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A Rapid Review of Defining Preparedness for Practice: An Outcomes of Training Project evidence summary

January 2022

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How to cite this document

Aggarwal M, Oandasan I, Abdelhalim R, Fowler N, eds. *A Rapid Review of Defining Preparedness for Practice: An Outcomes of Training Project evidence summary*. Mississauga, ON: College of Family Physicians of Canada; 2022.

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Acknowledgements

The College of Family Physicians of Canada acknowledges all those who contributed their expertise to the development of this evidence summary. We also thank the key contributors who provided important information to support this work.

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Background

The College of Family Physicians of Canada (CFPC) introduced the Triple C Competency-Based Curriculum (Triple C) in 2011 after an extensive review.¹ Recommendations shared at that time reflected the need for the CFPC to orient residency training to:

- Produce competent family physicians in a more efficient and effective way
- Ensure that graduating family physicians have a strong mix of competencies that enable them to practise in any Canadian community and context

The ultimate goals of the curriculum changes were to improve access to family physicians for everyone in Canada and to produce family physicians who are competent to provide comprehensive, continuous care in any community in Canada. As defined by the CFPC in the *Standards of Accreditation for Residency Programs in Family Medicine* (Red Book), the goal of core family medicine residency programs is to train residents who are “competent to enter and adapt to the independent practice of comprehensive family medicine anywhere in Canada.”² The adoption of Triple C enabled the use of a competency-based medical education approach to family medicine residency training. Competency-based medical education is defined as an outcomes-based approach “to preparing physicians for practice that is fundamentally oriented to graduate outcome abilities and the organization around competencies derived from an analysis of societal and patient needs.”³

As part of the Outcomes of Training Project, the CFPC took a step back to explore whether the demonstration of competence alone is enough to reflect a graduate’s preparedness to enter independent practice.

Objective

The adoption of a competency-based medical education approach to residency training implies that competence is a key indicator that family medicine programs use to discern a graduate’s preparedness for independent practice. This review was conducted to explore what the literature says about preparedness for practice and whether competence alone should

continue to be the predominant outcome used to design family medicine residency education and assess family medicine graduates. It considered whether the demonstration of competence equates with the goal of training being preparedness for practice.

Methods

A rapid review was conducted using streamlined systematic review methods and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.⁴ A comprehensive search strategy was developed to search databases including MEDLINE and Embase. The search results were merged into a single database and duplicates were removed. A range of relevant national and international websites of accrediting and certifying bodies was searched, representing the grey literature. The search strategy yielded 10,166 records from two databases and five records from the grey literature. **Figure 1** shows the flow of the search results that led to 34 studies being included in the synthesis by three independent reviewers. Once data extraction tables were completed, the data were organized into thematic categories that were agreed upon by consensus.

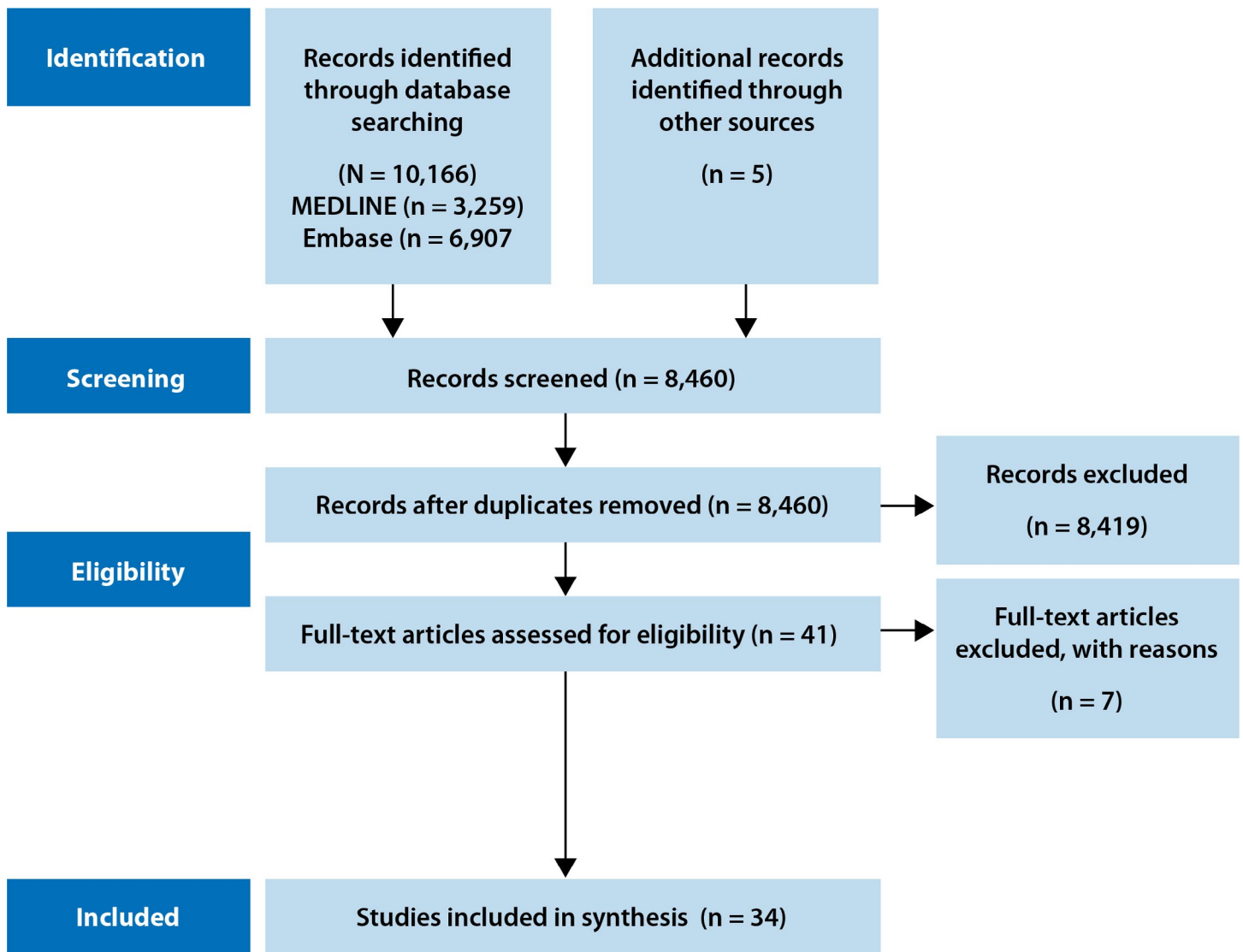
Findings

Thirty-four individual studies were included in the literature review from eight countries (**Figure 1**). The study population included medical graduates, general practitioners/family physicians, physicians from other specialties, and other stakeholders. Twenty-one articles either applied quantitative methods, qualitative methods, or mixed methods or were reviews.

The results highlighted a lack of consensus on the definition of preparedness for practice in the literature. Through a thematic analysis, four dimensions were most commonly associated with the notion of being prepared for practice:

- Competence and competencies
- Confidence (including self-concept and self-efficacy)
- Capability
- Adaptability

Figure 1. Flow chart outlining the inclusion process for articles on preparedness for practice



Competence was generally described as the possession of competencies related to observable abilities of learners that reflect their knowledge, skills (both technical and clinical), values, and attitudes across specific domains and tasks.

Confidence was the second dimension, with two concepts used interchangeably in the studies: self-efficacy and self-concept. Self-efficacy was defined as “an individual’s belief about their ability to control the world around them including their ability to perform

certain tasks.”⁵ Self-concept was defined as the “ability to draw context-free general conclusions about a person’s own skills or knowledge in specific domains.”⁶

Capability was the third dimension that emerged, reflecting the ability to take effective action in unfamiliar, complex, and changing circumstances.⁷

Adaptability was identified as a fourth dimension but was recognized as being closely aligned with capability. Adaptability is the extent to which action is taken in unknown, uncertain, or ambiguous contexts.⁸

Discussion

In the competency-based medical education movement, an underlying assumption has been made that competence at the end of residency equates with being prepared for practice. However, the rapid review found that although often cited, preparedness for practice is rarely defined or used consistently in the literature.

Preparedness for practice based on this review is conceptualized as the interplay among four constructs: competence, confidence (which can be further broken down into self-efficacy and self-concept), capability, and adaptability. In family medicine these concepts align well with the work of family physicians that reflects generalism, community adaptiveness, and comfort in addressing ambiguous, undifferentiated problems. A unique competence of family physicians relates to being comfortable with assessing individuals without a definitive diagnosis and being able to carry out tasks, perform procedures, and apply skills in unfamiliar contexts. Yet the definition of competence requires “descriptive qualifiers for the relevant abilities, context, and stage of training.”⁹ Capability aims to demonstrate the ability to take effective action in unfamiliar and changing circumstances reflective of the context within which family physicians work.⁷ Adaptability, similarly, reflects taking action in unknown, uncertain, and ambiguous contexts,⁸ which again is typical of the work family physicians do. In thinking about the application of these findings in residency education reform, one can see that adopting capability and adaptability in addition to competence in an outcome-based approach to residency education would influence both curriculum design and residency assessment approaches.

Confidence is another key factor that medical educators often gloss over, as they take it as a given that some learners will never feel ready despite being well prepared. However, since a lack of confidence can affect graduates’ practice decisions,¹⁰ those who are skeptical about its importance may need to think again. With the College’s strong social accountability mandate, decisions that family medicine graduates make, particularly those related to their scopes of

practice and locations of practice, are outcomes the CFPC considers important in its Triple C program evaluation.¹¹ Therefore, if confidence is considered an important dimension to measure and include as an outcome of residency training, it would shift how the curriculum is taught and how residents are assessed.

Literature on preparedness for practice highlights that hands-on, practical experiences during training and structured, work-based, experiential learning with patients are important factors.^{12,13} One study highlighted that preparedness for practice was determined by appropriate supervision, relationships between trainers and trainees, trainer approach, positive feedback, workload, teaching effective consultation skills, and the availability of diverse learning opportunities.⁸ Many of these factors may need to be considered by faculty developers and educational designers if confidence is adopted as a key indicator for being prepared for practice.

Another conceptual framework that was identified through the review that holds promise for the CFPC is the Professional Capability Framework, which researchers in Australia developed and has been validated in studies of successful graduates in nine professions.¹⁴ It distinguishes learners’ personal, interpersonal, and cognitive capabilities from those that are both generic and role specific. Adoption of the framework by educators implies designing curricula and assessing learners according to both competencies and capabilities. The framework does not specifically cite the concept of preparedness but rather uses the terms **work ready** or **work ready plus**. Capability in this framework reflects trainees’ abilities to adapt to unfamiliar and complex situations, circumstances, and people, which aligns well with family medicine.

Conclusion

The findings of the rapid literature review are significant as they suggest that if the end point of residency is to prepare residents for independent practice, then focusing on competence alone may not be enough. The preparedness for practice literature highlights that beyond competence, constructs related to capability, confidence, and adaptability are often cited. This review

was designed to identify evidence that could or should influence the educational recommendations being made as part of the Outcomes of Training Project. The findings related to these four constructs do have

relevance for family medicine as a discipline and could be helpful to the College in redefining the specific outcomes of training that can be used for curriculum design, learner assessment, and program evaluation.

Further information

To read the full report—*Preparing Our Future Family Physicians: An educational prescription for strengthening health care in changing times*—and related evidence and scholarship, please visit <https://www.cfpc.ca/rtp>.

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