion groups. Several resident doctors said they were disheartened, and even overwhelmed, by the number of EPAs required at this stage in their training. Several also told us of the existence of some absurd situations involving the number of sub-elements to be completed for each EPA. Thus, according to one participant, there are a total of 186 observations to have documented during the *Core of discipline* stage in otolaryngology, when you include all the repetitions within the same EPA. In addition to the volume, discussion group participants told us of several problems concerning the descriptions of the EPAs and milestones to be completed. The wording is often too vague, lengthy, or complex, and sometimes so specific or detailed as to be inapplicable on the ground. Nevertheless, participants observed that, when examples were provided, the interpretation of EPAs by resident doctors and faculty was thereby facilitated, and that helped the assessments.

Resident doctors were also invited to evaluate whether the EPAs and milestones specific to their specialty under CBD accurately reflected practice in their main training site. Close to half (49%) of resident doctors said that was the case, slightly fewer than in 2019 (56%). At the same time, a larger proportion of resident doctors (37%) said that was not the case in 2020, compared with only 13% in 2019. Consequently, it seems that for resident doctors newly entering CBD programs in 2019-2020, EPAs still reflect practice in their specialty less accurately than for their predecessors.

Finally, some EPAs are simply impossible to perform, either because the techniques required are not performed in Quebec or because they occur so rarely that they cannot be carried out unless they are "lucky" enough for them to arise within the context of their rotation. In fact, one participant summarized their vision of EPAs as follows: "Obviously it's written by someone upstairs who doesn't know what's happening downstairs."

Discussion group participants told us of some direct consequences of the excessive number of EPAs and the lack of clarity in their descriptions. For instance, resident doctors often mentioned to us that they had missed a learning and assessment opportunity just because they do not always recognize EPAs when they arise. Few of them have the opportunity to plan ahead of time, with their staff physicians, the EPAs to be performed in a given period.

According to one participant, it is impossible to know by heart all the necessary EPAs, milestones, and observations. Others say resident doctors are unable to remember all the EPAs to be carried out, and that is even truer for faculty. Another participant had to create their own electronic file of all EPAs and sub-elements, and told us they literally followed that list, constantly on the lookout for opportunities to perform EPAs. A number referred to looking for EPAs as if they were playing Pokemon Go, always seeking EPAs to be assessed.

According to some resident doctors, this never-ending EPA marathon is detrimental to delivery of services to patients, because when an opportunity to perform an EPA arises, if the supervisor is not on-site to assess it, resident doctors are faced with the absurd choice of delivering care to a patient or waiting for a staff physician to arrive in order to have the competency in question recognized.

To illustrate more clearly the challenge of EPAs, learning, and service delivery, participants said: "When we complete competencies, we're no longer managing our patients. I'm not managing my patients any more, I'm managing EPAs."

Assessment process and Competence Committee

Summary

- A slight improvement was seen in resident doctors' familiarity with the progression process and the Competence Committee.
    - But the regulatory framework and decisions remain vague and lack transparency.
- Follow-up on progression by the Competence Committee is incomplete, and is confined to quantifying the resident doctor's progression in terms of the number of EPAs, offering little feedback to help them understand their progression.
- There is enormous pressure from the programs to carry out EPAs and an unfounded belief that the number of EPAs to be performed is a firm requirement.
- Resident doctors feel this pressure and experience guilt when they miss EPA opportunities, even in the context of vacation or justified absences.
- Resident doctors feel they are research subjects.
- Resident doctors believe it is impossible to achieve all the EPAs, and have the impression that the entire CBD assessment process if futile.

One of the core elements in resident doctors' day-to-day experience of CBD that raises a number of questions is the CBD assessment and progression process. When we asked resident doctors whether the overall CBD assessment and progression process had been clearly explained to them, 42% responded "yes," and 53% "partially." On the other hand, only 40% said the role and operation of the Competence Committee were explained to them, with 46% saying they were partially explained. This is none the less an improvement over last year, when only 37% of resident doctors said they were given those explanations, and another 37% said they received partial explanations on the Competence Committee. Furthermore, the regulatory framework and Competence Committee decisions appear still to be unclear for resident doctors. Among other things, there is a great deal of uncertainty as to the number of observations required per EPA, and the need to fill out all evaluations for promotion from one stage to another, and to complete all EPAs successfully.

Some respondents mentioned this: "We're assessed by a committee (..) which clearly doesn't put itself in resident doctors' shoes and doesn't understand our reality. There's no consideration of our overall progression."

Different issues concerning the Competence Committee were also raised by participants at the discussion groups. Virtually all resident doctors in the two programs concerned in the four medical faculties have received follow-up by email from the Competence Committee since they began their residency, and most seriously doubt the helpfulness of those emails. In fact, periodic follow-up is carried out, but the information conveyed varies greatly from one program and faculty to another. As a general rule, all follow-up reports the progression of resident doctors under CBD toward the next stage, but the benchmarks used to reach such findings appear nebulous for all participants. Resident doctors are informed whether their progression is going well in the committee members' view, but without any further details on performance or improvements to be made. Several resident doctors deplored the lack of transparency and the absence of clear benchmarks for resident doctors to be able to follow their own progression, pending the Competence Committee's decision. This is amplified by the varied application of the O-SCORE Entrustability Scale, which is addressed below.

In many programs, the Competence Committee's assessment seems above all to be used to convey the programs' level of satisfaction with the number of EPAs completed. Several participants said their programs were pushing them to perform all the EPAs, and that communications from competence committees served merely to confirm that aspect. For instance, talking of follow-up by the Competence Committee, resident doctors told us they received very brief reports encouraging them to complete more EPAs. Some resident doctors even said they had been threatened with "redoing rotations" if more EPAs were not completed.

Whether or not there is a requirement to complete all the EPAs indeed led to a great deal of discussion and questions, which even required follow-up after the discussion group sessions. Despite the message from the Royal College that programs should be flexible in the number of observations and EPAs to be completed to progress in residency, several programs are not following this principle, and are exerting undue pressure on resident doctors to complete all EPAs fully. In some settings, it is suggested that one EPA be carried out per day, regardless of the circumstances. This pressure appears to add to the already high stress level of residency, and generates feelings of guilt among resident doctors when they are absent from a rotation, for training activities or on vacation. This prompted some participants to say that: "If you don't do an EPA one day, that's a day of residency wasted." Another said: "You feel bad taking days off (for study or vacation), because you're going to miss some EPAs."

Despite pressure from the programs to do the greatest possible number of EPAs, most resident doctors feel they will not be able to complete them all by the end of their residency. Most thus see themselves as experimental subjects on whom a new training and assessment system is being tested, and hope that, in the circumstances, the university authorities will let them finish their residency within the scheduled time, in view of the issues involved in prolonging a doctor's training.

Unfamiliarity with O-SCORE Entrustability Scale

Summary

- A majority of resident doctors say they are not familiar with the O-SCORE Entrustability Scale.
- The pass level for an EPA is not standardized among the programs, and has even changed along the way in some programs.
- Supervising physicians are still not sufficiently familiar with the O-SCORE Entrustability Scale.
    - Several are hesitant to assign a mark of 5/5, and this is ultimately detrimental to resident doctors' progression.
- Training for all staff physicians, where tangible explanations of how to use the O-SCORE Entrustability Scale as well as the impact of scoring out of 5 are given would be beneficial, according to resident doctors.

Evaluation of milestones and EPAs under CBD, as promoted by the Royal College, is based on the Ottawa Surgical Competency Operating Room Evaluation (O-SCORE). This year's poll asked resident doctors whether they were very, quite, or not at all familiar with the O-SCORE Entrustability Scale. In that regard, more than half (51%) of resident doctors said they were not at all familiar with that Scale, seven months after starting their residency under CBD, while 39% said they were quite or very familiar with it. We feel this result is a matter for concern, since assessments using the O-SCORE Entrustability Scale are central to the evaluation of competencies.

Understanding of the O-SCORE Entrustability Scale is thus a problem not only for resident doctors, but also for supervising physicians. Survey respondents told us: "The O-SCORE depends on the assessor more than on my performance. Many hesitate to give a score of 5, because they think that represents a perfect mark."

During the discussion group sessions, resident doctors also told us of major problems in the application of the O-SCORE Entrustability Scale during their assessments. In particular, they mentioned confusion in the assessment of EPAs in relation to the requirements expressed in line with the O-SCORE Entrustability Scale. The description of EPAs and the O-SCORE Entrustability Scale seems to leave no room for interpretation of "entrustability" reflecting the resident doctor's level of progression, or their level of experience. Some staff physicians had even said they would never let resident doctors perform EPAs that they consider – wrongly – to be of a higher level. The other element of confusion associated with the O-SCORE Entrustability Scale comes from the level of autonomy expected from resident doctors in the performance of certain competencies. When the time comes to evaluate an EPA, several staff physicians apparently hesitate to state that the resident doctor is fully autonomous – by checking, as they should, on the Scale that they did not have to be present – for fear that this would be interpreted as their not having fulfilled their supervisory duties and could have medical/legal repercussions in case of medical error.

A last major issue identified with respect to the O-SCORE Entrustability Scale is apparently attributable to what is considered to be a "completed" EPA. Several had been told, for instance, that a 3/5 assessment would be sufficient for an EPA to be considered completed by the Competence Committee, while others were told they needed 4/5, and even 5/5. In some programs, this score even changed over time, sometimes retroactively, thus drastically altering the profile of EPAs completed for several resident doctors. In fact, according to the resident doctors met with, there is no standard within the programs and faculties as to what a completed EPA is, and this complicates follow-up on EPAs, bringing added stress pending the Competence Committee's decision in the overall evaluation of a resident doctor's progression.

All this confusion prompts the resident doctors in Year 3 of CBD whom we met to say faculty do not understand the O-SCORE Entrustability Scale, even 30 months after CBD was launched. But there appears to be hope none the less. Some participants pointed to the positive impact of a presentation explaining how the O-SCORE Entrustability Scale works by a person competent in medical education. Among other things, this step led to the establishment of a common understanding of the application of the O-SCORE Entrustability Scale to the entire program, and to a large improvement in the situation in that program. Explaining to all staff physicians at once that checking the "*I did not need to be present*" box does not mean the staff physician was not in the room, but rather that the resident doctor was autonomous enough to complete the activity on their own, may seem simplistic, but appears to have been beneficial, according to the participants.

Assessments on a day-to-day basis

Summary

- The process for completing an EPA is very demanding, and rests almost entirely on resident doctors' shoulders.
    - Resident doctors are offered little administrative support.
    - Computer tools are flawed.
    - Timelines are still too long.
- Discomfort persists when staff physicians have to be bugged to complete EPAs, and this is likely to be detrimental to future assessments if too much pressure is exerted.
    - Supervisors are chosen on the basis of whether they are good or bad EPA coaches.
    - Some staff physicians make no attempt to hide their disdain for EPAs, and fail to complete the forms properly, and this increases the workload for the others.
- Of resident doctors, 2/3 receive little or no verbal feedback.
    - Feedback is still of poor quality, with little room for constructive comments.

We asked resident doctors whether they had been assessed under CBD since they began their residency, and 96% of respondents said they had been. But the vast majority of resident doctors (85%) said CBD assessments were being carried out alongside the traditional evaluation model. Only 7% of resident doctors who took part in the survey said they had not been assessed under CBD. Moreover, barely 19% of resident doctors were aware that there was a policy in their faculty or department or put in place by the program benchmarking how the different assessment methods are used. In our sessions with the discussion groups, we learned that Quebec resident doctors in Year 3 of CBD are still being evaluated under both systems (CBD and traditional). Indeed, some of them are in favour of this blended practice, because they are able to attain different objectives with the traditional model, in particular evaluation of competencies and skills not covered by the EPAs.

As far as opportunities for assessment for off-service rotations and by individuals other than supervising physicians are concerned, we learned from the poll that a little over half (54%) of resident doctors have had one off-service rotation during the first seven months of their residency under CBD and that 81% were assessed under CBD on those off-service rotations, up 10% from the 2019 survey. As well as being assessed on off-service rotations, 67% of respondents, the same proportion as the previous year, said they were evaluated by senior resident doctors.

While in theory assessments under CBD should lead to increased feedback from supervising physicians, only 2% of resident doctors said they received verbal feedback after each EPA observation. One third often received verbal feedback on their EPAs, while 65% received verbal feedback only rarely or never. These findings are much the same as in 2019. Resident doctors rate at only 5/10 their level of satisfaction with the feedback received on their EPAs. For survey participants, CBD "means additional workload that doesn't improve the feedback received."

According to discussion group participants, the process for having an EPA completed is also very tedious, and administrative follow-up on EPA requests rests entirely on resident doctors' shoulders. Not only do resident doctors have to identify an EPA, find a responsible supervisor, and ensure that the assessment request is forwarded correctly, but they also have the responsibility of following up on EPA requests with those very supervisors. For several, this takes a lot of time and energy that could be spent on study and research. The situation is even more of a problem in off-service rotations or those in the regions. Faculty in those rotation sites do not even have access to the computer programs for assessments, so these rotations are essentially "useless" for progression under CBD. None the less, assessments in off-service rotations have improved over the past 30 months, particularly since a growing number of programs are now subject to CBD. As well as having to follow this whole process, several pointed out that, even when they submit an assessment request and follow up closely with faculty, they also have to maintain a calendar of each EPA submitted so as not the "lose EPAs," because, in some computer systems, assessment requests expire over time, and constantly have to be renewed if resident doctors do not want them to be deleted and to have to start the process over again.

Moreover, the question of timelines for completing EPAs seems to bring the pedagogical value of the exercise into question for several resident doctors, who observed that many staff physicians do not even manage to remember the cases assessed in the following days. Resident doctors have even greater doubts as to the validity of these assessments when they are carried out weeks later.

Also, several participants emphasized to us that they were uncomfortable with having constantly to ask overloaded staff physicians to "fill out the EPAs." In their experience, many faculty simply do not want to fill out EPAs and are not shy about saying they do not appreciate having to fill them out. But resident doctors say it is easy for staff physicians not to be constantly asked to fill out EPAs. All they have to do is not complete them within the prescribed timeframe or produce a few bad assessments for resident doctors to avoid them systematically. This phenomenon means, according to the participants, that several resident doctors tend to go only to faculty who have the reputation of filling out EPAs properly, and that, in turn, overloads those supervisors.

Participants thus described being very uncomfortable as regards the CBD assessment follow-up system. It was observed that by making resident doctors responsible for following up on their assessments, they were being required to badger their staff physicians to complete their assessments constructively, while being aware that if they pushed too hard, their current and future assessments could be negatively impacted. This is finally counterproductive, and it is clear to many that this system should be completed rethought to relieve them of the stress and administrative burden they talked so much about during the discussion groups.

Finally, one of the objectives in the competency assessment process is to increase the amount of feedback between staff physicians and resident doctors. But while the number of opportunities for feedback is indeed rising, it seems that the quality of feedback from the EPA assessment process is not up to resident doctors' expectations. Feedback is described as a checklist, with no actual pedagogical feedback provided. Several resident doctors pointed out to us that there was little or no space in a number of computer systems for faculty to leave comments in the EPA assessment. Also, owing to everyone's work overload, an automatism is becoming embedded in staff physicians' assessments to limit the time it takes to fill out these EPAs, reducing even more the quality of post-assessment feedback and the very validity of the assessment exercise.

Additional administrative burden generated by CBD

Summary

- Almost all resident doctors are now using an e-platform.
  - Half of resident doctors say the platform is not user-friendly.
  - The many platform changes have meant additional administrative burden for resident doctors, at the expense of their study time.
- Timelines for filling out EPAs still vary.
- There is little administrative support to help resident doctors.
  - Some suggest identifying a person dedicated to following up on EPAs for resident doctors.
- There is little involvement from staff physicians on the ground.
  - Resident doctors note the serious efforts made by program directors, but deplore the lack of leverage to help them change things.

Resident doctors noted a considerable increase in the administrative burden associated with implementation of CBD. As to administration of assessments, 94% of resident doctors newly under CBD in 2019-2020 are now administering their assessments on digital media, while the others are using both computer media and hard copy. Nevertheless, close to half (48%) of resident doctors said the platforms are hard to use. Access to the platforms by staff physicians who have never or not often used them seems to be a major issue.

As to frequency of assessments, 43% of resident doctors have had CBD assessments completed a few times each week, while 50% do so a few times per rotation period. But timelines for having an assessment forwarded by a staff physician and entered in resident doctors' files appear to vary greatly. Whereas a little over half (55%) had their assessments entered within a week and 25% after more than a week, the remaining 20% said it varied a great deal, depending on several factors. Finally, 39% of resident doctors said they received no help having assessment forms filled out within a reasonable timeframe, and only 38% said resource persons were available to support them with the additional load generated by managing their assessments and the administrative procedures associated with CBD.

Discussion group participants were also asked about the existence and level of support available in training sites for resident doctors under CBD. Generally speaking, most of the comments from participants spoke to the difficulty of effecting a culture change in their training site.

Nearly all the resident doctors met with pointed to the efforts made by their program directors to facilitate and enhance the transition to CBD. But the participants noted a great deal of resistance and a lack of involvement and engagement from faculty, sometimes even the majority of staff physicians in certain programs, even 30 months after implementation of CBD. Late-career staff physicians are little or not at all involved, while several others collaborate a little more, but to very varying degrees.

What participants especially deplore is the programs' powerlessness to have things changed. They have the impression that program directors have neither the ability nor the power to force staff physicians to do what is necessary for the implementation of CBD, notably with respect to managing EPAs. For one participant: "Staff physicians have to be accountable. If it were mandatory for staff physicians, it would work properly, or it would stop!" Several suggestions were made during the discussions for improving the situation, notably loss of privileges for recalcitrant medical teaching faculty, going as far as loss of the right to teach or supervise resident doctors.

Resident doctors also noted that they receive little administrative support, and would like to see more. For instance, it was proposed to have a designated individual whose task would essentially be to provide individualized follow-up on EPAs – as academic advisors do in some faculty programs outside Quebec – and support resident doctors in their progression.

On the computer front, several mentioned having to contend with numerous changes in methods or platforms in 30 months, during the transition from paper to the electronic version of EPA assessments, and with another upcoming platform change. In fact, several resident doctors have to enter personally the EPAs previously filled in via software, taking time and energy that could have been spent studying or carrying out other academic tasks.

CBD and its impact on Quebec resident doctors' mental health

Summary

- Resident doctors express a great deal of distress with respect to their experience with CBD.
  - They report numerous symptoms of exhaustion, insensitivity, and anxiety.
  - 2/3 of them say they are disheartened by the administrative burden involved in CBD.
- 39% of resident doctors present signs of depression.
- Several resident doctors are concerned that CBD can prolong the duration of their residency.

In view of the administrative and emotional overload that was raised by resident doctors under CBD since its introduction, the FMRQ wanted this year to add a component concerning mental health, inspired from a survey conducted by the Canadian Medical Association (CMA) in 2017.

The CMA survey had at that time shown that 26% of physicians in Canada were suffering from considerable emotional exhaustion, 15% from a high level of depersonalization, 34% from depression, and 8% had had suicidal thoughts in the 12 months preceding the poll.

The study had confirmed that burnout, depression and suicidal ideation rates were higher among resident doctors than practising doctors. In fact, according to the CMA, resident doctors were 1.48 times (or 48%) more likely to experience burnout, 1.95 times (or 95%) more likely to be fighting depression, and 1.72 times (or 72%) more likely to have suicidal thoughts at some point during their lives.

In view of these findings, the FMRQ decided to try to measure the mental health of resident doctors newly under CBD.[5] As to emotional exhaustion, 42% of survey respondents said they felt exhausted by their work at least once a week; 22% had become more insensitive toward people; and 43% felt greater anxiety than they perceived in their colleagues who are not under CBD. Finally, 67% of respondents said they felt disheartened, at least once a week, by the administrative burden generated by CBD.

In addition to burnout, the survey asked resident doctors newly under CBD about loss of interest in work-related activities or pastimes, whether they felt discouraged, depressed, or despairing, and whether they had had suicidal thoughts in the past six months. In that regard, some 39% of respondents under CBD said they had felt discouraged, depressed, or despairing for at least two weeks in a row, while 39% said they had experienced loss of interest in their work-related activities or pastimes for at least two weeks over the previous six months. Finally, 7% of respondents under CBD had had suicidal ideation in the previous six months.

A number of statements made by resident doctors in the context of the 2019-2020 survey clearly illustrate their distress with respect to implementation of CBD in their program and the little perceived value added. For instance: "I'm not a better clinician because I've had an EPA completed. I'm a better doctor if I'm exposed to different situations, including very unstable ones, in an environment conducive to learning that does not exhaust resident doctors. Our training should take our mental well-being into account more, as is clearly not the case with EPAs, which are merely a tiring additional task that makes everyone uncomfortable."

[5] In view of the delicate nature of discussions concerning mental health, specific questions in that regard were only asked in the anonymized survey of resident doctors newly under CBD. But discussion group participants readily expressed significant distress concerning the administrative burden and cognitive load imposed on them under CBD, as reported in the other sections, which include the qualitative analysis of group discussions, particularly on "Overall views on CBD," which follows.

Overall views of CBD

Summary

- The overall perception of CBD is mainly negative.
  - It's a good theoretical model, but hard to apply in practice.
  - CBD as currently applied is described as futile.
- In theory, there are more opportunities for feedback, but according to respondents this feedback is still of poor quality.
- Resident doctors see little added pedagogical value, for a much heavier workload and cognitive load.
  - All resident doctors have the impression of carrying out two parallel residencies, one applied to reality and the other in line with the artificial requirements associated with CBD.
  - Some even believe they will be less well trained than their non-CBD colleagues.

To get the overall view of discussion group participants, we invited resident doctors to use a single word to describe what they thought of CBD. The word cloud below speaks volumes in that regard.

The vast majority of participants in the four discussion groups used negative terms to describe CBD, from "tiresome" and "exhausting" to "utopian" and "unnecessary," as well as "intimidating" and "daunting." Two participants at best described CBD as "interesting." In short, most participants had a relatively negative view of CBD 30 months after its introduction.

Participants in the four discussion groups were then invited to share their general opinion on the development of CBD since their residency began. While a majority of discussion group participants held a negative view of CBD, several saw a few improvements that they attributed to the acquisition of experience with CBD, and to hard work from program directors and some staff physicians, but they stressed that several fundamental issues were not dealt with. Resident doctors noted that there were more opportunities for feedback but questioned the value of such feedback in the context of their learning.

Participants in each of the discussion groups were also invited to share their views on the general structure of CBD, to clarify their perspective on this learning model. For all participants, CBD is a sound theoretical concept, but its implementation is a problem. Indeed, the idea of standardizing the competencies to be acquired seems appropriate and, according to several of them, helps detect more quickly those resident doctors having more difficulty with certain competencies, so they can be accompanied more closely.

None the less, while the basic goals of CBD, which consist in measuring specific competencies and increasing feedback, appear noble to them, many resident doctors emphasized that they were still having a lot of trouble seeing the added value of this approach in its concrete application, in view of the burden imposed on them by CBD, particularly in managing EPAs and assessments. In that regard, the comments of the usefulness of CBD were rather scathing, prompting some to say that there was no learning arising from CBD or that CBD was not bringing them anything extra. A number said they will be less well prepared for autonomous practice than their colleagues who are not under CBD, owing to the time spent contending with the requirements of CBD rather than studying.

In the discussion groups, the resident doctors brought up the concept of parallel residencies. First, there is the regular residency, during which they become progressively autonomous in their specialty through patient management and the numerous skills and competencies they acquire naturally. On the other hand, there is their residency under CBD, which represents a source of stress and a significant administrative burden, with its share of inconveniences and very few pedagogical benefits.

The operation of CBD and its shortcomings lead to wasted time and learning opportunities, they say, while increasing the burden and stress on resident doctors, who are already overloaded by residency in general. In fact, one participant described their experience of the past 30 months under CBD as follows: “You complete EPAs for the sake of it, but ultimately, it makes no difference to residency.”

The added value from CBD is therefore widely called into question by resident doctors halfway through their residency. Some even said they are concerned for future cohorts, who might not benefit from the same leniency enjoyed by the first groups to experience CBD.

CONCLUSION

In short, it has to be acknowledged that the introduction of CBD in Quebec remains problematic three years after the Canada-wide transition by the first two programs in 2017. The FMRQ is duty bound to continue raising these unresolved difficulties.

Some progress was nevertheless noted. In fact, most resident doctors now have access to training on CBD at the start of residency, there have been slight improvements in resident doctors' understanding of EPAs, assessments are being carried out increasingly early in residency, and EPAs are easier to complete on off-service rotations – often because of the transition to CBD by a growing number of programs.

Also, a number of elements could certainly be better explained to resident doctors and supervising physicians, particularly with respect to the use of EPAs and milestones, the O-SCORE Entrustability Scale, and operation of the Competence Committee. We note especially that the understanding and application of all these theoretical concepts remain completely different from one university, program, training site, and supervising physician to another. A great deal of work also remains to be done with respect to the CBD assessment and progression process. Curriculum mapping—matching EPAs with rotations—and the clarity of statements accompanying EPAs and milestones should be improved so as to simplify resident doctors' task. Also, most resident doctors noted that the number of observations required per EPA was still excessive. Several questioned, too, the match between EPAs and the reality of their practice in their specialty, and that is a matter for some concern. As to the administrative burden generated by CBD, implementation of a data system appears to have been completed now, although its use remains difficult for nearly half of resident doctors. In addition, we observe that a minority of resident doctors receive the administrative support they need, especially when it comes to obtaining their assessments from supervising physicians within a satisfactory timeframe.

The overall promise of CBD was to increase the quality of feedback given to resident doctors, to lead to individualized learning plans based on Competence Committee decisions, and, ultimately, to introduce a coaching mentality and growth mindset in postgraduate medical education. Clearly, this does not always happen, and that should be cause for concern for the future. According to the survey and our discussion groups, although opportunities for observation and feedback are increasing, direct feedback actually completed is infrequent, and when it does happen, it takes considerable effort from resident doctors to obtain it.

Furthermore, quality feedback that really makes a difference for their learning is extremely rare, particularly since the EPA format leaves little room for constructive comments. Even when resident doctors successfully generate a considerable quantity of EPAs and observations, integrating all these assessment data follows a rather opaque process at the Competence Committee, and the decisions reached there remain vague and, above all, generally of no pedagogical value.

Two worrisome trends that are starting to be seen with implementation of CBD

The first trend is the perversion of the fundamental concepts of CBD to the detriment of resident doctors, and the appearance of performance-related language in discussions concerning this approach. Resident doctors increasingly perceive their list of EPAs as a checklist to be completed as quickly as possible. They feel to be in competition with one another, and develop strategies to check off all their EPAs as efficiently as possible, particularly by identifying supervising physicians most likely to have them pass an EPA without asking too many questions. While this seems to represent a trend for resident doctors to want to "play the system," it should be remembered that this stems from strategies to avoid "failing" EPAs, "failing" rotations, and having to prolong the duration of their residency. This fear seems warranted, because it arises from clear threats from a number of program representatives and competence committees reported to us by resident doctors.

When resident doctors mention living in fear of missing an opportunity to complete an EPA when going on vacation, going on their academic days, being on a research rotation or regional rotation (where supervising physicians do not have access to electronic platforms), or simply when they do not think of it at the time – that is rather worrisome. This sad state of affairs can be summarized as **missed opportunities for observation**.

When resident doctors say they have the impression of missing out on clinical experiences really relevant to their learning and their future careers or not having the time to study and prepare their clinical cases, because they are too busy reviewing their EPA list, planning how best to have them completed, and chasing after supervising physicians to have them fill them out, this is just as worrying. This can then be described as **missed opportunities for learning**.

When resident doctors told us they had the impression of experiencing two residencies at the same time, a "regular" one like their predecessors and another under CBD where they have continually to juggle between these *missed opportunities for observation* and *missed opportunities for learning*, that is disconcerting. Observing and learning should be two complementary notions, and learners should never be faced with the dilemma of having to choose between the two. **We cannot fail to be concerned in the face of this observation.**

The second trend, as discussed in our previous reports and confirmed again this year, is the appearance of an extremely high level of stress, anxiety, and exhaustion with the higher cognitive load that the introduction of CBD in residency programs entails. When one considers all these associated concepts jostling for space in resident doctors' minds, including the almost unhealthy quest for EPAs, this "EPA marathon," and the dichotomy between the *lost opportunities for observation* and *lost opportunities for learning*, it is not surprising that resident doctors should thus quickly become overloaded and exhausted, powerless and discouraged, then jaded and resigned. That is certainly not what was hoped for from this new learning method. We are likely very far from coaching and the growth mindset, to judge by what Quebec's resident doctors have been telling us for the past three years.

Finally, the danger is high that resident doctors will simply become cynical toward CBD when one sees the mismatch between the considerable effort put in by everyone since CBD was introduced and the meagre benefits arising from it. The general impression can apparently be summarized in a lack of gains on the pedagogical front, as if the application of CBD by the programs runs completely contrary to the philosophy of the theoretical model developed by the Royal College. In fact, instead of adopting a holistic approach to the acquisition of competencies based on the coaching relationship using EPAs and milestones as guides, the training programs have decided to impose lists of EPAs on resident doctors as checklists to be completed like machines – essentially an automation of the generation of assessment data – with no advice as to general progression to go along with it.

In using EPAs as individual elements for assessment, we are currently fragmenting the general notion of competency to such an extent that sight is lost of its concept and underlying goal, that of ensuring that resident doctors acquire fundamental competencies in their respective specialties. In the absence of a holistic integration of these assessment data in longitudinal planning of learning conveyed transparently to the learner, it is not surprising that the learning model may appear meaningless to many resident doctors.

Appearing to emerge from observations from the survey and discussion groups is the existence of several contradictions detrimental to CBD's chance of embodying a positive change in postgraduate medical education. First, there is that contradiction between the theoretical principles of CBD and their application on the ground; that significant gap between the effort needed to have an EPA completed and resident doctors' dissatisfaction with the feedback they receive; those negative impacts in the form of *lost opportunities for observation* and *lost opportunities for learning*; and finally, what seems to become a gulf between resident doctors' needs through this demanding process of implementation of a new evaluation model and what they are given by way of administrative and psychological support. All these factors are most unfortunately likely to lead to a general impression of pedagogical futility and to become a source of exhaustion for resident doctors and faculty.

Much still remains to be done, it seems, for the situation of resident doctors under CBD to improve on a day-to-day basis, and, above all, before we can conclude that the benefits of the new evaluation method outweigh the disadvantages. As our resident doctors say: "*CBD takes a lot of time from all staff, and doesn't improve the quality of teaching. In fact, it adds a layer of stress and an additional task, and doesn't help enhance our competencies*."

It is essential that everything be done to change the current impression of futility with respect to CBD, and to minimize the negative impact of the first years of implementation of CBD on a generation of resident doctors already showing signs of exhaustion. For the moment, the implementation model is neither up to the promises nor even a pedagogical advance; rather, it represents a step backward, particularly as regards resident doctors' wellness. Many promoters of CBD in Canada have used since the 2017 launch the allegory of the ocean liner leaving port to discourage any criticism of the implementation of CBD that could have led to a delay in its deployment. It has to be acknowledged now that a significant course correction effort is now needed for what could well be a ship adrift. It would be irresponsible to sit by and do nothing, like passengers who merely continue to listen to the orchestra play while denying that the ship may be going down.

The FMRQ has tried for three years to contribute constructively to enhancing the implementation of CBD, by proposing solutions that most often have appeared to be taken on board. The FMRQ still wants to contribute to the general reflection on CBD, in particular by bringing forward the following recommendations.

RECOMMENDATIONS

1) **Training of resident doctors**
   Improve resident doctors' training with respect to CBD by including in it elements that are more concrete, such as the use of EPAs and milestones on the ground, use of the O-SCORE Entrustability Scale, and operation of competence committees.

2) **Training of supervising physicians**
   Provide appropriate, homogeneous training for supervising physicians with respect to the use of EPAs and milestones on the ground, and use and proper interpretation of the O-SCORE Entrustability Scale, reflecting the degree of autonomy expected from resident doctors in line with their level.

3) **Clarity of EPAs**
   Clarify the statements accompanying EPAs and milestones as well as the expectations associated with each EPA, in particular though concrete examples, to facilitate their understanding and consistent use on the ground.

4) **Mapping**
   Provide appropriate mapping between expected competencies and training rotations, for all stages in CBD progression; present this mapping to resident doctors in the form of a user-friendly schedule.

5) **Online platforms**
   Put user-friendly online platforms in place that enable resident doctors to monitor their progression easily, without having to generate their own home-made follow-up documents.

6) **Number and relevance of EPAs**
   Put in place a process for continuous reassessment of the number and relevance of EPAs, in order to establish a realistic number of observations for each EPA and ensure a match between EPAs and the reality of practice in the various sites, while reaffirming the importance of showing flexibility.

7) **Feedback**
   Put local mechanisms in place for quality control on feedback, to ensure that resident doctors always receive immediate feedback, in person, that is pedagogically relevant following EPA observations.

8) **Documentation of EPAs**
   Put administrative structures in place to ensure that supervising physicians document EPA observations in a timely manner, particularly by making them accountable through performance objectives or other measures from the authorities concerned, including hospital departments as necessary.

9) **Competence Committee and coaching**
   Enhance the transparency of the decision-making process within the Competence Committee, particularly by adequately and consistently documenting its decisions and sharing them with resident doctors, ideally at a meeting with a coach who would add advice with respect to longitudinal progression.

10) **Competency**

Put communication strategies in place with respect to programs, supervising physicians, and resident doctors, to reinforce the fact that the notion of competency as a goal of the medical training process is based on a holistic approach (growth mindset) rather than an automated count of completed EPAs; this would help reduce the prevailing impression of pedagogical futility and initiate a genuine culture change that should accompany implementation of CBD.

11) **Prolonging residency**

Put communication strategies in place with respect to programs and universities to ensure that no resident doctor has the duration of their residency prolonged simply as a result of missed opportunities for EPA observation, and convey this impossibility to the programs, competence committees, and resident doctors.

12) **Cognitive overload and mental health – unexpected impact**

Put in place comprehensive measures to reduce the detrimental effects of implementation of CBD in our training programs on resident doctors' mental health, particularly by acknowledging the exhaustion of resident doctors and faculty, and by trying to reduce the cognitive load associated with completing EPAs.

13) **Progressive implementation and culture change**

Permit, over the coming years, more progressive, flexible implementation of CBD in training programs, until such time as the culture change is complete, in particular by ensuring the removal of the rigid constraints associated with "perfect" implementation of CBD and reinforcing the usefulness of learning based on overall competencies.

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