# Five years of competency-based medical education in Canadian urology: A national survey of senior resident and faculty satisfaction and perspectives

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**Cite as:** Nguyen DD, Lafontaine ML, Mann U, et al. Five years of competency-based medical education in Canadian urology: A national survey of senior resident and faculty satisfaction and perspectives. *Can Urol Assoc J* 2024 December 9; Epub ahead of print. http://dx.doi.org/10.5489/cuaj.8947

Published online December 9, 2024

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## ABSTRACT

**Introduction:** In 2018, competency-based medical education (CBME) was introduced to Canadian urology residency training. We examined learner and faculty experiences with CBME five years post-implementation.
**Methods:** Two online surveys were developed from a scoping review of CBME literature and expert consultation. They covered aspects including unintended consequences, satisfaction, and challenges. They were distributed to Canadian urology residency program directors, faculty, and senior residents from January to June 2023. Respondents rated agreement/satisfaction using a five-point Likert scale. Descriptive analyses considered scores of 4–5 as agreement/satisfaction and 1–2 as disagreement/dissatisfaction.
**Results:** Twenty-nine faculty members (including 10/13 [77%] program directors) and 33/63 (53%) senior residents responded. Overall, 69% of respondents are unsatisfied with CBME, 19% are neutral, and 11% are satisfied. Anxiety and/or fatigue with CBME are reported by 76% of faculty and 66% of residents. CBME is seen as burdensome: 61% of residents frequently trigger assessment requests, while 66% of faculty feel overwhelmed by the volume of requested assessments. Faculty members (83%) and residents (73%) find CBME time-consuming. Over

50% of respondents believe CBME failed to de-emphasize time-based learning, individualize progression, rapidly identify struggling residents, or improve feedback quality. Over 60% agree that CBME has clarified learning expectations and training stages.
**Conclusions:** There is prevailing dissatisfaction with CBME within Canadian urology training programs, impacting the well-being of both faculty and residents while falling short of delivering personalized training; however, CBME has provided a structured and transparent framework for trainee advancement. Improvements to CBME are needed beyond its initial five years.



## INTRODUCTION

Over the past two decades, there has been a major shift in post-graduate medical education worldwide, marked by the advent of Competency-Based Medical Education (CBME).[1] This framework, under deliberation for at least the past fifty years, is supplanting traditional time-based training paradigms across numerous regions. Unlike its predecessor, CBME aims to recognize the inherent diversity in learning speeds among trainees, asserting that mastery of essential skills doesn't adhere to a uniform timeline. By prioritizing competencies over approaches favouring structures and processes, CBME promised a more dynamic and personalized approach to medical training, ensuring that learners acquire proficiency at their own pace and in a tailored manner.[2]

In 2018, the Royal College of Physicians and Surgeons of Canada (RCPSC) introduced Competence-by-Design (CBD), their version of Competency-Based Medical Education (CBME), to Canadian urology residency programs.[3] However, Wang et al. observed a lack of widespread enthusiasm for this transition within the urology community.[4] Significant concerns were raised regarding time demands, funding, and administrative support required for the change. These concerns were not unique to urology and existed in different specialties.[5] Despite these initial reservations, there has been little ongoing evaluation of CBME/CBD's impact since its introduction, including in Canadian urology.

Thus, there is an imperative to assess the effects of CBME on both urology trainees and faculty members following five years of implementation. To do so, we conducted a national survey to report the experiences and perceptions surrounding the RCPSC's CBME in urology.

## METHODS

### Study design and survey distribution

A cross-sectional survey using Google Forms was emailed to Canadian senior urology residents (PGY-4 and PGY-5), program directors, and faculty members from January 2023 to June 2023. Senior residents were selected as they are the first group of urology trainees to experience the entirety of their post-graduate urology training under the new framework.

Senior urology residents and program directors were directly solicited by email, while faculty members were identified by convenience sampling, asking program directors to forward the invitation to relevant faculty members. The survey did not collect information allowing for respondent identification and thus respondents remained anonymous.

**Survey development**

Two online surveys, one for residents and the second for program directors and faculty members, were developed in French and English based on a review of CBME literature and following consultation with urology medical education experts.[3,6–10] The surveys were piloted with two residents and two faculty members not involved in their development. Their feedback was incorporated iteratively into the surveys upon further reviewer with the panel of urology medical education experts.

These surveys included qualitative and quantitative questions, exploring various aspects of CBME, such as critical activities, early outcomes, unintended consequences, overall satisfaction, and ongoing challenges. Respondents anonymously rated their agreement or disagreement with statements using a five-point Likert Scale, where scores ranged from 1 (strongly disagree/very dissatisfied) to 5 (strongly agree/very satisfied). The survey also included multiple-choice questions with the option to provide written answers.
Survey instruments are included in the supplemental material.

**Statistical analysis**

Survey responses were descriptively analyzed with counts and percentages using STATA MP14 (Stata Corp LLC, TX, USA).

**RESULTS**

We collected a total of 62 responses. Of these, 33 were from residents (out of 65 total eligible residents, 55%; of which 15 of which were PGY5 at the time of the survey, 46%), 10 from program directors (out of 13 program directors, 77%), and 19 from faculty members (of which 3 reported education-related roles, 16%).

All survey responses by PD, faculty, and residents are presented in Tables 1 and 2. We present key findings below.

**Clinical environment and activities**

Overall, 76% of PD/faculty members and 81% of senior residents agreed or strongly agreed that opportunities for observation, assessment and provision of feedback differed depending on the training environment. Among the various clinical environments, more than 70% of all respondents deemed the operating room and cystoscopy clinics offered the best pedagogical atmosphere conducive to CBME.

**Outcomes of CBME**

42% of all respondents agreed or strongly agreed that competency-based outcomes have been well-defined since CBME implementation while 34% disagreed/strongly disagreed.

According to 76% of PD/faculty members and 57% of senior residents, the quantity of feedback under CBME has increased. However, while the number of assessments seems to have risen since CBME implementation, 53% of all respondents claimed the quality of such feedback has not improved despite 50% of PDs believing that it had improved. Among those unsatisfied with the quality of feedback provided to trainees, residents accounted for the majority (residents: 57%; PD/faculty members: 48%). Furthermore, regarding entrusted professional activities (EPA), 62% of PD/faculty members and 85% of senior residents believed the feedback given by the attending physicians on EPAs was not directive or helpful enough to improve their clinical performance.

CBME implementation was also intended to lead programs into earlier identification of struggling trainees and those who could participate in advanced training; 56% and 86% of respondents disagreed or strongly disagreed that CBME has achieved these goals, respectively. Furthermore, over half of all respondents claimed CBME did not support an individualized approach to postgraduate urology education and 73% also felt the new training system failed at de-emphasizing time-based training and providing more flexibility.

**Entrusted professional activities (EPAs)**

82% of respondents agreed that keeping track of EPAs to complete is demanding for residents. Moreover, EPAs were critiqued for being time-consuming (73%) and challenging to complete in a clinical environment (78%). PD/faculty members (58%) and senior residents (85%) agreed supervisors often required multiple reminders to fill in EPA evaluations before they expire. This highlights another weakness of CBME considering 78% of all respondents acknowledge the quality of feedback given to trainees is altered when EPAs are completed in a delayed fashion as opposed to EPAs completed immediately after the activity. While most senior residents (72%) agreed that the written feedback found on EPA evaluations is discordant with the verbal feedback given by supervisors, only 45% of PD/faculty members felt the same way and 38% were neutral. When participants were asked about the psychological consequences of CBME implementation, 70% of all respondents (73% PD/faculty; 66% senior residents) agreed residents experience anxiety and fatigue due to the intense evaluation process and increased frequency of feedback. Most (76%) PD/faculty members reported anxiety and fatigue among academic supervisors.

**Overall satisfaction of CBME implementation**

When overall thoughts on CBME implementation in Canadian urology programs were addressed, the results pointed towards a generalized feeling of dissatisfaction among both senior residents and PD/faculty members. Our survey revealed 69% of all respondents were either very unsatisfied or unsatisfied while 19% were neutral and only 11% were satisfied.

To further explore participants' opinions and perceptions, they were asked to specify what would be the best solution for CBME moving forward and pinpoint the main challenges faced during CBME implementation. Almost half (44%) of all respondents would rather go back to the traditional educational curriculum while 42% favoured maintaining CBME only if it underwent

significant improvements. When examining PDs' answers only, 70% favoured maintaining CBME only if it underwent significant improvements. As for the main barriers to CBME implementation, the lack of faculty participation/buy-in, the complex and inconvenient digital platforms as well as the several inconsistencies in the conception of competencies were the main pitfalls reported by survey respondents.

## DISCUSSION

Concerns loomed as the RCPSC introduced CBME in Canadian urology. Five years post-implementation, according to this survey, there is a pervasive dissatisfaction among Canadian urology senior residents and faculty members with CBME. Our nationwide survey revealed a consensus that CBME in urology had fallen short in several key areas: reducing reliance on time-based learning, tailoring progression pathways to individuals, promptly identifying struggling learners, and improving the quality of feedback without presenting an additional time burden. However, amidst these challenges, some bright spots emerged. Respondents noted clearer learning expectations, more defined training stages, and an uptick in feedback quantity without compromising patient care.

Our findings from our national survey further validate and generalize findings from focus groups at a single center conducted by Aubé-Peterkin et al. at McGill University.[11] Using qualitative phenomenological analysis, they noted that residents and supervisors believed that CBME improved the tracking of resident performance and increased the amount of feedback. However, they identified several barriers to providing proper feedback and formative assessment, including increased workload, delays in completing EPA assessments, lack of direct observation in non-surgical activities, inconsistent supervisor guidance, and a lack of understanding of CBME – similar to our survey results. The shift to CBME has placed an uneven and heavy burden of assessment directly on the shoulders of residents who must manage other expectations, namely clinical care.[12] The widespread adoption of CBME has also potentially contributed to an unintended increased focus on frequent assessments which has deemphasized the intended goal of more coaching and feedback.[13]

Our research also aligns with the findings of the *2022 CBD Pulse Check*, a collaborative initiative by Resident Doctors of Canada and the RCPSC.[14] This survey, aimed at resident physicians, delved into their experiences with CBME implementation. While recognizing the significant benefits of CBME, respondents identified several common challenges. These include the stress of coordinating EPA observations, excessive administrative tasks, and performance-related anxieties. As a result of the *CBD Pulse Check*, a pressing priority emerged with regards to tackling the hurdles associated with EPA observation acquisition, as it directly impacts resident well-being. It is important to note that while our findings are reflected within the *CBD Pulse Check*, it obtained a response rate of 15% of resident physicians of 37 specialties – with few urology respondents. This highlights the importance of targeted efforts within our specialty. Our conclusions warrant careful consideration within the contemporary circumstances of our survey. Specifically, our study examines the nascent phase of Competency-Based Medical

Education (CBME) within the Canadian urology landscape, notably marked by the global COVID-19 pandemic.[15] The pandemic underscored deficiencies within CBME that need to be addressed to ensure ongoing engagement and success. Persistent advancement and refinement of curriculum design, assessment methodologies, and faculty development and support are imperative to this end.[16] Similarly, given the maturation of CBME in this context, it is imperative to continuously monitor the experiences of those involved through a quality improvement lens. Regardless, the implementation of CBME in Canada has resulted in several unintended consequences. Recognizing these issues, the RCPSC has committed to making their CBME framework more flexible to ensure its relevance, efficiency, and authenticity.[17] To address these concerns, the RCPSC will convene National Summits, involving key leaders from partner groups, to collaboratively develop CBD 2.0. Urology needs to engage in such discussions and inform such revamps with data from our specialty, such as those provided by this study. This applies to CBME implementation in Canada but also elsewhere.

Our survey also noted a high level of general agreement between faculty respondents and residents concerning the perceived challenges and issues of CBME in Canadian urology. The alignment between faculty and residents suggests an opportunity for sustained dialogue and partnership, wherein both parties can contribute insights, experiences, and innovative solutions to address the evolving landscape of medical training. By fostering such an environment of open communication, institutions can navigate the complexities of CBME implementation more effectively. Moreover, widespread implementation of a national curriculum should embrace the diversity of training experiences, simplify assessment tools, purposefully incorporate assessment flexibility, respect institutional autonomy, and provide a holistic, non-punitive focus on residency program feedback during the accreditation process.

### Limitations

Our study is not without its limitations. Firstly, the cross-sectional design of our survey hinders the assessment of evolving perceptions regarding CBME in Canadian urology. There is a need for continued monitoring and evaluation of CBME in Canadian urology. Additionally, while respondents were asked to consider a return to the previous training model, surveyed residents did not experience this system directly. Secondly, while our response rate was acceptable, there is a possibility that those who responded to our survey significantly differed from those who didn't, leading to a respondent bias. Thirdly, our survey did not include junior residents. This group represents a crucial post-implementation cohort and should be considered in future research endeavours as their perspectives may offer insights differing from those of the initial cohort of Canadian urology CBD residents.

## CONCLUSIONS

There is a prevailing sense of dissatisfaction with CBME within Canadian urology, as perceived by senior residents and faculty members. CBME, in its current iterative implementation, adversely impacts the well-being of both faculty and residents, leading to increased stress and

fatigue, while falling short of delivering personalized medical education. CBME has positively impacted urology residency training in Canada by providing a structured and transparent framework for trainee advancement. These valuable insights call for informed decisions and continuous efforts to enhance CBME in urology beyond its first five years.

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***Disclosures:*** *Dr. Nguyen is supported by a Canadian Institutes of Health Research (CIHR) Vanier Canada Graduate Scholarship (CGV-192647), the CMCC/Atrium Hold'em for Life Oncology Fellowship, and the Ontario Ministry of Health Clinician-Investigator Program. All other authors report no relevant conflict of interest and associated funding.*