Competency-based curriculum for family medicine

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The College of Family Physicians of Canada has endorsed the recommendation from the Section of Teachers' Working Group on Postgraduate Curriculum Review that residency training programs should develop and implement a competency-based curriculum that is

- comprehensive,
- focused on continuity of education and patient care, and
- centred in family medicine.

Together, these recommendations form the Triple C Competency-based Curriculum (Triple C).[1] This article is one in a series explaining the Triple C initiative.[2-5] It discusses how competency-based education is at the very heart of this endeavour and provides a solid educational rationale, an organized approach, and a series of practical strategies to better reach the very goal of residency training: "to develop professional competence to the level of a physician ready to begin practice in the specialty of family medicine."[6]

Competency-based versus traditional models

Providing society with excellent new physicians is central to the educational mission of the College of Family Physicians of Canada. The current educational system has always valued the demonstration of knowledge, skills, and attitudes. However, the traditional curricular assessment methods emphasize knowledge acquisition, with minimal assessment of other necessary competencies.[7-9] By contrast, competency-based medical education

- indicates to learners, faculty, and the outside world a defined end product;
- measures whether these outcomes are achieved; and
- better identifies learners in difficulty and offers them remediation plans.

In contrast, the traditional approach to residency training is time based. It counts on the "tea steeping" effect of standard rotations, based on the assumption that any resident placed in a clinical setting for a fixed time should "know enough" by the end of that period.[10] Residency training is understood as a series of rotations with the perception that you "add" new knowledge from each one. An overall intuitive assessment of clinical performance in comparison with peers (a summative, norm-referenced assessment system) at the end of the rotation evaluates the acquisition of knowledge and skills. This system has limitations: not all learners are equal in terms of learning pace; acquisition of knowledge, skills, and attitudes cannot be guaranteed through clinical exposure alone; and end-of-rotation evaluation forms are poor predictors of real performance. **Table 1** contrasts a traditional time-based curriculum with a competency-based one.[1]

Competency-based approach

Competence is one's ability to do the right thing at the right time, in the right way, in a specific complex professional context.[11] It requires the ability to select and make good use of one's knowledge, abilities, attitudes, judgment, and values in the here and now. It also implies adequate self-assessment, which leads to drawing on the necessary external resources, such as the patient or the patient's family, another professional, or a learning resource.[12,13] Competence involves sound problem solving and decision making, critical analysis, creativity, and autonomy. It is "multi-dimensional and dynamic; it changes over time, experience and setting."[14] It is dependent on the adoption of a reflective stance, is linked to the development of professional identity, and is accompanied by an engagement in lifelong learning.[10]

Each future family physician develops his or her professional competence progressively through stages of

Table 1. Time-based versus competency-based curricula

CURRICULUM ASPECTS	TRADITIONAL TIME BASED	COMPETENCY BASED
Focus, structure, and content	• Content: knowledge, skills, attitudes • Rotations	• Outcome: demonstration of competence • Relevant, paced learning opportunities
Goal	• Knowledge acquisition	• Knowledge application
Actors	• Teacher to learner	• Teacher and learner • Relevant role models
Assessment	• Evaluation form • Norm referenced • Summative	• Evaluation portfolio • Criterion referenced • Formative
Program completion	• Fixed time	• Variable time

Data from Tannenbaum et al.[1]

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competence.[15-18] The transition from one stage to another is gradual and often differs from one domain to another for a given individual. Once residents have experienced the variety and complexity of cases usually encountered in family medicine, gained sufficient self-confidence and autonomy, and demonstrated the expected competencies, they are deemed ready to practise independently.[16] This is the goal of residency training.

More time and work are required after entry into practice to reach the stages of expertise and mastery.[17] "The expert … can act immediately in a majority of clinical encounters …, is mindful of [his or her] limits," and is able to tackle complex cases.[15] For any physician, maintenance of competence depends on lifelong learning strategies, self-reflection, and opportunity to practise. But expertise is lost unless continuous efforts are made to maintain overall competence or specific observable competencies.[17] Gaining and maintaining competence as a family physician is a lifelong journey.

Importance of context

Two important implications stand at the heart of a competency-based approach: the recognition of the learner as an active participant in learning and assessment,[7,8] and the emphasis on authentic contexts of learning.

Recent educational studies have shown that the context of learning has as much influence on what is learned as does the content of learning.[19,20] From the first day of training, family medicine residents need to learn the specific cognitive schema and unique combination of competencies used in a given set of clinical activities related to their professional context. They also need role models who will introduce them to their professional culture and encourage them to adopt its shared behaviour, beliefs, values, and relationships. Thus, relevant contexts of learning contribute greatly to positive professional socialization for developing family physicians.

Summary

Competency-based education seems particularly well adapted to the training of future family physicians. It acknowledges the complexity of professional practice.[12] It takes into account the necessity of becoming a reflective practitioner, emphasizes lifelong learning, and contributes directly to the development of a strong professional identity.[21] A competency-based curriculum design optimally organizes an educational system in which residents practise constant adaptation to ever changing clinical contexts in complex environments. It helps residents progressively integrate the various bits of knowledge and skills they develop during each learning activity until they meld together and become part of their overall competence.

Triple C describes the unique features of a competency-based residency program as they apply specifically to a family medicine residency context. These features represent the strategies best suited to efficiently train competent future family physicians. Moving to Triple C seems to be the most fitting way to prepare future family physicians in accordance with international educational trends and societal expectations.[7]

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Competing interests
None declared

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