FÉDÉRATION DES MÉDECINS RÉSIDENTS DU QUÉBEC

Profile of Competence by Design – Year 4

The urgency of more closely harmonizing CBD strengths with the educational and political ecosystem on which the organization of medical residency in Quebec is based

Report on the surveys conducted by the *Fédération des médecins résidents du Québec* (FMRQ) on Quebec resident doctors who started in CBD programs in July 2020 and those halfway through residency under CBD in February 2021

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NOTA BENE:

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

TABLE OF CONTENTS

INTRODUCTION

Since July 2017, the Royal College of Physicians and Surgeons of Canada (RCPSC) has proposed a genuine revolution in postgraduate teaching in medicine and in assessment methods for resident doctors' progression. The RCPSC itself developed a model, known as Competence by Design (CBD), inspired by the competency-based pedagogical approach. The main feature of this interpretation of the competency-based approach, in its theoretical basis as proposed by the Royal College, is to place the emphasis on assessing the acquisition of pre-set competencies through observation and longitudinal feedback.

Since the first cohort began residency under CBD in July 2017, the FMRQ has conducted studies and surveys aimed at evaluating the impact of the implementation of this pedagogical model based on the experience of resident doctors in CBD programs. In 2018, 81% of the 32 resident doctors in their first year of postgraduate education in the first two programs that had begun under CBD took part in semi-structured interviews which led the FMRQ to draw up 15 recommendations for enhancing the CBD implementation process in the programs concerned. In early 2019, the FMRQ wanted to gauge 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 Federation drew up a questionnaire which it administered to residents in each of the CBD programs. This led the FMRQ to conclude that much remained to be done before implementation of CBD could be said to have had a degree of success (Report on Year 2 (2018-2019)). Last year, the Federation decided once again to poll resident physicians newly enrolled in all CBD programs, through a questionnaire intended exclusively for them. The FMRQ was thus able to establish a more accurate profile of the reality experienced by residents newly enrolled in CBD programs by comparing the findings with those of the previous years' polls. The Federation also complemented its analysis with discussion groups held with resident physicians who were halfway through their residency in the first programs following the CBD model. These findings led us to conclude that the reform not only brought no pedagogical benefits, but also generated significant negative collateral impact, particularly on resident doctors' wellness and mental health. These unfortunate observations, contained in the Report on Year 3 (2019-2020), indicated that the introduction of CBD in Quebec remained highly problematic three years after the 2017 launch. Much thus remained to be done to ensure that the situation of resident doctors under CBD improved on a day-to-day basis in a context of significant negative impact seen through evidence-based observation and in view of the lack of any real pedagogical benefits as promised by the sponsors of this new learning method.

Profile of Year 4

This year, the FMRQ decided once again to poll resident doctors newly enrolled in CBD programs, using the questionnaire developed and used last year (2019-2020), in order to validate (or invalidate) our findings. This Report presents the highlights of that survey, and reports on the implementation of CBD with resident doctors who started under CBD in Quebec in July 2020.

The Federation also wanted to verify the situation with members halfway through programs which they began under CBD, with a larger contingent this year. The FMRQ therefore conducted a new poll of resident physicians halfway though their postgraduate education program under CBD in 2020-2021, with questions inspired by those used in the discussion groups with residents at the halfway point in 2019-2020. The highlights of this second survey are integrated in this Report.

NOTE ON METHODOLOGY

Survey of resident doctors newly under CBD

The questionnaire used for the survey of resident doctors who started in CBD programs in July 2020 was drawn up following consultation with representatives of the FMRQ's Academic Affairs Committee – Specialties. The questions were based on the questionnaire administered to the 2019-2020 cohort, and on the recommendations made by the FMRQ in spring 2018 and the questionnaire sent out to the 2018-2019 cohort. The poll aimed to gauge how implementation of CBD had evolved since its introduction in July 2017, and its impact on resident doctors newly under CBD in 2020-2021. The questionnaire comprised some 40 questions, including some calling for extended answers. It was also agreed to administer this questionnaire at the same time of year as in 2020, that is, after seven months of exposure to CBD for the resident doctors being surveyed.

A total of 520 resident physicians who started in one of the CBD programs in 2020-2021 received email invitations to take part in the survey. In addition to the specialties covered by last year's survey,[1] residents in all the new programs subject to CBD in July 2020 were added.[2] The invitation to take part in the survey was sent out to the targeted resident doctors on February 12, 2021, and followed up with three email reminders, sent on February 19 and 26, and March 4, 2021. The data collection period ended March 8, 2021. The survey participation rate was 38.5% (200/520), with a margin of error of 5%, 19 times out of 20.

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1 **Programs concerned before 2020-2021:** Anesthesiology, Otolaryngology/Head and Neck Surgery, Emergency Medicine, Forensic Pathology, Medical Oncology, Nephrology, Surgical Foundations, Urology, 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.

2 **Eight new programs joined the CBD model in July 2020:** Pediatric Cardiology, General Surgery, Orthopedic Surgery, Plastic Surgery, Nuclear Medicine, Physical Medicine and Rehabilitation, Pediatric and Adult Neurology, and Psychiatry.

Survey of resident doctors halfway through their residency under CBD

The findings of the discussion groups held in early 2020 helped us gain a clearer understanding of the main issues experienced by resident doctors halfway through their postgraduate education under CBD. The study was, however, limited by default to the two programs that began under CBD in July 2017, and we talked with 20 or so participants. In order to validate last year's qualitative study, the FMRQ developed a questionnaire based on the observations published in its Year 3 report in 2020, to validate certain issues previously raised and gauge quantitatively the scope of those issues, as applicable, by resident doctors halfway through their residency, in 2020-2021, in CBD programs. Note that by halfway, we mean the point representing half of the time normally allocated to complete residency in those programs under CBD, whether this involves a three- or a five-year program.

The questionnaire developed for this survey was meant to be short and simple, and comprised some 10 questions, measuring more than 20 issues that emerged last year. This survey was administered at the same period chosen for the discussion groups last year, in February. In all, 203 resident doctors halfway through one of the programs under CBD in 2020-2021 received an email invitation to take part in the survey. The invitation was sent to the targeted residents on February 12, 2021, and followed up with three email reminders, sent on February 19 and 26, and March 4, 2021. The data collection period ended March 8, 2021. The 2020 survey participation rate was 40.4% (82/203), with a margin of error of 8%, 19 times out of 20.

Note that the Internal Medicine core curriculum program, which was added in 2019 to the list of programs newly under CBD, alone accounts for more resident doctors than all the programs that had started under CBD during the first three years of implementation. This had a significant impact on the number of participants from this program in this year's survey, since these resident physicians were in February 2021 halfway through their three-year program. In fact, PGY-2s in Internal Medicine represented 77.5% of survey participants. Note that the findings in this Report are presented for respondents as a whole in Quebec, with no specific weighting by faculty.

FINDINGS BY THEME

Survey of resident doctors newly under CBD

Training of resident doctors

Summary

- Almost 75% of resident doctors receive training on CBD during their first three months of residency, much the same proportion as last year.
- Almost 2/3 (62%) of resident doctors are satisfied with the quality of the training, a marked improvement over previous years (38% in 2019).

Since CBD was first introduced, the FMRQ has been recommending that dissemination of information for and training on CBD take place before or at the very beginning of the academic year. The Federation had also recommended that it be given to resident doctors, supervising physicians, and senior residents (who are not necessarily in a CBD cohort) in the programs concerned.

Some 75% of resident doctors received training on CBD at the start of residency. Note than in 2021, the survey revealed that 39% of all residents polled had received training in CBD before the beginning of the academic year, while 35% of residents newly under CBD in 2020-2021 had taken CBD training in their first rotation periods. Last year, 40% had received training before starting their residency under CBD, and 33% at the beginning of their residency, so we can conclude that there appears to have been no real improvement in access to training at the start of CBD over the past two years.

To judge by these findings, there is still work to be done before all resident doctors beginning in programs under CBD receive training on CBD at the start of their residency. We nevertheless observe a considerable improvement in the content of the training provided, with a growing proportion of residents over the past three years seeming to be generally satisfied with it (62% in 2021, 54% in 2020 vs 38% in 2019).

Curriculum mapping and acquisition of competencies

Summary

- Enhancement of EPA curriculum mapping (76% vs 61%).

Aside from the quality of training, the survey measures specific elements relative to the operationalization of CBD on a day-to-day basis with resident doctors newly under CBD. The question raised in this section concerns the organization of CBD over time. This often involves matching EPAs with rotations conducive to the acquisition of the activities associated with them—known as curriculum mapping. In this regard, the FMRQ asked resident physicians newly under CBD whether curriculum mapping had been provided for them. Of 2020-2021 respondents, 76% replied in the affirmative and 20% in the negative, with 4% saying they did not know. Last year, by contrast, 61% of resident doctors newly enrolled in CBD programs had said they had received such mapping, 29% had not, and close to 9% said they did not know. So there is a considerable improvement on this front.

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 evaluation. Indeed, this practice is part of the programs' tasks, in anticipation of the implementation of CBD, as recommended by the Royal College. But we can conclude that this practice is not yet widely followed, despite the improvement seen this year. One quarter of resident doctors newly under CBD are still not benefitting from mapping between the EPAs to be carried out and their rotation grids.

EPAs and milestones on a day-to-day basis

Summary

- Slight improvement in understanding of EPAs and milestones.
- A growing proportion (almost 60%) of resident doctors consider the number of EPAs and milestones to be excessive.
- Only half of resident physicians believe EPAs and milestones are representative of their future practice.

Generally speaking, resident doctors have a sound understanding of how CBD works, including EPAs, milestones, and the number of observations required. Resident physicians were asked whether the assessment criteria for EPAs and individual milestones had been presented to them and clearly defined. A slight improvement was seen in this regard: 39% answered this question in the affirmative this year, up from 32% in 2020. But we are still a long way from the objective.

While the number of EPAs and milestones has been revised downward in some programs in the past few years, this issue appears still to be important for resident doctors. We asked them about the number of EPAs, milestones, and observations required in each of the programs. No improvement is seen in this regard, since the majority of residents still find that the required number of milestones (58%), EPAs (59%), and observations per EPA (73%) is excessive. In fact, the proportion of resident physicians newly under CBD who find the required number or EPAs excessive has increased since last year (59% in 2021 vs 51% in 2020).

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 sites. The proportion of residents stating that the EPAs and milestones specific to their specialty under CBD accurately reflected practice in their main training sites has not changed since last year: half (52%) of resident physicians said this was the case, much the same percentage as last year (49%). But a smaller proportion of residents than last year said this was not the case this year (22% vs 37% last year), and a larger proportion did not know whether the EPAs and milestones were an accurate reflection of their future medical practice (26% vs 14%).

So EPAs can be seen still to be the most problematic element of CBD. A growing number of resident doctors feel the number of EPAs and milestones is excessive, and only half feel these EPAs are relevant to their future practice. It is therefore imperative that Competence by Design move away from the rigid EPA framework and that efforts be focussed on the actual acquisition of competencies rather than on the mere mathematical measurement of the completion of fragmented tasks comprising part of the competencies to be acquired.

Assessment process and Competence Committee

Summary

- Improvement in overall familiarity with the progression and assessment system under CBD compared with last year.
- Marked uncertainty persisting with respect to promotion and above all access to the certification exam.

Once curriculum mapping is ideally implemented and the criteria are presented and understood, the other central element on a day-to-day basis for resident physicians under CBD is the assessment and progression process.

When we asked resident doctors whether the overall CBD assessment and progression process had been clearly explained to them, 52% of them answered "yes," and 42% "partially," compared with 42% and 53% last year. Moreover, 49% stated that the role and operation of the Competence Committee were explained to them, compared with 40% last year, and 43% said they were partially explained, as against 46% last year. We thus observe a slight improvement in overall familiarity with the CBD assessment and progression system, but Competence Committee decisions and integration of assessment within the regulatory framework for starting out in practice remain unclear. Four years after the introduction of CBD, we could legitimately have expected much more significant improvements. 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.

Unfamiliarity with the O-SCORE Entrustability Scale

Summary

- Improvement in familiarity with the O-SCORE Entrustability Scale (50% vs 39% last year).

Assessment of milestones and EPAs under CBD, as promoted by the Royal College, is based on the Ottawa Surgical Competency Operating Room Evaluation (O-SCORE) Entrustability Scale or its equivalent. The last two years' polls asked resident doctors newly under CBD whether they were very, quite, or not at all familiar with the Entrustability Scale. In that regard, 43% of residents said they were not at all familiar with that Scale, seven months after starting their residency under CBD, compared with 51% last year, while 50% said they were quite or very familiar with it, up from 39% last year. Despite the improvement observed this year, we feel the fact that so many resident doctors have not mastered this Scale four years after its introduction is a matter for serious concern, since assessments using the O-SCORE Entrustability Scale are central to the model proposed by the Royal College.

Assessments on a day-to-day basis

Summary

- Almost all survey respondents were assessed under CBD, but 80% reported that the "traditional" assessment mode is still used, to offset the shortcomings of assessment under CBD.
- Assessment under CBD in off-service rotations appears to be stable, with 79% of respondents assessed under CBD.
- Also, 2/3 of resident doctors were assessed by senior residents.
- More than 60% of resident physicians only rarely or never receive feedback on their EPAs, a percentage that has held steady for three years.

We asked resident doctors whether they had been assessed under CBD since they began their residency, and 97% said they had been, compared with 96% last year. But the vast majority of residents (88% vs 85% last year) 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 were assessed only under CBD this year. Finally, for those assessed under both models, 80% said the traditional evaluation model still took precedence over the CBD model. This is not surprising, in view of the shortcomings observed since 2017 in terms of pedagogical benefits with the CBD model.

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 62% of resident doctors had had one off-service rotation during the first seven months of their residency under CBD, up from 54% last year. Also, 79% were assessed under CBD on those off-service rotations, much the same percentage as last year (81%). As well as being assessed on off-service rotations, 69% of resident doctors, much the same proportion as the previous year (67%), said they were evaluated by senior residents.

In theory, more assessments under CBD should lead to increased feedback from supervising physicians. But only 6% of residents said they had received verbal feedback after each EPA observation, 31% often received verbal feedback on their EPAs, while 63% received verbal feedback only rarely or never. These findings are much the same as in 2019 and 2020, so we can conclude that there was no significant increase in the past three years in the frequency of verbal feedback after EPA observations given to resident doctors newly under CBD. Nevertheless, this was one of the main pedagogical benefits promised to resident physicians when the assessment reform was introduced by the Royal College. We are therefore forced to conclude that the model has failed with regard to the anticipated benefit of improving feedback.

The low frequency of post-observation feedback no doubt partially explains why resident doctors once again this year award only a paltry 5/10 to their level of satisfaction with the feedback received on their EPAs.

Additional administrative burden generated by CBD

Summary

- Resident doctors noted a considerable increase in the administrative burden with CBD.
- Almost all resident physicians are now using an e-platform, but 41% say it is not user-friendly.
- Average wait time for an assessment to be completed by the supervisor is 13 days.
- One third of resident doctors say they do not receive any support for filling out evaluation forms within a reasonable time.
- There has been a marked decrease (27% vs 38%) in administrative support staff to help resident doctors.

Resident doctors noted a considerable increase in the administrative burden associated with implementation of CBD. As to administration of assessments, almost all residents newly under CBD in 2020-2021 are now administering their assessments digitally. None the less, 41% said the platforms are not user-friendly, a lower proportion than last year (48%). Access to the platforms by staff physicians who have never or not often used them seems to be one of the main issues.

As to frequency of assessments, timelines for having an assessment forwarded by a staff physician and entered in resident doctors' files varied greatly last year: a little over half (55%) had their assessments entered within a week and 25% after more than a week, while the remaining 20% told us it varied a great deal, depending on several factors. This year, we asked resident physicians newly under CBD to tell us how many days it took for an assessment to be forwarded by a faculty member and entered in their file. They responded that on average it took 13 days. Also, 33% of resident doctors (vs 39% last year) said they received no help having assessment forms filled out within a reasonable timeframe, and only 27% said resource persons were available to support them with the additional workload generated by CBD, down considerably from last year's 38%.

CBD and its impact on Quebec resident doctors' mental health

In view of the cognitive overload, associated in particular with administrative pressures, that had been raised by resident doctors under CBD since its introduction, the FMRQ added a component concerning mental health.

As to burnout, 29% of residents newly under CBD in 2020-2021 felt exhausted by their work at least once a week, and 14% of respondents had become more insensitive toward people.

In addition to two elements measured to assess burnout levels, the survey asked resident doctors newly under CBD about their level of depression as manifested by loss of interest in work-related activities or pastimes, or whether they had felt disheartened, depressed, or despairing for at least two weeks in a row. In that regard, some 24% of respondents under CBD said they had felt disheartened, depressed, or despairing for at least two weeks. Also, 25% of respondents said they had experienced loss of interest in work-related activities or pastimes for at least two weeks over the previous six months.

Finally, the survey asked them whether they had had suicidal thoughts. In all, 9% of respondents under CBD had had suicidal ideation, and for 77% of that number, this had occurred in the six months preceding the poll.

Overall level of satisfaction with CBD

In closing, we asked resident doctors newly under CBD to rate their level of satisfaction with CBD on a scale from 1 to 10 (10 representing the highest satisfaction level). On average, resident physicians newly under CBD rated their satisfaction level with CBD at 3.1 out of 10, one of the lowest scores observed since we began using that scale in our surveys and consultations (2018).

Survey of resident doctors halfway through residency

Concerns with respect to the number of EPAs, milestones, and observations

The number of elements to be assessed by teaching physicians is one of the main issues raised by Quebec resident doctors with respect to CBD. Last year, most residents stated that the number of EPAs, milestones, and observations was excessive. To start the 2020-2021 survey, residents halfway through their residency were invited to indicate whether there were too many, just enough, or not enough EPAs, milestones, and observations at this stage in their postgraduate education. In short, 87.8% of resident doctors surveyed felt there were too many EPAs; 85.4% said there were too many milestones; and 86.6% said there were too many observations to be completed at this stage. Clearly, the residents consulted felt there were too many EPAs, milestones, and observations to be completed under CBD.

One of the main concerns with the number of EPAs appears to stem from the erroneous information often conveyed in training sites whereby resident doctors have to have completed a prescribed number of EPAs as established by the Royal College's program committees in order to progress and successfully complete their residency. But when we asked respondents the percentage of EPAs they would have actually completed at the end of their residency, compared with the objectives presented by their programs, only 7.3% said they would be able to complete them all. In fact, resident doctors said on average that they should be able to complete around 70% of the "required" EPAs. The Royal College's recommendation to programs operating under CBD that they be flexible with respect to the prescribed number of EPAs and to see EPA targets as benchmarks, rather than absolute objectives, does not appear to have been taken on board by the programs.

Main observations concerning CBD core issues halfway through residency

The core element of the survey involved asking resident doctors currently halfway through their residency under CBD whether they agreed with a series of statements made last year by their counterparts one year ago. We focussed mainly on everything about EPAs, since they were the problem element most frequently mentioned by residents. Also, considering that most of the remarks gathered last year tended to be negative, we decided to add more positive statements to the list of issues measured, to help us be more objective and avoid influencing the responses. In that way, we also hoped to limit the attempt often observed in survey respondents to repeat the same mechanical answers when issues raised pointed in the same direction.

Concerning the number of EPAs, 81.5% of resident doctors said they "spent their time running after EPAs to be completed," instead of taking advantage of all the learning opportunities residency offers. Also, 77.8% agreed that they would not have the time to complete all the EPAs by the end of their residency, as previously confirmed by the question concerning the expected percentage of EPAs to be completed by the program by the end of residency.

Under the theoretical model of CBD and its assessment through EPAs, this pedagogical approach is expected to increase the amount of feedback between teaching physicians and resident doctors. That is why we asked whether residents agreed or disagreed that the more EPAs they did, the more feedback they received, and the more they learned. But that is not at all the case, according to resident physicians halfway through their residency under CBD in Quebec in 2020. In fact, 91.4% disagreed with the statement. This central premiss of CBD whereby there is a correlation between the number of EPAs carried out and the amount of feedback received, and therefore the number of learning opportunities, is simply not valid. Worse still, all respondents (100%) said they completed EPAs solely because they were required to do so, but that in their view it made little difference in their preparation for exams, or their future practice.

Moreover, pressure from training sites to complete all EPAs seems to have many consequences for the health and wellness of resident physicians under CBD in Quebec. We tried to measure the impact of this pressure by asking residents whether they felt uncomfortable taking study or vacation leave, at the risk of missing opportunities to complete EPAs. In answer to that question, 37% of resident doctors halfway through their residency under CBD in Quebec in 2020-2021 responded in the affirmative. This points to the anxiety observed in residents under CBD in Quebec in the past few years.

The operationalization of EPAs on a day-to-day basis is an issue for most resident doctors halfway through their residency under CBD, with 92.6% saying they rarely if ever have the chance, with their teaching physicians, to plan ahead for EPAs and milestones to be completed in a given period. Also, 87.7% said the wording of several EPAs was not designed to be really helpful on a day-to-day basis. Furthermore, 81.5% of respondents found it impossible to know all the EPAs by heart, so as to be able to recognize them and carry them out when the opportunity arose. Finally, 92.5% found it embarrassing, indeed downright awkward, to be constantly having to ask already overworked teaching physicians to “complete” EPA observations.

More specifically concerning assessments, 85.0% of resident doctors consulted said their assessments varied significantly from one teaching physician to another, depending on their interpretation of the entrustability scale (O-SCORE). Also, 71.3% admitted to tending to select faculty who have the reputation of filling out EPAs properly to complete their EPAs. Moreover, 61.3% of respondents said they had to keep a list of EPAs already submitted, to avoid losing them if ever they were not completed by staff physicians. In addition, 83.8% of resident physicians said feedback from faculty was actually in the form of checklists, containing little by way of pedagogical pointers, and 93.8% said they were consequently still assessed under the model already in place before CBD was introduced. Moreover, 85% said the Competence Committee assessments seemed above all to be used to convey the programs’ level of satisfaction with the number of EPAs completed. Finally, 33.8% of resident doctors had been criticized for not having completed enough EPAs, with faculty even implying they would surely have to redo some rotations to achieve the expected number of EPAs.

Solutions identified by resident doctors

We asked the resident doctors consulted to identify the three solutions that could greatly improve their residency under CBD from among a list of potential solutions raised last year, with the possibility of adding another suggestion. In order of popularity, here is the list of proposed choices:

1. Reducing the number of EPAs and milestones to be completed: 71 respondents
2. Simplifying and clarifying EPAs and milestones, with specific examples: 47 respondents
3. Dropping CBD completely: 46 respondents
4. Giving teaching physicians better training, to eliminate differing interpretations of entrustment scales: 35 respondents
5. Requiring teaching physicians to complete our assessments within a set timeframe: 31 respondents
6. Receiving more administrative support: 7 respondents
7. More Competence Committee feedback: 4 respondents

Among other suggestions made by respondents were the need to harmonize CBD with the existing assessment system to form a single system; allowing more indirect assessments; and adding detailed descriptions of clinical situations on assessment platforms, to help teaching physicians who are slow completing assessments remember the situation being assessed. According to one respondent, teaching physicians should understand that CBD is a tool to guide feedback, not a checklist to be completed.

DISCUSSION

Despite targeted improvements with respect to familiarity with the theoretical aspects of CBD, our resident doctors unfortunately drew a dismal profile of CBD in 2020-2021. The survey of those newly under CBD in 2020-2021 highlighted similar problems to the previous years, despite the growing experience of several programs which started out under CBD a few years ago. Also, the poll of resident physicians halfway through residency in CBD programs in 2020-2021 confirmed on every point what had emerged from discussions with residents halfway through residency under CBD in 2019-2020. Indeed, all the issues raised by resident physicians at the halfway point last year in discussion groups remained problematic for the vast majority of residents halfway through in 2020-2021.

While, as in the past, improvements are visible in certain structural elements of CBD – such as training of resident doctors in the basic concepts of the assessment model, and curriculum mapping – these theoretical elements do not appear to be yielding any real improvement in the process in which residents function day by day.

Resident doctors feel pressure to complete all their EPAs successfully in order to be able to continue their academic progression, but are well aware that they are likely not to manage to complete all of them in the allotted time. This is all the more troublesome since residents also tell us that they do not see the relevance of EPAs, for their residency, certification exams, or future practice. It is thus understood that the constant cognitive load of always having to be ready to complete EPAs as soon as the opportunity arises, while thus risking the possibility of missing a real learning opportunity, seems to weigh heavily on resident doctors' cognitive reserve. This reality appears to have led to undesirable, but often necessary behaviours, so as to adjust to the rigid framework of EPAs to be completed without fail, in order to have a chance of surviving in an impressive system of unrealistic expectations. These behaviours end up having a tangible negative impact on resident doctors, and even reduce the real clinical learning opportunities, a downside of EPAs that we called "missed opportunities for learning" in our previous reports.

Need for quality feedback

What is all the more deplorable about the implementation of CBD is that it is largely failing in its pedagogical goals of improving feedback, and thereby resident doctors' training. Our data clearly indicated that residents are not consistently receiving quality feedback following EPA observations. They are also deeply dissatisfied with the quality of the feedback received. Furthermore, it is noted that the Competence Committee decision-making process appears to lack any transparency whatsoever, and it is reported that the comprehensive longitudinal feedback it is supposed to give resident doctors is non-existent, being limited purely to a listing of the number of EPAs completed. So the painful question that has to be asked is what use the CBD model is if it does not provide quality feedback and coaching? Competency-based medical education was meant to be a positive advance in how medicine is taught and learners' competencies are assessed, and this apparently appealed to those who followed the Royal College in that vein in 2017. But on observing the shortcomings in the model in failing to provide resident doctors with an improvement in the quality of their training or an increase in the feedback they receive and ultimately to assess their competencies, we have to ask: is CBD truly a competency-based model of medical education, or is it not rather, when all is said and done, an assessment model based on fragmentation of tasks to be performed and mastered, simply grouped together in checklists of EPAs to be carried out?

Emerging from this new EPA "trade"

EPAs (or their accumulation), rather than leveraging genuine coaching-based learning, clearly appear to have become an end in themselves. Academic progression through a competence continuum has become purely dependent on the number of EPAs successfully completed. So it is easy to see the list of EPAs as a shopping list to be checked off. EPAs have become something to be accumulated by resident doctors, and "completing" them has turned into a transaction between supervising physicians and residents. EPAs—or the feedback form on which they are assessed—have thus become "redeemable." So we no longer have a learning process based on feedback, but rather a "feedback trade" where resident physicians have to navigate to get through their residency successfully. In its application, the model is thus far removed from an approach based on the holistic acquisition of comprehensive competency.

Finding the way to introduce real pedagogical benefits

What then can we say four years after its introduction about this learning model proposed by the RCPSC? Pedagogical benefits missing in action. Increased cognitive and emotional load. Detrimental effect on resident doctors' mental health and learning. Simply put, the current implementation model does not work. After all the effort and resources expended on implementing this system, then, we can only question the appropriateness of continuing with this model, which appears to offer no real, measurable pedagogical benefit. Implementation of CBD appears to have been premature and incomplete, and the guinea pigs paying for these failures are our resident doctors.

A number of CBD promoters have criticized the FMRQ for not sufficiently emphasizing positive elements in CBD since the publication of our last year's report. These remarks led us to some serious reflection: should we voluntarily water down certain difficult observations that emerge from our consultations in order to adopt an approach focussing more on aspects to be improved so as to try to make it a success? In hindsight, we feel that is partly what we have done by putting forward 43 recommendations for improving CBD between 2017 and 2020. A number of our recommendations were indeed followed, and helped improve the process whereby CBD was implemented. We certainly do not want to detract from those in our faculties who have invested so much energy in it. On the contrary, we would emphasize here that those responsible for our medical schools in Quebec have really tried to find ways of enhancing the pedagogical model created by the Royal College, which they are essentially required to apply**.** We understand that, since the accreditation of their training programs can ultimately hinge on it. But whatever the recommendations made for improving the model, it is the fact that our medical faculties were led to carry out a genuine revolution in how learners' progress at the postgraduate level is assessed, with no clear scientific evidence as to the expected pedagogical benefits, that remains, for us, the fundamental problem.

Avoiding making resident doctors guinea pigs for a pedagogical experiment

The FMRQ would have liked more openness and self-criticism from the RCPSC with respect to the proposed educational model that is, after all, built on a theoretical foundation which clearly deserved to have been subject to more evaluation, testing, and debate before being applied on such a large scale. Whereas the Royal College chose to launch its project hastily, even if it had to rectify the collateral negative impact along the way; this explains our members' highly legitimate impression of being the guinea pigs for a pedagogical experiment. In fact, the RCPSC's implementation strategy appears to target a "militant" approach, the strategy thus being to "push" the cultural change in training sites by all possible means, and as rapidly as possible.[3] We are better able now to understand why we have constantly sensed within the Royal College a resistance to any in-depth criticism of CBD. All this time, as we have tried to propose improvements in the model, we have instead in its main designers seen consistent attempts to counter our observations, rather than to take them on board. It is high time for us to move beyond this paradigm of rhetorical arguments to avoid recognizing or minimizing the negative impact reported by Quebec's resident doctors.[4] It is, in that respect, most astonishing that the FMRQ alone, at least publicly, appears to be concerned with these issues.

[3] As early as 2016, the promoters of CBD at the Royal College, in meetings attended by FMRQ representatives, openly resorted to the allegory of the ocean liner which, once it has left port, is virtually impossible to stop. This allegory was used when faculty representatives questioned whether the model was really ready to be implemented in July 2017, and also when others asked for introduction of the model to be slowed down in view of the observation that training sites were sadly lacking in the financial resources they need to manage all the collateral effects of implementation. These were the types of strategies used by the supporters of an ideology they wanted to impose regardless of the cost.

Avoiding favouring the theoretical logic of CBD to the detriment of quality of training and care for the public

In addition to the lack of any pedagogical benefit from the CBD model for our members and the persistent negative impact, since last year we have been seeing a new, worrisome reality. Whereas the Royal College itself claims, at least officially, and at our request, that the EPA completion objectives are merely benchmarks, members are being threatened by their program heads with potentially being denied access to certification exams and graduation because of a lack of completed EPAs in their files. When the decision was reached to introduce CBD in July 2017, however, it had been clearly established that implementation of the model was not to put in question the time-based organization of residency,[5] a core element in Quebec which goes substantially beyond pedagogical issues. While it is true that the theoretical model developed by the Royal College has been based from the start on this idea of the end of the time factor in medical education,[6] the time-based framework on which postgraduate education in Quebec is built is more than a mere detail: it also affects the organization of care in hospital departments to meet the public's needs, whether during residency or on starting out in practice, as well as in terms of the important question of managing physician resource planning. The fixed, predictable duration of postgraduate education is thus a central item on which that planning is based. Several other issues also enter the picture, such as the predictability of the match system on residency places for Internal Medicine subspecialties, or the question of the staging of certification exams. The theoretical ideal of atomization of each learner's postgraduate education path at his or her own pace through the termination of the time-based frame of reference is more of a utopian than a serious, desirable approach.

[5] For instance, training of five academic years' duration consisting of different rotations spread over 13 28-day periods per year, etc.

[6] SNELL, Linda S., and FRANK, Jason R. 2010. "Competencies, the tea bag model, and the end of time." *Medical Teacher*. 32(8): 629-30.

CONCLUSION

How to do better in view of these findings? The goal of CBD was to improve the existing system by placing feedback front and centre based on clearly defined competencies. EPAs in themselves are not the core of the problem. In fact, this model, which calls for the competency (and competencies) to be acquired to be itemized into micro-tasks and well-defined steps, should bring a clear benefit, if it complemented the best of what was already being done with more holistic assessments. The problem is the use made of EPAs as the sole assessment tool, by means of a purely mathematical checklist that counts EPAs. This is ridiculous, because, regardless of any effort that could be made, the sum of competencies to be acquired in medicine cannot be reduced to mere lists of EPAs. Assessments that analyse overall competency holistically therefore are (and always will be) absolutely essential.

In seeking to revolutionize medical education in Canada, the RCPSC unfortunately decided to do away altogether with a system that was already one of the best in the world. It is quite regrettable, in our opinion, not simply to have tried to improve that system by integrating with it the most worthwhile, promising concepts of CBD.

Urgency of more effectively harmonizing CBD's strengths with the ecosystem on which the organization of medical residency in Quebec is based

For the FMRQ, in view of this grim picture, the solution in the short and medium term lies in an approach that involves harmonizing CBD with time-based learning, which remains the foundation on which postgraduate education rests. The time-based framework within which residency is organized in Quebec absolutely has to remain the reference for the purpose of resident doctors' academic progression. In all cases, the provisions set out in the regulations concerning the issuance of permits to practise medicine in Quebec still require successful completion of rotations spread over a set number of years of postgraduate education, regardless of claims by some university program directors to the effect that CBD has changed that. So let us retain time-based academic progression with comprehensive assessments, and incorporate therein the best aspects of competency-based education (and assessment), notably, observation, building on increased feedback and coaching. EPAs can be part of this model, but should be seen merely as additional assessment tools, and not as the end goal of the assessment, as all too often appears to be the case at present. Academic progression must not depend purely on accumulating lists of successfully completed observations.

At time of publication, the FMRQ was compiling the data from comprehensive individual interviews, held from February to April 2022 with each member of the first cohort completing their postgraduate training that had begun with the launch of CBD in 2017, namely, R5s in the Anesthesiology and ENT/HNS programs (the Year 5 Report, to be published at a later date). The FMRQ was also completing analysis of a poll conducted on its members concerning the nature of their pedagogical interactions with supervising physicians, their evaluation of the quality and quantity of observations, feedback, and assessments they receive during their residency. While the overall findings of this study were relatively positive, the data revealed another picture when we analysed them in greater depth, separating the 800 or so survey respondents into three distinct

groups: (1) members in family medicine, who are also trained under a competency-based approach, but via a different model than the one developed by the RCPSC; (2) members under CBD; and (3) members not under CBD.

While the study has yet to be finalized for publication, the group of members under CBD has the lowest opinion of the quality and usefulness of the teaching received within the context of residency, and is also, to our great surprise, the subgroup benefitting the least from feedback on a quantitative level, in stark contrast to the premises put forward by the promoters of CBD. These new, unpublished data strengthened the conclusion of this report to the effect that it seems urgent to curtail any desire by the promoters of CBD to accelerate its implementation further and above all to do away completely with teaching and assessment methods that have a proven track record and are known somewhat simplistically as the "time-based education model." This existing model is in fact much more than merely a question of learning by "putting in their time," it supposes that by practising medicine under supervision in real settings with the tangible contingencies of the times – such as a COVID-19 pandemic – along with monitoring of essential competencies to be mastered, resident doctors will, after 5-7 years of rotations, have acquired sufficient knowledge and competencies to enter autonomous practice.

While the competency-based approach can contribute to perfecting this important monitoring of essential competencies to be mastered by identifying them more clearly and ensuring their systematic assessment through documented observations, the problem with the CBD model appears to be that monitoring of these lists of competencies to be acquired (CBD's notorious EPAs – Entrustable Professional Activities) is proposed as the main component, indeed the goal itself, of postgraduate education. When these to-do lists are made absolute, then it is that less tangible, but equally important aspects of medical training fall completely by the wayside, and the fact is missed that resident doctors' training, through which they gain pedagogically, is also enhanced when they deliver patient care, rather than merely seeking out practical cases corresponding to the EPAs to be completed.

For the FMRQ, it is now beyond high time for those responsible for the quality of medical education and quality of care to the public in Quebec to be concerned with the issue of CBD. Our medical faculties, the *Collège des médecins du Québec*, and the Quebec government are actively involved in seeking solutions, since those will not be found elsewhere. It is not too late—although it is urgent—to do what should have been done several years ago: for those responsible for Quebec's medical education and healthcare system to stop relying solely on pan-Canadian medical education groups, such as the Royal College, to decide what is best for our upcoming generation of physicians, our healthcare system, and Quebecers as a whole. If each partner plays its role fully, together we will be able to develop the best of models so as to achieve the ultimate goal we all share: to improve the quality of postgraduate medical education in Quebec.