Clarifying the role of mandatory training time in Competence by Design

Competency-based medical education (CBME) is an outcomes-based approach to the design, implementation, assessment, and evaluation of a medical education program using an organizing framework of competencies. The competencies taught and learned are based on the abilities needed to practice and are developed in consideration of societal needs. CBME de-emphasizes time-based training and instead focuses on the achievement of key abilities; in fact, 'pure' models of CBME are typically time-free, in which the main determination of completion of a program is the acquisition and demonstration of all required competencies by the learner.

Competence by Design delivers a hybrid model of CBME
Competence by Design (CBD) is a unique adaptation of CBME built by the Royal College to align with the Canadian context of specialist medical education. In particular, CBD recognizes the multifaceted role of residents as both a learner in and contributor to the healthcare system and the essential role of clinical work in education. In order to more easily fit into the Canadian system of residency education, CBD was implemented for specialist programs in Canada as a hybrid model of CBME, falling between the 'time-bound' and 'time-free' spectrum of medical education.[*]

In an entirely time-dependent model, timed-based mandatory rotations are the primary unit of a curriculum and are a key measurement of a resident's progress. Completion of all time-allocated rotations is required for completion of the program and access to certification. On the other hand, in an entirely time-free model, timed rotations are irrelevant to the completion of training: trainees would learn in settings only until they could demonstrate a specified level of abilities, then move on.

A hybrid model recognizes that training based primarily on time can leave gaps in a trainee's competence and a time-free model is not compatible with efficient and predictable scheduling of learning opportunities and clinical rotations. CBD therefore aims to find a balance between these two models that acknowledges the value of skills-based learning, time, and experience. Features of the CBD hybrid model include:

- **Achievement of competencies (expressed as EPAs and milestones) is prioritized over time spent in training.**
  - Residents must now demonstrate competencies and abilities in relevant work-based contexts to progress through their training towards proficiency and expertise.
  - Additional training requirements may be expected at the program-level.

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[*] **Attachment A:** The Spectrum of Design Approaches for Residency Curricula (Carraccio, Wolfsthal, Englander, Ferentz, and Martin, 2002) is included on **page 5**.

Competence by Design – Policy Advisory Communique Series provides guidance and input to the postgraduate faculties in transitioning and adapting existing policies to reflect competency-based medical education, one area being the de-emphasis of time.

- **Training is organized into stages with specific learning activities and outcomes defined for each stage.**
  - CBD moves away from the assumption that time is a surrogate for competence (competence is no longer assumed, and promotion is no longer guaranteed on the basis of time spent).

- **While achievement and credit is no longer explicitly linked to time spent in training, CBD recognizes that time can be used to facilitate education, progression, and maturity of skills and progression towards mastery.**
  - Rotations and other learning experiences are treated as a resource for both the acquisition of competencies and clinical scheduling.
  - Unlike systems where credit is given for the time spent in a particular rotation, in CBD the time spent in training experiences is used by programs as scaffolding to facilitate the development of competencies and the achievement of EPAs (i.e., through teaching, learning and assessment) and required training experiences should be used to guide individual resident progression (i.e., they are used by programs as a method to immerse the learner in authentic practice conditions).
  - Individual candidates will not be credentialed based on their fulfilling the required training experiences of a discipline and the decisions made by their Competence Committee will supersede the individual's fulfillment of these experiences. Therefore, there is greater flexibility in the environment where learning may take place.
  - However, during the accreditation process, programs will be expected to demonstrate that they can fulfill the required training experiences of a discipline and trainees have access to these training experiences.

- **CBD offers structured exposure to work-based environments, while maintaining flexibility for both the individual learner and program**
  - In launching CBD, a *program* now has more flexibility to meet the required training experiences based on their own resources and strengths.

Which elements of residency training will remain time-dependent?

In choosing a hybrid model approach, we avoid the need for a major overhaul of current, time-based structures. Therefore, it is expected that some elements of a resident's training experience will remain time-dependent. These may include:
- Clinical placements and agreements with the University/Hospital/Ministries of Health
- PGY funding
- Program/discipline matches
- Royal College examinations offered once per year

Will CBD change the amount of time spent in training for some residents?

The path towards expertise in CBD is not a simple checklist of discipline-specific requirements, but an immersive and learner-centred progression in the clinical environment through work-based assessments, coaching, and mastery. As such, **the Royal College does not envision the implementation of CBD to shorten or lengthen overall**

residency training for the vast majority of residents – instead, the approach will simply permit more flexibility for individual trainees and programs to demonstrate the required competencies for certification.

As in the current time-based system, there are some circumstances in which a resident may not progress in a CBD program as expected. In some cases, a resident may progress through a CBD program more quickly or slowly than estimated by a discipline's Specialty Committee (example: prior clinical experience in or related to the discipline). The pace of progression, however, may not necessarily alter ultimate time spent in training in all circumstances (i.e., the time from beginning of training to the completion of all certification requirements). These scenarios are illustrated in the table below.

Further, program evaluation activities of early CBME programs will carefully examine the rate of progression of residents throughout EPAs, allowing for anticipation of and thoughtful adjustments to future terms of training.

Resident is progressing more slowly than expected	
Modified learning plans	For the individual learner whose developmental pathway may be different from their colleagues, CBD offers the flexibility to utilize their rotational training experiences to achieve EPAs as opportunities present themselves, including an EPA from beyond their current stage. A trainee challenged in a certain area of focus may receive support for competencies not yet achieved (e.g., receiving a tailored learning plan, coaching from an academic advisor, or increased participation in a simulation lab). With the discontinuation of the Specialty Training Requirements (STR) for each discipline, CBD provides the flexibility to achieve EPAs in multiple learning environments. It will be possible in some cases where expected EPAs are not met on a given rotation to achieve them on the next rotation, whilst adhering to a typical timeline for completion of training.
Returning from a leave	Some residents may delay the completion of their training as a result of a leave of absence, such as a parental or sick leave. It is important to note that residents who have taken leave do not necessarily need to make up time if they can demonstrate and document achievement of EPAs and other requirements for progression.
Remediation Increase	As is currently the process in the time-based system, some residents may demonstrate gaps in performance requiring more formal remedial activities. Additional training time and resources for support may be required and may include using electives to achieve required EPAs or additional rotations/ time spent in training.

Resident is progressing more quickly than expected		
↓ *decrease*	***Special cases***	In some special cases, residents may finish all training requirements at least a full year ahead of schedule, and therefore could graduate early. Anticipation of such an event would need to occur well in advance in order to allow for completion of the exam, avoidance of contractual conflicts and organization of future employment or training. Should this be feasible, and if there be mutual agreement between all parties (school and individual trainee) following achievement of all requirements for certification (exam and EPAs), an acceptable early exit may be negotiated.
⊘	***Accelerated training***	CBD allows for the possibility that a resident may finish their nationally prescribed milestones and EPAs earlier than expected. This may include the anticipated achievement of EPAs within a scheduled rotation or stage, or the early completion of all discipline-specific EPAs in their final training year.

In this circumstance, there is an opportunity for residents who have fast-tracked to be given increasing responsibility and decreasing supervision while in the final stage of their training, developing expertise and augmenting training through selectives in areas that will be most relevant to their future practice (e.g., clinical, research, education, or leadership skills). In this approach, residents participate in a highly tailored 'transition to practice' phase of training, while maintaining the typical timeline for completion. |
| ↓ *decrease* | ***Overlap training*** | Currently under the time-based system of training, the consolidation of training between two interfacing disciplines results in a decrease of training time for a resident via double-counting.

The application of an 'overlap training' policy will operationalize this concept under CBD. Areas of overlap between disciplines, as well as oversight of and responsibility for overlapping competencies will be determined at the national specialty level and will be implemented locally.

Where it has been approved, trainees may be able to count training towards fulfillment of the EPAs and competencies of two disciplines, shortening training. |
| ↓ *decrease* | ***Transfers*** | In some cases, individuals may enter residency with a training background that allows them to quickly achieve some EPAs (e.g., program transfers, past experience as a health care provider, international training). Individuals may work with their institution to tailor and deliberately shorten their training.

This process is described in further detail in Section 5.5 of the CBD Certification policy (Expedited Achievement of EPAs from Prior Clinical Experience). |

Having successfully achieved their milestones and EPAs, can residents exit a clinical placement early?

The value of time and experience in medical education should not be understated. Excellence, expertise, and mastery in a discipline are facilitated by time and accumulating experience, practice, and exposure to diverse contexts. It is important to acknowledge that given their dual role, the care that a resident provides during their training not only provides the opportunity to go beyond 'competence' in a discipline, but is critical to the maintenance of the health care system. CBD was designed in alignment with this responsibility. Early, unexpected departures from a clinical placement would be a detriment to the system and health care in Canada and effective progression of learning. In anticipation that funding and contract arrangements will remain similar to those currently in place, it would be expected that trainees would fulfil their agreements with clinical sites.

Ultimately, it is the decision of the institution to keep a resident in the Transition to Practice stage of training or to allow them to exit, based on their documented achievements.

Attachment A
The Spectrum of Design Approaches for Residency Curricula
(Based on the work by Carraccio, Wolfsthal, Englander, Ferentz, and Martin, 2002)

	Time-dependent Model	Hybrid Model	Time-free Model
Organizing Structure	Time spent on rotations	Progression of competence within a time-based rotation	Progression of competence
Degree of Structure	Rotations and academic half-days and other formal teaching contexts	Structured flexible curriculum; rotations as only one learning method	Structured, learner-centred curriculum; time-independent; rotations as a resource to aid learning
Learning Goals	Objectives of training	Milestones	Milestones
Role of Timed Rotations	The unit of curriculum	Resource for acquiring competencies	Irrelevant
Role of In-training Assessment	To ensure that rotations are passed	To document progression and milestone achievement during rotations, plus overall progress over time both within rotations and in other contexts (e.g., simulation)	To document overall progression and milestone achievement in all contexts
Role of Summative Assessment	To infer readiness for exam	To ensure attainment of competencies and milestone achievement	To ensure attainment of competencies and milestone achievement
Key Assessment Tools	Single subjective measures, often removed from the workplace (e.g., In-Training Evaluation Report [ITER], Final In-Training Evaluation Reports [FITERs], global rating scales, oral exams); emphasis on assessment at the end of a time period	Formative and some summative collected in a portfolio (e.g., encounter cards, mini-Clinical Evaluation Exercises [mini-CEX], multi-source feedback [MSF], logbooks, practice-based assessments, Objectively Structured Clinical Examinations [OSCEs] and other simulation methods)	Multiple objective measures emphasizing observation in authentic settings (e.g., encounter cards, mini-CEX, MSF, logbooks, practice-based assessments, OSCE and other simulation methods) all collected in a portfolio with reflection needed
Program Focus	Processes for rotations	Acquisition of competency outcomes via rotations and other activities	Acquisition of competency outcomes
Teacher Roles	Supervision, teaching	Supervision, teaching, direct observation	Supervision, teaching, direct observation
Learner Roles	Service on rotations; attend academic sessions; study for exam	Ownership of learning; plot course for progression of competence through rotations	Ownership of learning; plot course for progression of competence through all learning activities