Redesigning Family Medicine Residency in Canada: The Triple C Curriculum
Andrew J. Organek, MD; David Tannenbaum, MD; Jonathan Kerr, MD; Jill Konkin, MD; Ean Parsons, MD; Danielle Saucier, MD; Elizabeth Shaw, MD; Allyn Walsh, MD

BACKGROUND AND OBJECTIVES: Despite a record of excellence, Canadian family medicine residency programs must respond to the changing face of health care and the needs of the population. A working group was established by the College of Family Physicians of Canada to review the current curriculum and make recommendations for change.

METHODS: Literature reviews of current evidence regarding strategies in postgraduate medical education were carried out, and recent developments in medical education internationally were studied. After recommendations for curriculum change were drafted, workshops, presentations, and peer consultations were conducted over a 4-year period to test ideas and obtain stakeholder feedback.

RESULTS: The core recommendation of the working group is: Residency programs in family medicine are to establish a competency-based curriculum that is comprehensive, focused on continuity, and centered in family medicine—The Triple C Competency-based Curriculum. The working group developed a new framework for family medicine competency in Canada, CanMEDS-FM, to support the transition.

CONCLUSIONS: The Triple C Competency-based Curriculum was developed to redesign Canadian family medicine residencies based on a solid rationale. Recommendations for curricular change, as well as the competency framework, CanMEDS-FM, have been accepted enthusiastically by stakeholders. Implementation and evaluation phases are underway.

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focus their practices, Canadian medical educators have agreed that generalists may well be an endangered species, and action must be taken if the health care system is to meet its responsibility to society. Concomitantly, family medicine has become increasingly mature as a discipline, with a heightened understanding of its importance within the health care system.

Medical education has also been burgeoning with an increasingly sophisticated research base that has enhanced our capacity to teach. Globally, competency-based educational systems have gained currency, as programs seek methods that are more accountable and strive to ensure certain outcomes for their graduates. Findings and strategies from current research on effective learning, as well as new technologies and instructional innovations, must be considered in curriculum design.

Presently the length of residency training in family medicine in Canada is 24 months, with ongoing debate about whether this offers sufficient time to achieve the necessary competencies. Most learning is done in a rotation-based format that includes a minimum of 8 months of core family medicine as well as “off-service” rotations in specialties such as medicine, pediatrics, and obstetrics. While off service, learning opportunities are largely controlled by the departments who operate the clinical service, and resident progress is determined by summative reports.

The development of expertise and professional identity requires repeated, deliberate practice and is fostered through authentic learning in relevant contexts. Our programs must therefore be highly efficient, using the most effective educational methods to achieve desired outcomes in the short timeframe available.

The Section of Teachers Council of the College of Family Physicians of Canada (CFPC) established the Working Group on Postgraduate Curriculum Review (WGCR) in 2006 to reassess the current curriculum and make recommendations for change. This was the first formal review since 1995. This paper summarizes the methods and findings of this group, describing its key recommendations, organized as a “Triple C Competency-based Curriculum.”

Methods

Having determined the need for a formal review of postgraduate family medicine education in Canada, the CFPC Section of Teachers Council, along with the CFPC associate executive director of academic family medicine, approached experts in family medicine education from across Canada to form the Working Group on Postgraduate Curriculum Review (WGCR). Six representatives were selected based on their extensive and varied experience in postgraduate medical education, and two resident representatives were recruited from the CFPC Section of Residents Council (Table 1). All recommendations were to be submitted for approval by the CFPC Section of Teachers Council and Board of Directors.

A research librarian conducted searches of the major databases of peer-reviewed biomedical and education literature, publications of the CFPC, and other national and international medical associations and specialized medical education and grey literature databases for relevant trends in medical education and family medicine, including curriculum development, competency-based education, family medicine-centered education, longitudinal/horizontal/integrated training, scope of practice, enhanced skills training, and clinical domains of training. Additional literature searches were conducted on themes that emerged, including professional socialization, specific domains of clinical care, and principles of family medicine. All search results were maintained in a Web-based repository accessible by all group members.

Following discussion around trends in the literature and a review of the current curriculum, a consensus was reached to consider significant revisions to the curriculum, including a move to a competency-based design. In March 2007, the major themes were summarized as the importance of comprehensive care, continuity, and the centrality of family medicine to the training program.

The WGCR communicated openly with key stakeholders (Table 2) to facilitate input and feedback throughout the review process. A variety of techniques and forums were used to address the challenges of stakeholder heterogeneity and accessibility. Presentations and workshops were developed as communication tools to bring forward evolving concepts to groups of various sizes and backgrounds, and individual stakeholders were invited to attend WGCR meetings.

Annual presentations and workshops at the Canadian Family Medicine Education Forum allowed for larger-scale ongoing dialogue with family medicine educators as the core recommendations were developed.

Within the CFPC, meetings and workshops were held with groups representing residents, medical students, undergraduate medical educators, and the accreditation process. Presentations were made to committees representing rural medical educators and consultant specialists from the Royal College of Physicians and Surgeons of Canada, the organization that assesses all residency programs outside of family medicine.

To ensure buy in from university faculties of medicine, which are responsible for all residency programs in Canada, presentations and retreats were organized for family medicine residency program directors, department chairs of family medicine, and postgraduate medicine deans. The chair of the working group was awarded the D. I. Rice Fellowship from the CFPC, which afforded opportunities to meet with family medicine faculty members.
Table 1: Working Group on Postgraduate Curriculum Review Members, Demographics, and Relevant Experience (as of 2006)

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Geographic Location</th>
<th>Gender</th>
<th>Years in Clinical Practice</th>
<th>Years in Medical Education</th>
<th>Educational Involvement/Expertise</th>
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</thead>
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<tr>
<td>David Tannenbaum (Chair)</td>
<td>University of Toronto</td>
<td>Toronto, Ontario</td>
<td>M</td>
<td>26</td>
<td>23</td>
<td>• Director of Postgraduate Education, Department of Family and Community Medicine</td>
</tr>
<tr>
<td>Jonathan Kerr (Resident Representative)</td>
<td>Queen’s University</td>
<td>Belleville, Ontario</td>
<td>M</td>
<td>0</td>
<td>0</td>
<td>• Chair, CFPC Section of Residents • Member, CFPC Section of Residents Council</td>
</tr>
<tr>
<td>Jill Konkin</td>
<td>University of Alberta</td>
<td>Edmonton, Alberta</td>
<td>F</td>
<td>22</td>
<td>17</td>
<td>• Associate Dean, Rural and Regional Health • Council Member, Society of Rural Physicians of Canada • Former Associate Dean—Admissions and Student Affairs</td>
</tr>
<tr>
<td>Andrew Organek (Resident Representative)</td>
<td>McMaster University</td>
<td>Hamilton, Ontario</td>
<td>M</td>
<td>0</td>
<td>0</td>
<td>• Chair, Education Subcommittee, CFPC Section of Residents • Member, CFPC Section of Residents Council • Member, CFPC Board of Examiners</td>
</tr>
<tr>
<td>Ean Parsons</td>
<td>Memorial University of Newfoundland</td>
<td>St. John’s, Newfoundland and Labrador</td>
<td>M</td>
<td>23</td>
<td>20</td>
<td>• Former Member, CFPC Examination and Accreditation Committees • Former Assistant Dean, CPD • Former Postgraduate Program Director</td>
</tr>
<tr>
<td>Danielle Saucier</td>
<td>Laval University</td>
<td>Québec City, Québec Province</td>
<td>F</td>
<td>21</td>
<td>21</td>
<td>• Former Chair, CFPC Section of Teachers • Former Postgraduate Program Director • Program coordinator for the renewal to a competency-based program, Laval University</td>
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from a number of the university sites, testing and gaining feedback on the curriculum reform recommendations.

Through critical review of feedback from stakeholders, the WGCR was able to refine its vision, identify sources of resistance, and gain support. The three key directions of comprehensiveness, continuity, and family medicine-centered training were easily accepted both within the group and the stakeholder communities. In contrast, consensus for a move to a competency-based curriculum was achieved only after extensive review and discussion. With the development of a novel framework, and consultation with stakeholders surrounding logistics and implications, it became clear that this would be the most appropriate method to provide a renewed postgraduate curriculum.
The WGCR published an Interim Report in March 2010, which presented 11 recommendations for change, all related to a Triple C Competency-based Curriculum.

**Results**

*Introducing the Triple C Competency-based Curriculum*

The central message of the WGCR is that each family medicine residency program in Canada is to establish a competency-based curriculum that is comprehensive, focused on continuity, and centered in family medicine—the Triple C Competency-based Curriculum. The 11 main recommendations derived from the work of the group are listed in Table 3, and more details are available at www.cfpc.ca/Triple_C.

**Competency-based Curriculum**

Competency-based educational programs define learning objectives by the intended outcome of training. The outcome is the acquisition of competencies that the learner must demonstrate by the completion of training to be granted certification. The degree to which a training program is able to achieve the expected educational outcomes among its

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Table 1: Continued

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<tr>
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<th>Institution</th>
<th>Geographic Location</th>
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<th>Years in Clinical Practice</th>
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<th>Educational Involvement/Expertise</th>
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<tr>
<td>Elizabeth Shaw</td>
<td>McMaster University</td>
<td>Hamilton, Ontario</td>
<td>F</td>
<td>23</td>
<td>13</td>
<td>• Postgraduate Program Director&lt;br&gt;• Executive Council Member, CFPC Section of Teachers</td>
</tr>
<tr>
<td>Allyn Walsh</td>
<td>McMaster University</td>
<td>Hamilton, Ontario</td>
<td>F</td>
<td>27</td>
<td>27</td>
<td>• Chair, CFPC Accreditation Committee&lt;br&gt;• Chair, AFMC Committee on Faculty Development&lt;br&gt;• Assistant Dean, Program for Faculty Development&lt;br&gt;• Former Postgraduate Program Director</td>
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**Table 2: Key Stakeholders for Family Medicine Postgraduate Education in Canada**

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<tr>
<th>Internal to College of Family Physicians of Canada (CFPC)</th>
<th>Section of Residents of the CFPC</th>
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<td>Section of Medical Students of the CFPC</td>
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<td></td>
<td>Undergraduate Committee, CFPC</td>
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<td>Accreditation Committee, CFPC</td>
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<td>Working Group on the Certification Process, CFPC</td>
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<tr>
<td>External to CFPC (Canada)</td>
<td>National Family Medicine Residency Program Directors</td>
</tr>
<tr>
<td></td>
<td>Conjoint Committee on Rural Medical Education, CFPC, and Society of Rural Physicians of Canada</td>
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<tr>
<td></td>
<td>Royal College of Physicians and Surgeons of Canada (RCPSC)</td>
</tr>
<tr>
<td></td>
<td>Chairs of Family Medicine and Postgraduate Deans from Canadian medical schools</td>
</tr>
<tr>
<td>External to CFPC (International)</td>
<td>World Organization of Family Doctors (Wonca) Europe (2009)</td>
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<tr>
<td></td>
<td>International Conference on Postgraduate Medical Education (2009)</td>
</tr>
<tr>
<td></td>
<td>Brazilian Congress of Family Medicine (2009)</td>
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Moving to a competency-based curriculum is the most fitting way to prepare future family physicians, in accordance with international educational trends and societal expectations. This option is well supported by educational theories and practical experience but does involve a fundamental paradigm shift. It recognizes that the development of professional competence is best achieved when learning occurs within a profession’s unique culture. It takes into account the complexity of professional practice, the necessity of becoming a reflective practitioner, and contributes directly to the development of professional identity. Thus, a profound understanding of professional practice is an integral part of this world view.

Various frameworks have been used to define competency in family medicine internationally and across Canada. After carefully reviewing many of these frameworks, the WGCR decided to focus on those developed in the Canadian context, believing that these are better adapted to describing the roles of physicians as they are uniquely played out in Canada. CanMEDS-Family Medicine (CanMEDS-FM) was developed by the WGCR, and approved by the CFPC in June 2009, as the official framework of required competencies for family medicine postgraduate education in Canada.

CanMEDS-FM, a modification of the Royal College of Physicians and Surgeons’ CanMEDS 2005 framework, reflects family physicians’
general competencies. It is a broad and comprehensive description of family physicians’ roles in their work with patients, families, other health professionals, and communities. The terminology is intuitive, and family physicians, learners in family medicine, and others will gain an appreciation for the breadth of the discipline, the depth of the skills required for effective practice, and the crucial importance of family medicine as the foundation of health care for most individuals and families. CanMEDS-FM is available online at: http://www.cfpc.ca/Triple_C.

**Comprehensiveness**
Family medicine residency training programs must model comprehensiveness and train their residents to this standard. Postgraduate education programs have a social contract to train physicians who meet community needs. There is little doubt that family physicians who provide comprehensive care are required. Starfield included comprehensive care as one of the six practice characteristics linked to better health outcomes.

Residency and the first years in practice represent the steepest part of the family medicine learning curve, and the focus during this time must be on comprehensive family practice. The goal of residency education is to allow residents to provide a prescribed level of comprehensive care upon graduation to meet societal needs, while understanding that learning will continue throughout practice.

The WGCR reviewed several efforts to define comprehensive care in the Canadian context, and summarized the scope of practice within their report.

Residency training in family medicine must model the comprehensive care needed to maintain the relationships between patients and their family physicians and encourage residents to adopt such a practice. Comprehensiveness of education, with repeated integration of competencies in a variety of settings, contributes to the ability to provide comprehensive care.

**Continuity**
Continuity is key to the development of physicians whose practice is truly comprehensive. Family medicine residency should therefore demonstrate continuity of both patient care and education.

Continuity of patient care is a fundamental component of family medicine that improves physician and patient satisfaction, and more importantly, patient outcomes. The benefits of continuity of care include increased efficiency of the visit(s), improved health outcomes, enhanced trust, and increased satisfaction for both patient and physician. Lack of continuity has been associated with higher morbidity, difficult consultations, nonattendance, and an increase of utilization of open-access clinics.

Teaching continuity of care within the time constraints of a residency program has many challenges, as it often requires multiple physician-patient encounters, consistent availability for patients, and time for reflection on these interactions. Longitudinal relationships between patient and learner afford significant advantages in learning about a patient's response to illness over time, the natural history of disease, and the rewards of long-term relationships with patients. Many programs attempt to address this through half days of family medicine clinic during non-family medicine learning experiences, but these can create logistical challenges and do not address many aspects of continuity of care.

Other strategies, such as the use of longitudinal program structure, have the potential to ensure that residents experience the many facets and benefits of continuity of care.

Continuity of education, both in supervision and the learning environment, is equally important in a competency-based approach. Teaching and assessment facilitated by a small core of primary preceptors contributes to authentic assessment of learners over time. As trust builds between learner and teacher, the independence and autonomy of the learner increases in a safe, supportive environment. Continuity of the learning environment fosters both patient centeredness and learner centeredness and allows for more opportunities for continuity of patient care. While most research in this area has been in undergraduate medical education, it is applicable to family medicine postgraduate medical education. A shift to programs being centered in family medicine will increase the continuity of learning environment.

**Centered in Family Medicine**
In a family medicine-centered curriculum, family medicine must be the focus of, and central to, learning. Residency programs must be based primarily in family medicine settings, using family physician teachers as role models. Some focused specialty experiences, designed to meet specific competencies, may be required to complement this primary training. Such a curriculum, which is often delivered longitudinally, actively integrates all acquired skills and knowledge to the family medicine context. As family medicine training in Canada has evolved from the tradition of the rotating internship, the notion that residents should spend the majority of their time in their own discipline is a novel one. Many programs currently rely on multiple specialty rotational experiences, with residents spending more than half of their time outside of family medicine. This shift toward family medicine-centered training will have significant implications with regard to education resource needs within family medicine and to the availability of family medicine residents to support clinical service requirements in certain specialty rotations.

Position papers from Australia, the United Kingdom, and the United States have all emphasized the
importance of this educational focus, and evaluations of longitudinal curricula at the undergraduate level suggest improved humanism, patient centeredness, and professionalism. Limited literature at the postgraduate level does show improvement in continuity and opportunities for developing strong patient-physician relationships.

Sound educational theory also supports this direction. For residents to develop unique expertise related to complexity, uncertainty, and the centrality of the patient-physician relationship, they must train in environments that provide opportunities for deliberate practice. Repeated, ongoing family medicine experiences permit exposure to role models and the development of a positive professional identity. Residents must be engaged in activities with direct relevance to the acquisition of required competencies to maximize efficiency of training.

Discussion

“Family physicians are skilled clinicians who provide comprehensive, continuing care to patients and their families within a relationship of trust. Family physicians apply and integrate medical knowledge, clinical skills, and professional attitudes in their provision of care. Their expertise includes knowledge of their patients and families in the context of their communities and their ability to use the patient-centered clinical method effectively.”

What began in 2006 as a review of family medicine postgraduate curriculum, and an attempt to update and modernize the delivery of family medicine education in Canada, rapidly evolved into a discussion of the very definition of family physician’s work and the discipline of family medicine. Through review of international frameworks, and current literature, it is clear that despite the distinct communities served, family physicians, as well as family medicine educators, are facing many similar challenges worldwide.

As competency frameworks are context dependent, and are developed on the basis of local professional settings and community needs, it is expected that the framework adopted for family medicine in Canada, CanMEDS-FM, will differ from other frameworks and should evolve over time.

With the current crisis facing generalism, the discipline of family medicine must seek to distinguish itself within the health care system. The descriptions within the CanMEDS-FM Roles bring external clarity to the practice of family medicine in Canada and will play an important part in modeling family medicine for medical students, residents, and practicing family physicians.

The Triple C Competency-based Curriculum was developed to emphasize the unique elements of family medicine. Continual engagement and survey of stakeholders throughout its development resulted in strong support from across the country. The CFPC Undergraduate Committee was among the earliest to express excitement over the release of CanMEDS-FM and has already adapted this framework using level-appropriate competencies. The CFPC has established a task force for the implementation of the recommended curricular changes, and their work will continue to look at strategies to deliver and evaluate a Triple C Competency-based Curriculum.

The constantly changing nature of the medical environment and the ever-evolving role of family physicians in society—and, consequently, the changing content of training over time—make essential the creation of a process for reassessment, renewal, and periodic update for the competency framework.

Conclusions

The Triple C competency-based approach to family medicine residency education has been developed to train Canadian family medicine residents using the best available evidence in medical education, with CanMEDS-FM defining family medicine in the Canadian context. This document provides language that emphasizes the importance and contribution of family medicine in society. Accordingly, training in family medicine should be provided in a way that is unique from other medical specialties. The recommendations brought forward by the WGCR serve to accomplish this.

While dissemination of the WGCR’s recommendations has begun through presentations, meetings, and publications, further work will be required to assist programs with the implementation and ongoing evaluation of the curricular change. The early adoption and excitement surrounding a move towards a Triple C Competency-based Curriculum is promising, as Canada looks to respond to the health care needs of its population.

The Triple C Report is available at www.cfpc.ca/Triple_C.

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References


