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FAMILY PHYSICIANS  
OF CANADA



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# Triple C Competency-based Curriculum

Report of the Working Group on Postgraduate  
Curriculum Review – Part 1

March 2011

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Canadian  
Family Medicine  
Curriculum



Le cursus en  
médecine familiale  
au Canada

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# Executive Summary

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In June 2009, the College of Family Physicians of Canada's (CFPC) Board of Directors passed a resolution stating that the Working Group on Postgraduate Curriculum Review (WGCR), a subcommittee of the Section of Teachers Council, was to prepare a report outlining a proposal for the introduction of a competency-based curriculum for family medicine residency training, using the CanMEDS–Family Medicine (CanMEDS-FM) framework\* to guide its development. A draft version of the report was completed in spring 2010 and endorsed by the Section of Teachers in July 2010.

The central recommendation of the WGCR is that each family medicine residency training program in Canada is to establish a **competency-based curriculum** in family medicine that is **comprehensive**, focused on **continuity**, and **centred** in family medicine—the **Triple C Competency-based Curriculum (Triple C)**.

## Triple C Competency-based Curriculum Summary of Concepts

- **Competency-based Curriculum**

A competency-based curriculum uses carefully designed curricular elements to achieve clearly stated desired outcomes. This outcomes-oriented approach will take the place of the traditional time-based educational strategies currently in place in most residency programs. The competency material developed by the CFPC (CanMEDS-FM, priority topics and key features, six skill dimensions, and Scope of Training) guides programs in the provision of appropriate educational opportunities for their residents and in working with individual residents to track and document the achievement of these competencies. The CanMEDS-FM framework defines the competencies appropriate for family physicians providing comprehensive care, which all residents will work toward throughout their training.

- **Comprehensive Care and Education**

Family medicine residency programs have a responsibility to society that requires them to educate physicians to meet community needs through the delivery of comprehensive care. Family medicine residency training programs must model comprehensive care and train their residents to this standard. This necessitates the establishment of a comprehensive curriculum which enables the learner to achieve the full range of required competencies as defined within the CanMEDS-FM framework. The Scope of Training document (to appear in Part 2 of the Report) outlines the domains of clinical care that must be included in residency training, and

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\* The CanMEDS-Family Medicine framework was adapted from: Frank, JR, ed. The CanMEDS 2005 physician competency framework. Better standards. Better physicians. Better care. Ottawa: The Royal College of Physicians and Surgeons of Canada; 2005 [cited 2009 Dec 14]. Available from: <http://rcpsc.medical.org/canmeds/index.php>.

highlights evolving professional competencies needed for effective comprehensive care. The goal of residency education is to allow residents to provide a prescribed level of comprehensive care upon graduation, while understanding that learning will continue throughout practice.

- **Continuity of Education and Patient Care**

Continuity is key in the development of physicians whose practice is truly comprehensive. There must be 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. Continuity of education includes three elements: supervision, learning environment, and curriculum. Teaching and assessment facilitated by assigning 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-centredness and learner-centredness, and allows for more opportunities for continuity of patient care. A shift to programs being centred in family medicine will increase the continuity of learning environment. Continuity of curriculum involves a well-coordinated series of learning elements and experiences that promote integrated learning and progressive development of competencies.

- **Centred in Family Medicine**

A curriculum that is centred in family medicine implies the following: family medicine program coordinators must have full **control** over the curriculum plan and its goals and curricular elements; the **context** of learning must be primarily family medicine settings, using family physician teachers, recognizing that augmentation with teachers and contexts outside family medicine may well be necessary for residents to achieve the full range of competencies; the learning **content** must be relevant to the needs of family medicine trainees, such that in every educational experience residents must develop their identity as family physicians and attain relevant foundational competencies.

## Recommendations

Eleven recommendations were endorsed for the implementation of the Triple C. These recommendations will impact various levels of the College's work in education, practice, and policy both internally and externally.

1. The goal of training should be to produce family physicians who are competent to practice comprehensive, continuing care.
2. The scope of learning in family medicine should be comprehensive, and defined by a set of competencies organized under the seven professional Roles of the CanMEDS-FM framework.
3. Continuity should be an important principle in family medicine residency training:
  - i. Continuity of patient and family care

## ii. Continuity of education

4. A competency-based approach should be used to guide curriculum development and planning. Expected learning outcomes should be derived from CanMEDS-FM and related documents. Learning experiences should be designed with the explicit intent of assisting residents in the acquisition and demonstration of these competencies.
5. Acquisition of specific competencies should be assessed regularly, and the assessment process should be embedded in the curriculum. Promotion should depend upon achievement of competency rather than upon time in training.
6. Family medicine program planners should maintain ownership over all aspects of the curriculum to ensure that family medicine and family medicine-relevant experiences form the curriculum.
7. Experienced and skilled family medicine teachers, providing comprehensive care individually or as a group, should form the core of the educational faculty.
8. Residents should take enhanced responsibility for their learning and for demonstrating the acquisition of competencies.
9. The final performance of residents should be a shared responsibility between residency training programs and the residents themselves. This implies that programs should offer the full range of learning opportunities, that learning outcomes should be properly assessed, and that flexible, individualized training should be available to permit residents to acquire the expected competencies.
10. Most residents should achieve the expected learning outcomes of the core family medicine program within a 24-month time frame; however, some will require a longer training period, which should be available when needed.
11. Enhanced skills training programs should be structured and operated in a manner that is consistent with the above recommendations. Skills in comprehensive, continuing care should be maintained during periods of extended training.

While dissemination of the working group's recommendations has been supported by the Section of Teachers Council, and the recommendations have been shared across the country through presentations and meetings, further work is required to assist university programs in implementing these recommendations. Additional components of the WGCR report, designed to facilitate the implementation of the Triple C are expected to be completed in 2011.

This report has been produced to share the recommendations of the WGCR and to stimulate change in Canada's family medicine residency programs. The work shared in this report is meant to be inclusive and iterative. Changing curriculum requires a gradual process that must be conducted carefully, with continual reflection and clear involvement of those most affected by the changes. Stakeholders' feedback, comments, and suggestions are welcomed.

# Background

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The College of Family Physician of Canada's Section of Teachers Executive committee established the Working Group on Postgraduate Curriculum Review (WGCR) in late 2006. The working group's task was to review the postgraduate curriculum in family medicine in Canada. This was to be the first review since 1995.

The specific terms of reference for the working group were as follows:

- To review recent trends in medical education.
- To incorporate recent initiatives of the College of Family Physicians of Canada (CFPC) into the curriculum.
- To make recommendations for changes to the current standards, if necessary.
- To recommend modifications, if necessary, to the Four Principles of Family Medicine so that they would reflect changes to the current standards.

The working group met for the first time in March 2007 and has continued to meet for two-day sessions approximately three to four times a year. The group members are listed below.

David Tannenbaum	Chair
Jonathan Kerr	Section of Residents, CFPC (later Queen's University)
Andrew Organek	Section of Residents, CFPC (later community family physician)
Jennifer Tong	Section of Residents, CFPC
Victor Ng	Section of Residents, CFPC
Jill Konkin	University of Alberta
Ean Parsons	Memorial University
Danielle Saucier	Université Laval
Elizabeth Shaw	McMaster University
Allyn Walsh	McMaster University
Lynn Dunikowski	CFPC
Paul Rainsberry	CFPC
Debby Lefebvre	CFPC

Dr. Tong joined the group as the new resident representative in October 2009. She was replaced by Dr. Victor Ng in July 2010.

The working group sought input from various stakeholders and maintained communication with the Section of Teachers Executive, the Board of Directors of the CFPC, and educators across the country through a number of presentations and discussions. Among those consulted were:

- Section of Residents of the CFPC.
- Section of Medical Students of the CFPC.
- Undergraduate Committee, CFPC.
- Accreditation Committee, CFPC.
- Working Group on the Certification Process, CFPC.
- Residency Program Directors.

- Conjoint Committee on Rural Medical Education, CFPC and Society of Rural Physicians of Canada.
- Royal College of Physicians and Surgeons of Canada (RCPSC).

Meetings also have been held with Chairs of Family Medicine and Postgraduate Deans from Canadian medical schools. At these meetings, recommendations have been presented and implications have been discussed.

Furthermore, a number of presentations and workshops were held at the Family Medicine Education Forums and Family Medicine Forums from 2007 to 2010 where updates were given, ideas were shared, input was obtained, and detailed feedback from stakeholders was gathered.

In addition, the group's work was presented at a number of international conferences, including:

- Association for Medical Education in Europe (2009).
- World Organization of Family Doctors (WONCA) Europe (2009).
- Canadian Conference on Medical Education (2009).
- International Conference on Postgraduate Medical Education (2009).
- Brazilian Congress of Family Medicine (2009).

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 from a number of Canadian medical schools. The following schools were visited:

- University of Calgary.
- University of Ottawa.
- University of Toronto.
- University of Saskatchewan.
- Queen's University.
- McGill University.
- Dalhousie University.
- University of Western Ontario.

A retreat for postgraduate residency family medicine program directors was held in March and December 2010.

The working group's initial mandate was for two years. In June 2009, the mandate was extended for an additional two years. In 2010, the CFPC struck an Implementation Task Force to operationalize the recommended curricular changes suggested by the WGCR and endorsed by the Section of Teachers Council.

The Working Group's main recommendation is for Canadian Family Medicine Residency Programs to implement a **competency-based curriculum** that is:

- **Comprehensive**
- Focused on **continuity** of education and patient care
- **Centred in family medicine**

Together these recommendations form the **Triple C Competency-based Curriculum (Triple C)**. The overall goal is to prepare new family physicians to provide effective clinical and professional practice over the coming decades.

Part 1 of the report, divided into three sections, demonstrates the methodology that was employed in arriving at the recommendation for curriculum change.

**Section 1** provides an introduction and rationale for the need to modify the curriculum in residency training in family medicine in Canada. It addresses accountability to society, social responsibility, patient safety, and efficiencies in educational programming. In this section, the WGCR argues for the need to produce sufficient numbers of family physicians who provide comprehensive, continuing care within traditional family practices and newer models of interprofessional practice in order to meet the health care needs of Canada and its communities.

**Section 2** offers in-depth analysis of the key directions that comprise the Triple C.

**Section 2.1** is a discussion of the need for comprehensive education and comprehensive care as a basis for the residency curriculum. Included is the understanding that comprehensive care skills will also be part of enhanced skills training programs. The WGCR recognizes that the graduating trainee's competencies will be at the level of the beginning professional and that competencies will change over time, adapting to the practice setting and community needs. Mentoring in the early years of practice will be important in the overall acquisition of necessary skills.

**Section 2.2** addresses issues related to continuity—both continuity of patient care and continuity of education. These are considered focal strategies in a resident's experience. Continuity of education is described in three areas—continuity of supervision, continuity of the learning environment, and continuity of curriculum.

**Section 2.3** provides a detailed review of the definition of and rationale for the overall educational strategy—that programs should move toward a **competency-based curriculum**. The WGCR discusses the need for clearly articulated competencies as desired outcomes of training, and the use of CanMEDS-FM to establish global curriculum perspectives. Stages of competence and the “competency trajectory” are described. Comparisons of competency-based and time-based curricula are presented, as are the three main components of a competency-based curriculum:

- Defined expected educational outcomes.
- Relevant learning opportunities, with role models, patient populations, and practice opportunities congruent with expected outcomes.
- Ongoing assessment and measurement of learners' progress, to ensure that competencies are acquired.

**Section 2.4** comprises a discussion of the third “C”—a program that is centred in family medicine—ensuring that family medicine learning experiences and the family medicine environment are predominant in programs. Underpinning this component of the Triple C

is the educational principle that the learning environment is crucial in achieving desired outcomes and fostering professional identity. A detailed comparison of the features of family medicine-centred curricular models and block/rotational models is presented.

**Section 3** focuses on competency frameworks used in medical education and presents CanMEDS-FM as the framework selected and developed for family medicine postgraduate education in Canada. The origin of CanMEDS, the rationale for its use, and the links between CanMEDS-FM and the Four Principles of Family Medicine are discussed. The full CanMEDS-FM document appears as Appendix 1.

A second component is under development by the WGCR and is expected to be released in 2011. This will include discussions of the scope of family medicine training, practical implications of the Triple C, implementation strategies and an implementation checklist, and operational considerations, including program length, Enhanced Skills programs, and faculty development. Examples of the Triple C initiatives from across the country may also be provided. Work is currently being undertaken at the CFPC to develop accreditation standards that align with the advancement of the Triple C. These standards are forthcoming.

# Section 1: Introduction: Rationale for Curriculum Review

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## 1.1. Problem Definition

Family medicine residency training in Canada is currently on a strong footing with 17 universities offering broad-based training programs that produce several hundred graduates each year. These graduates are recognized locally, nationally, and internationally as well-qualified family physicians and they are able to secure clinical and academic positions locally, nationally, and beyond.

Yet there is no place for complacency. The demands upon family physicians are increasing from the standpoint of standards of care, changing demographics, accountability frameworks with new models of care, and patients as consumers. Iedema et al. describe how patients' longstanding, relatively forgiving attitude has moved toward alarm about timely access to care, medical error, and safety.<sup>1</sup> Government funders are also concerned about the cost-effectiveness and efficiency of health care delivery. Our postgraduate programs need to consider these changing expectations and accountabilities.

Our educational programs struggle at times to provide the necessary education to residents in the shortest residency program of all specialties for the broadest clinical discipline. This is complicated by a system that often seems to value *depth* over *breadth* of knowledge. Family medicine education programs have been developed from the tradition of the rotating internship and, as a result, our residents can spend a considerable amount of time on rotations that are more about tradition and non-educational service than education. There is a need to move to more efficient and effective programs with a curriculum centred firmly in family medicine and aimed at its practitioners. Such programs must be designed from the start to meet the goal of producing competent family physicians who provide comprehensive care.

Canada has not been producing a sufficient number of family physicians to respond to the needs of its growing, aging, and dispersed population. Family medicine residency programs in Canada struggle to attract an adequate number of medical school graduates for the requirements of the health care system: about 35% of entry positions into postgraduate training have been filled in the past few years throughout the country, when the evidence would indicate that more are required to respond to population needs.<sup>2,3</sup> The reasons for this deficit are complex and cannot be solved by educational interventions alone. Family medicine programs must, however, continue to be credible and forward-thinking in order to meet the needs of our communities and our country.

The Association of Faculties of Medicine of Canada adopted the World Health Organization's statement on social accountability: "[Medical Schools have] the obligation to direct their education, research and service activities towards addressing the priority health concerns of the

community, region, and/or nation they have a mandate to serve. The priority health concerns are to be identified jointly by governments, health care organizations, health professionals and the public.”<sup>4</sup>

While shortages exist in most areas of medicine, we must recognize the high-level needs of Canada’s health care delivery system. Such recognition will encourage support for meeting the urgent need to graduate family physicians who are capable, competent, and enthusiastic about pursuing comprehensive, continuous care in the wide range of communities that make up the Canadian mosaic.

Comprehensive care, in particular as it allows continuity of care with a family physician, has been shown to be important not just to patients but to the health care system. Using information from Sweeney et al.’s 1995 study on costs, De Maeseneer et al. determined that “the relationship between provider continuity with the family physician and total costs of health care while controlling for differences in morbidity... adds strong evidence to the conclusion that provider continuity with a family physician might be cost saving.”<sup>5</sup> Further, “lack of continuity is associated with higher morbidity, difficult consultations, nonattendance and an increase of utilization of open-access clinics.”<sup>5</sup> Findings on the importance of this continuity with family medicine hold true both in family physician-focused practices and in those organized around multidisciplinary teams.<sup>6,7</sup> Thus, residency training in family medicine must model the comprehensive care needed to maintain the continuity of relationships between patients and their family physicians, and to encourage residents to adopt such a practice. In this context, the growing numbers of family physicians who choose to focus their practices rather than provide the full scope of care typical of previous generations of general practitioners/family physicians—and to do so earlier in their careers—need to be recognized as a significant challenge to the discipline of family medicine.

In 2004, The College of Family Physicians of Canada (CFPC) published *Family Medicine in Canada, Vision for the Future*, not just as a response to the shortage of family physicians and the need for increasing support for our discipline, but also to help plan for the next decade of family medicine.<sup>8</sup> Several of the recommendations involved postgraduate family medicine education, and the need to review accreditation standards and curricula to ensure that a comprehensive core curriculum is offered to all family medicine residents. In this report, patient access to comprehensive continuing care in Canada was identified as a major problem—as a crisis, in fact. There is no evidence that improvement has occurred since that time; the situation may well be worse.

Medical educators at a 2006 Canadian Conference on Medical Education plenary session agreed that generalists may well be an endangered species, and that medical schools and the medical profession need to take action if the health care system, as it is currently designed, is to survive.<sup>9</sup>

In the 2010 report from the Association of Faculties of Medicine of Canada, *The Future of Medical Education in Canada*, generalism is recognized as a key element in undergraduate education. The report states: “While there is no question that specialization has led to improved care for specific conditions, it can be argued that this progress comes at the expense of a more

holistic perspective and appreciation of the role of generalism and family practice.”<sup>10</sup> The report emphasizes the need to increase the number of family physicians and other generalists in undergraduate medical education.

The Section of Residents of the CFPC also has expressed concern about their training. The Section maintains and regularly reviews the *Guide to the Improvement of Family Medicine Training*, a document that details residents’ perspectives on their training programs and makes recommendations for enhancement. This document reveals that residents across Canada believe their training is, at times, too highly focused and provided in contexts that are not relevant to their future family practices.<sup>11</sup>

## 1.2. Responding to a Changing Context

All educational programs must adapt constantly to meet the changing demands of society and health care systems. Primary health care is changing, the population and its health needs are changing, and stakeholders’ expectations are changing. Family medicine as a discipline has become increasingly mature in the past five decades, with well-defined parameters and a sophisticated research base. Furthermore, our knowledge of what is educationally effective continues to advance. The Future of Medical Education in Canada (FMEC) project has involved an extensive review of undergraduate medical education, not just in Canada, but globally;<sup>10</sup> it has included recommendations that will certainly require reinforcement in postgraduate training in general, as well as in family medicine. In particular, the importance of linking training to community need, learning in community contexts, exposure to intra- and interprofessionalism, the use of a competency-based approach to education, and the importance of generalism all have direct implications for the education of family medicine residents in Canada.

We are accountable to the public and to government for the quality and consistency of practice in graduates of our family medicine education programs. We must ensure that we are providing a renewable curriculum for training in our discipline, which not only adapts to change but also anticipates it.

- **Refocusing Family Medicine**

In June 2007, Dr. John Saultz<sup>12</sup> suggested that family medicine should refocus the health care system from:

- Personal care to population care.
- A small-business mentality to an interdisciplinary organizational systems approach.
- Quality processes to quality outcomes.
- Single, discipline-based practices to interdisciplinary teams.
- Understanding the patient to helping the patient understand.
- Thinking about *what* health care is provided to thinking about *how* health care is provided.

The CFPC has recommended the medical home concept.<sup>13</sup> This concept is founded upon the ongoing relationship between the patient and his or her family physician. Key elements include coordinated, continuous, and comprehensive care for the patient as a whole person.

As educators, we are responsible for preparing new family physicians to practice in these ways. We also must prepare them to contribute to the further development of models that will enhance the effectiveness, quality, and accessibility of care.

- **Clinical and Health System Changes**

Interprofessional education and perspectives are increasingly valued. The delivery of care has shifted from hospital to home for acute physical illness and for mental health care; this shift has an impact on and enlarges the role played by family physicians, who must fill the gaps to meet their patients' needs. The curriculum must be responsive as community needs change, and as the interplay among social, scientific, and economic forces shapes health care. Our social contract is to meet the needs of our community—we break this contract at our peril. In order to maintain our autonomy, we must find a balance between providing the service that communities need and doing the work that we, as physicians, feel comfortable and happy providing. Governments will move to develop delivery systems that exclude family physicians if we do not come to the table with innovative solutions to meet community needs. There is solid evidence of the quality of care, which is reflected in health outcomes and in the cost-effectiveness of family medicine,<sup>14,15</sup> yet governments have been slow to understand family physicians' key role.

- **Educational System Changes**

In 2003, Irby and Wilkerson<sup>16</sup> ably described important trends in the medical education environment, which were shifting the delivery of training programs:

- The demand for increased clinical productivity.
- Multidisciplinary approaches to science and education.
- The science of learning and advocating case-based, active learning methods and communities of learning.
- Shifting views of health and disease leading to new content and contexts of learning.
- Accountability for educational outcomes, resulting in new learner assessment methods.

Although written in an American context, these trends are influencing Canadian programs.

Research in medical education has thrived and continually produces guidance on effective methods of training, which must be taken into account as training programs move beyond the ancient apprenticeship models. Globally, competency-based educational systems have gained increasing currency as programs seek methods that are more accountable and strive to ensure certain outcomes for their graduates.

Our residency programs and the CFPC are challenged by many stakeholders to change both curricular content and educational strategies. The learners in our system rightly expect the best and most appropriate education, designed to produce the best possible family physicians who are prepared to adapt to this dynamic environment. Findings and strategies from current research on effective learning, as well as new technologies and instructional innovations, must be considered in curriculum design. At the same time, various professional and social organizations recommend adding areas of focus and/or an increased level of achievement for various

competencies, which are based on their understanding of importance and societal need. Meanwhile, the amount of time each week devoted to residents' training and, consequently, the amount of clinical exposure have decreased as rules change about acceptable length of sleep deprivation and continuous work. Other absences from residency are also increasing, as resident organizations achieve longer parental leaves. While the impact of these changes on patient care is controversial,<sup>17</sup> there is an undoubted impact on the number of hours available for residency education.

Expertise requires repeated, deliberate practice,<sup>18</sup> and the majority of deep learning must take place in the clinical context relevant to future practice. If our future family physicians are to develop not just routine expertise but also the adaptive expertise necessary for the highest quality of medical care, their training must be community-based and provide sufficient appropriate hospital experience to render them capable of providing comprehensive care, the goal of family medicine training.

Becoming a physician is more than the acquisition of medical expertise. The learning environment needs to nurture all of the professional roles elucidated in the CanMEDS-Family Medicine (CanMEDS-FM) document. In essence this is about professional identity formation: "Formation... involves the process of becoming a professional through expanding one's knowledge, understanding, and skilful performance; through engagement with other members of the profession, particularly more experienced others; and by deepening one's commitment to the values and dispositions of the profession into habits of the mind and heart."<sup>19</sup>

- **Rising to the Challenge**

The development of expertise and professional identity is fostered in authentic learning. Newman et al. (1996) describe authentic learning as being self-directed, inquiry based and consisting of learning experiences that are real and valued.<sup>20</sup> The recommendations of this report increase the authenticity of the family medicine resident education. Our programs must be highly efficient using the most effective educational methods possible. The changes we propose in this report will also make our programs more attractive to medical school graduates.

### **1.3. Key Directions: The Triple C Competency-based Curriculum**

After careful deliberation, the WPCR came to the conclusion that residency training programs should develop and implement a competency-based curriculum that is:

- Comprehensive
- Focused on continuity of education and patient care
- Centred in family medicine

Together these recommendations form the **Triple C Competency-based Curriculum (Triple C)**.

## **Comprehensive Care and Education**

Family medicine residency programs have a responsibility to society that requires them to educate physicians to meet community needs through the delivery of comprehensive care. Family medicine residency training programs must model comprehensive care and train their residents to this standard. This necessitates the establishment of a comprehensive curriculum which enables the learner to achieve the full range of required competencies as defined within the CanMEDS-FM framework. The Scope of Training document (to appear in Part 2 of the Report) outlines the domains of clinical care that must be included in residency training, and highlights evolving professional competencies needed for effective comprehensive care. The goal of residency education is to allow residents to provide a prescribed level of comprehensive care upon graduation, while understanding that learning will continue throughout practice.

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# Section 2: The Key Directions: Definitions and Rationale

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## 2.1. Comprehensive Care and Education

- **The Importance of Comprehensiveness**

Starfield (2002) has linked better health outcomes to six practice characteristics, all of which are integral to family practice<sup>1</sup>:

- First-contact care.
- Longitudinal care (continuity of care).
- Comprehensive care.
- Coordination of care.
- Family-centred care.
- Community orientation.

As part of the social contract, family medicine education should be built around these characteristics. If this is to occur, family medicine residents must be provided with a curriculum that enables them to attain the competencies to provide comprehensive patient care. The other five elements are equally important; however, if a curriculum (training) is to be provided in a short period, education in comprehensive patient care and experience with continuity of care can be most challenging to provide. Indeed, these can also be the most challenging aspects of practice.

In 2004, *Family Medicine in Canada, Vision for the Future*<sup>2</sup> recommended that the core curriculum for all family medicine residents include maternity care (including intrapartum obstetrics), emergency medicine, palliative care, mental health care, and care of the elderly, as well as the Primary Health Care of the Provincial Co-ordinating Committee for Community and Academic Health Sciences Centre Relations (PCCCAR) list of mandatory functions for primary care agencies. These functions, often referred to as a “basket of services,” consist of the following<sup>3</sup>:

1. Health assessment.
2. Clinical evidence-based illness prevention and health promotion.
3. Appropriate interventions for episodic illness and injury.
4. Primary reproductive care.
5. Early detection and initial and ongoing treatment of chronic illnesses.
6. Care for the majority of illnesses (in conjunction with other specialists, as needed).
7. Education and support for self-care.
8. Support for in-home, long-term care facility, and hospital care.
9. Arrangements for 24-hour, seven-days-a-week response.
10. Service coordination and referral.
11. Maintenance of a comprehensive client health record for each rostered consumer in the primary health care agency.

12. Advocacy.
13. Primary mental health care, including psychosocial counselling.
14. Coordination and access to rehabilitation.
15. Support for people with a terminal illness.

The CFPC Primary Care Toolkit is a large, ongoing project with a significant focus on comprehensive care; “comprehensiveness” implies that the family physician has the ability to provide and access a wide range of health services to respond to a variety of related events during a patient's lifetime.<sup>4</sup> The need for what is termed “full-service” family physicians is highlighted. The document *Key Principles and Values for Family Physicians in Primary Care Model Development* goes on to identify comprehensiveness as one of the six key principles and values in family medicine.<sup>5</sup>

- **The Trend to More Focused Practice**

Some who have trained as family physicians eventually will choose to focus their practice, either in response to community needs or through personal choice and preference. The CFPC has recognized that, within a practice setting, a variety of ways exist to provide comprehensive care to the patients of that practice and that community. However, patients’ overwhelming demand is for a family physician who provides comprehensive care and with whom they have an ongoing relationship. At the same time, trends show that, overall, family physicians have been narrowing their scope of practice.<sup>6</sup> In particular, family physicians’ hospital in-patient services have been decreasing, as have their surgical assisting, surgery, anesthesia, obstetrics, and advanced procedural skills services. Chan studied the comprehensiveness of primary care, defined as working outside the office setting, and found a decline between 1990 and 2000; this decline is evident in both rural and urban settings and for physicians of all ages and both genders.<sup>7</sup>

In 2006, research at the University of Toronto indicated that many family medicine residents were not interested in providing services such as full-care obstetrics or palliative care, in part because they did not feel adequately trained.<sup>8</sup> At the same time, there has been a corresponding pattern of increased average service delivery among those who have continued to provide the service. For example, the participation rate for obstetrical care services went from 28% in 1992 to 16% in 2001. During the same period, the average number of obstetrical services provided per family physician increased by 33%<sup>6</sup> (i.e., family physicians provided almost 50% of intrapartum care to women in Canada).

Green and colleagues examined the practice patterns of Canadian family medicine program graduates with and without third-year training.<sup>9</sup> Graduates begin to focus after a number of years in practice; obstetrical and emergency practice decreases, although few family physicians develop into “quasi-specialists” with highly focused practice patterns.

- **Curricular Responses to Community Needs**

A couple of possible approaches to residency education could address the need for graduates who can provide comprehensive care. Residents could be offered a narrow but consistent curriculum in the hope that, upon graduation from the two-year program, they would broaden

their knowledge and skills to adjust to community needs or their own personal interests. Alternatively, a menu approach could be taken, allowing residents to pick and choose from a variety of offerings to customize their education to their anticipated practice.

Neither option appears optimal, given physicians' tendency to narrow rather than broaden their practice profile over time and the high demand for family physicians who are well equipped to deliver comprehensive care and adapt to a constantly changing health care environment. Family medicine residency education must give residents opportunities to develop the competencies for comprehensive practice. Residents must be engaged in comprehensive continuing care of patients throughout their varied family medicine experiences, and with explicit positive role models. That is, comprehensiveness and continuity must be modelled in all family physician practice environments, be they solo practice, group practice, or collaborative teams. Family medicine third-year programs must be congruent with this view; although they are more focused, they must support the concept that educating family physicians who provide comprehensive care is the critical program outcome. Learners in enhanced skills programs need to be part of ongoing comprehensive patient care in the context of their more focused learning objectives. A key outcome is the incorporation of the enhanced skills into a comprehensive family practice. Consequently, programs must consider how comprehensiveness can be modelled during this more focused training.

The family medicine curriculum will continue to focus on preparing physicians to the following:

- Comprehensive care, across the spectrum of health promotion and disease prevention.
- Diagnosis.
- Acute treatment, including the management of life-threatening illness.
- Chronic disease management.
- Rehabilitation.
- Palliation.

If this is to be accomplished, a spirit of ownership of the entire curriculum, rather than one discipline-specific portion of the curriculum, is a prerequisite for educational continuity.<sup>10</sup> In addition, community needs require residency programs in Canada to equip all residents with the competencies to provide care at the level of an early practitioner anywhere in Canada.

Programs must nurture their residents' developing identity as family physicians as they work and study to attain the competencies of the family medicine residency program. Residents must be capable of providing comprehensive care—and know they are capable of providing such care—at the start of their practice life. However, the learning environment must also engender residents' skills and abilities so that they can continue to expand their knowledge and skills in practice. Likewise, this learning environment must give residents confidence that they will be able to climb that steep learning curve in early practice. In addition, the third-year enhanced skills programs must be designed to continue residents' development in these directions.

Continuity is key in the development of physicians whose practice is truly comprehensive. There must be continuity in the educational environment, continuity of instruction and teachers, and continuity of patient and family care. A family medicine-centred curriculum, as described elsewhere in this report, will provide better continuity of instruction and teachers. Efforts should

be redoubled to ensure that residents acquire a patient panel and manage the health needs of their patients and families. A variety of curricular models can enable residents to provide continuing care to a defined group of patients. However, further innovations must be developed to take into account distributed models of education.

The CanMEDS-FM document outlines the clinical domains of practice that should be included in the education of family physicians who can provide comprehensive care. (See draft version of the clinical domains.) These domains are augmented by the key features and skill dimensions outlined by the Working Group on the Certification Process. The expectation is that these competencies will be met in family medicine settings and complemented by experiences in focused settings, as required to provide the resident with opportunities that cannot be met within an existing family medicine teaching environment. Residency training programs will need to examine carefully the range of teaching practices available to their learners, and attempt to provide the family medicine environment in which learners can meet as many of the learning objectives as possible. Teachers who are role models in providing comprehensive continuing care is another vital element.

The competencies expected of family physicians will continue to change over time. Graduates of our residency programs cannot be expected to have all the necessary knowledge and skills at completion of the residency program; in such a broad discipline, this is an unrealistic goal. Rather, their competencies should be those of an early practitioner, and they should have the learning skills to enhance and modify their capabilities, and to achieve additional competencies that depend on practice setting, their colleagues' skill sets, and local community needs. For example, Wetmore et al. (2005) developed a core basket of procedural skills,<sup>11</sup> which elucidates the enabling procedures that allow graduates to meet community needs and to develop new skills on an ongoing basis. Such a list is challenging to develop, and while it can be used to help define basic requirements, it will require regular review to ensure that it contains the critical skills that all graduates need in order to achieve competency. The responsibility is three-fold: the College must provide the review of key procedures, programs must provide the educational settings and opportunities, and learners must seek opportunities and track their achievement of these competencies.

The length of residency training that residents need to meet these competencies is unclear. By its very nature, a competency-based curriculum is not time-based. We anticipate that the development of a curriculum centred in family medicine and highly focused on providing experiences to develop required competencies will find efficiencies. In addition, strong undergraduate programs will be crucial to provide an excellent start for all residents. Continuing professional development and mentorship will be important in the early years of practice, in particular, and more formal methods of facilitating these must be developed. Nonetheless, some residents will require longer than others to attain the competencies. Mechanisms to provide the required time during residency training may need to be enhanced in some residency programs. Certainly we do not expect that residents will be able to complete their training in less than two years.

The education of family residents in comprehensive continuing care is a multidimensional responsibility: the College must provide guidance on the foundational knowledge and skills; programs must provide design and educational opportunities through selected experiences and

contexts; teachers must engage in the design, delivery, and implementation of the program; and residents must develop the foundational competencies while proceeding through the educational program. The engagement and interaction of all parties are necessary.

## 2.2 Continuity of Education and Patient Care

Continuity is key in the development of physicians whose practice is truly comprehensive. There must be continuity of both patient care and education. A variety of curricular models can enable residents to provide ongoing care to a defined group of patients, for instance through a formal patient panel. However, further innovations must be developed to take into account distributed models of education. A family medicine-centred curriculum, as described elsewhere in this report, will provide better continuity of supervision and teachers.

- **Continuity of Patient Care**

Continuity of care is a fundamental component of family medicine that improves physician and patient satisfaction and, more important, patient outcomes.<sup>12-16</sup> Hennen first described the concept of continuity of care as having four domains: chronologic/longitudinal, informational, geographic, and interpersonal.<sup>17</sup> Since then, it has expanded to include the dimensions of family and interdisciplinary continuity of care.<sup>18</sup> These domains are defined in Table 1.

**Table 1**  
**The Concept of Continuity of Care<sup>17</sup>**

Chronologic / Longitudinal	The use of repeated patient observations over a period of time as a diagnostic and management tool
Informational	The availability of accurate information from one health care encounter to another
Geographic	The care of the patient in a variety of locations
Interpersonal	The establishment of rapport and a trusting relationship between a physician and patient This domain also refers to the relationships that family physicians have with other health care providers
Family	Knowledge about and understanding of the patient, his/her family, and their community
Interdisciplinary	The management of several body systems and diseases at the same time

The combination of these six domains of continuity contributes to the breadth and scope of family medicine. Family medicine as a discipline defines itself in terms of relationships, continuity in the sense of an enduring relationship between patients and doctors.<sup>19</sup> Family physicians' unique expertise is intimately tied to their relationships with their patients, for whom

they are often the primary and continuing contact for health care. 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.<sup>12-16</sup>

However, teaching continuity of care in a two-year Family Medicine residency program has many challenges. A true understanding of continuity of care often requires multiple physician-patient encounters, and extended time for reflection of these interactions. If residency programs are structured based on exclusively one- or two-month rotations in various medical disciplines, continuity of care will be lacking. Many programs have attempted to address this by creating “half-days back”, but these can create logistical challenges in meeting the goals of continuity of care.

Other family medicine programs have developed horizontal programs and other creative methods to increase the development of a therapeutic relationship between the patient and resident. One such innovative method is the development of a patient panel with the systematic means for the learner to follow the patient to other domains of practice, including the emergency department, an inpatient ward, surgery, or an appointment with a specialist. Longitudinal relationships between patient and learner afford the learner 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. Residency programs should have metrics to measure and evaluate how their residents provide continuity of care to their patients.

- **Continuity of Education**

Two of the key elements of the continuity of education are a) continuity of supervision and b) continuity of the learning environment. These facilitate the development of a meaningful role in patient care, increasing resident responsibility over time, and meaningful ongoing formative feedback.

A spirit of ownership of the entire curriculum, rather than one discipline-specific portion of the curriculum, is a prerequisite for educational continuity.<sup>20</sup> In addition, community needs require residency programs in Canada to equip all residents with the competencies to provide care at the level of an early practitioner anywhere in Canada.

Rotation-based programs often set learners up for feeling incompetent every 4 to 12 weeks with the change of rotations. In most programs, a new rotation brings changes in the learning environment (who the players are, where the equipment is, what the work cycle and expectations are), and changes to the preceptors.

- a) **Continuity of Supervision (Preceptor)**

Continuity of supervision, which includes teaching and assessment, is facilitated by assigning a small core of primary preceptors (one to three) to follow the resident throughout the entire residency. While residents will interact with a much larger group of teachers, relationships between residents and their primary preceptors will build the trust and honesty necessary to foster authentic feedback and assessment.

These relationships also allow the teachers to facilitate increasing independence and autonomy (graded responsibility) for the learner, which are based on an ability to assess growth over time and build on skills and knowledge already mastered.

In a seminal article on continuity in medical education, Hirsh and Ogur discuss how the ongoing shared responsibility for patient care between learner and preceptor provides learners “with emotional comfort to take intellectual risks in their learning. At the same time, trusting relationships and shared goals foster coaching, promote effective feedback, and enhance clinical performance.”<sup>21</sup>

## **b) Continuity of the Learning Environment**

This continuity refers to a bounded, knowable community. Learners are able to get to know the places and players in the care environment early in their training. This allows learners more time and energy to accomplish learning tasks when it is no longer necessary to become oriented to and learn about a significantly new environment every month or two. The environment includes not only the physical environment (e.g., the hospital ward or clinic), but also the members of the health care team.

Continuity of the learning environment can be a key facilitator of continuity of care and continuity of supervision. It fosters both patient- and learner-centredness.

Learners in bounded learning environments become members of communities of practice. The three modes of belonging described by Wenger—engagement, imagination, alignment<sup>22</sup>—highlight the importance of this for role modeling, reflection, and agency.

The move to a curriculum centred in family medicine will assist in increasing continuity in the learning environment. Rural and small urban communities usually have bounded health care environments. There are some significant challenges when considering this continuity in large urban centres. Lessons learned from undergraduate, longitudinal, integrated clerkships<sup>23</sup> provide some examples of models that postgraduate education might consider. Building longitudinal experiences in the disciplines not adequately covered by the family medicine practices in which the learners are based is one way to do this.

## **c) Continuity of Curriculum**

Curriculum in this context includes both the formal and informal curriculum. The continuities of the learning environment and supervision facilitate a learner-centred curriculum where educational opportunities build on the learner’s previous experiences and knowledge. Continuity of curriculum implies a well-coordinated series of learning elements and experiences that promote integrated learning and progressive development of competencies. Strong program administration and effective governance and oversight of all aspects of training are required in order to achieve continuity of curriculum.

## 2.3 A Competency-based Curriculum

Programs are challenged to focus on professional competence as the outcome of training. A competency-based curriculum seems the natural response. This section is intended to provide a better understanding of the notions of competence, competency-based education, and a competency-based residency curriculum before the rationale for moving to a competency-based curriculum is addressed.

- **The Notion of Competence**

**Competence: A complex notion:**

The notion of competence is at the centre of competency-based education. It arose as a management tool within the industrial environment and is related to a profound understanding of professional practice.<sup>24</sup> This notion was then transferred to the general educational environment, and was to be adopted later in medical education as a relevant concept in training for professional practice. Significant confusion prevailed among medical educators, as a variety of definitions were circulating, with no distinction made between the terms “competence” and “competencies” were used.<sup>24,25</sup>

A recent international consensus conference described competence as “the array of abilities across multiple domains or aspects of physician performance in a certain context. Statements about competencies require descriptive qualifiers to define the relevant abilities, context, and stage of training. Competence is multi-dimensional and dynamic. It changes over time, experience, and setting.”<sup>26</sup>

Govaerts (2008) defines competence as “[a]n individual’s ability to make deliberate choices from a repertoire of behaviours for handling situations and tasks in specific contexts of professional practice, by using and integrating knowledge, skills, judgment, attitudes and personal values, in accordance with professional roles and responsibilities.”<sup>24</sup> As Tardif (2006) stated (in French), “Un savoir-agir complexe prenant appui sur la mobilisation et la combinaison efficace d’une variété de ressources internes et externes, à l’intérieur d’une famille de situations.”<sup>27</sup> All of these statements emphasize that professional competence

- is about decision-making and acting within complex environments.
- is context-dependent.
- involves high-order problem-solving and decision-making skills.
- requires integration of many personal resources, such as knowledge, skills, judgment, and attitudes, based on experience and reflection on practice.
- includes the ability to select relevant external resources adequately.

Competence implies critical analysis, creativity, and autonomy. It is intertwined with the progressive development of professional identity. It is a dynamic process, always evolving and dependent on the adoption of a reflective stance during one’s practice and after specific practice

events, accompanied by an engagement in lifelong learning. Therefore, “competency-based approaches put a reflective stance and the development of professional identity at the heart of education.”<sup>24,28</sup>

- **Competence, professional roles, and competencies**

The basic concept of competence leads to two related concepts: “competencies” and “professional roles,” which are hierarchically related.

The term “competencies” refers to “observable ability(ies) of a health professional, integrating multiple components such as knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition. Competencies can be assembled like building blocks to facilitate progressive development.” Competencies are thus the ingredients of competence.<sup>26</sup> Competencies are observable, measurable—but complex—behaviours, demonstrated within specific clinical contexts and professional activities.<sup>29</sup> Harden (1999)<sup>30</sup> and Albanese (2008)<sup>29</sup> detail the characteristics of well-written “outcome objectives” or “observable competencies.” This world view focuses on the end product of the instructional process and reflects specific expectations. It is especially relevant for evaluation purposes.

The term “competencies” is often misconstrued to be equivalent to the CanMEDS<sup>31,32</sup> and CanMEDS-FM<sup>33</sup> professional Roles. Professional roles are “general professional attributes” demanded by the profession and by society,<sup>25</sup> and represent the highest level in the hierarchy. Thus, CanMEDS<sup>31,32</sup> and CanMEDS-FM<sup>33</sup> describe professional practice under seven “roles,” whereas Americans recognize six “core competencies” (ACGME).<sup>34</sup> They are, in fact “meta-competencies,” because each role involves a series of competencies; they are “intertwined in a complex way that makes them less visible and measurable.”<sup>25</sup> These roles are demonstrated over time during professional activities.

Professional roles (general competencies) and observable competencies “both are relevant pieces of the training process [and] each represents a different dimension of the same overall objective of professional training.”<sup>25</sup> Both must be related to the key professional activities of a unique medical discipline (i.e., its usual specific domains of practice, clinical problems encountered, and “non-clinical” professional activities) in order to represent the unique competencies of a specific medical discipline.<sup>25</sup> In other words, there is a definite relationship between the seven CanMEDS-FM Roles, the clinical domains of practice within which these Roles are uniquely expressed in family medicine, and the observable competencies detailed through the CFPC’s evaluation objectives to assess some of the residents’ competencies.<sup>35</sup> This relationship is explained further in section 3 of this report.

In summary, competence involves the mastery of a series of observable competencies. The competent professional “possesses the required abilities (competencies) in all domains in a certain context at a defined stage of medical education or practice.”<sup>26</sup>

- **From professional roles to learning outcomes for residency training**

The CanMEDS-FM Roles represent the sum of competencies expected of a practicing, if not seasoned, physician. Although residents should demonstrate a certain level of competence in all seven CanMEDS-FM Roles at the end of training, reasonable expectations upon graduation from a residency program are somewhat lower than the over-arching general competencies. Thus this framework must be translated into program-level learning outcomes. These learning outcomes will be much broader than traditional learning objectives. The latter often highlight one area of knowledge, skills, or attitude at a time, whereas competencies integrate many elements simultaneously. Traditional learning objectives are tightly focused on a single activity or instructional course, while professional roles involve many instructional activities or levels of training.

The CanMEDS-FM Roles therefore establish the global curricular perspective. “Key competencies” and “enabling competencies” further detail the main building blocks under each Role. For educational purposes, a useful approach can be breaking these competencies down further into performance levels with benchmarks at various stages of training. If needed, rotation-specific or instructional event-specific learning outcomes can also be spelled out, to clarify the building blocks contributing progressively to the development of general competencies.<sup>36</sup>

CFPC’s Evaluation Objectives<sup>35</sup> are embedded within CanMEDS-FM Roles. They detail a limited number of observable competencies characteristic of the expectations for a resident at the end of his training. A program’s competency-based assessment system should provide data to determine if a resident is ready for autonomous practice. A global judgment that a resident has become a competent beginning professional requires consistent demonstration of a series of observable competencies specific to family medicine, in all domains of clinical care described for residency training, with some demonstration of competencies within each of the seven CanMEDS-FM Roles.

- **The continuum of competence**

Some complementary concepts are also relevant to professional training: the notions of stages of competence, competency trajectories, and the continuum of competence.

Each future FP develops his or her professional competence progressively, through “stages of competence.”<sup>37-40</sup> Building one’s professional competence is a long-term project: time is a major issue. The transition from one stage to another is gradual and often differs from one domain to another for a given individual.

The Dreyfus Model describes a set of characteristics typical of each stage.<sup>37</sup> For example, novices count on limited knowledge and experience, relying more on hypothetico-deductive problem-solving strategies. This is typical of undergraduate students and the start of residency. As learners develop sophisticated cognitive schemas and illness scripts and build their clinical experience, they are able to deal with more complex situations, for which they need to integrate a

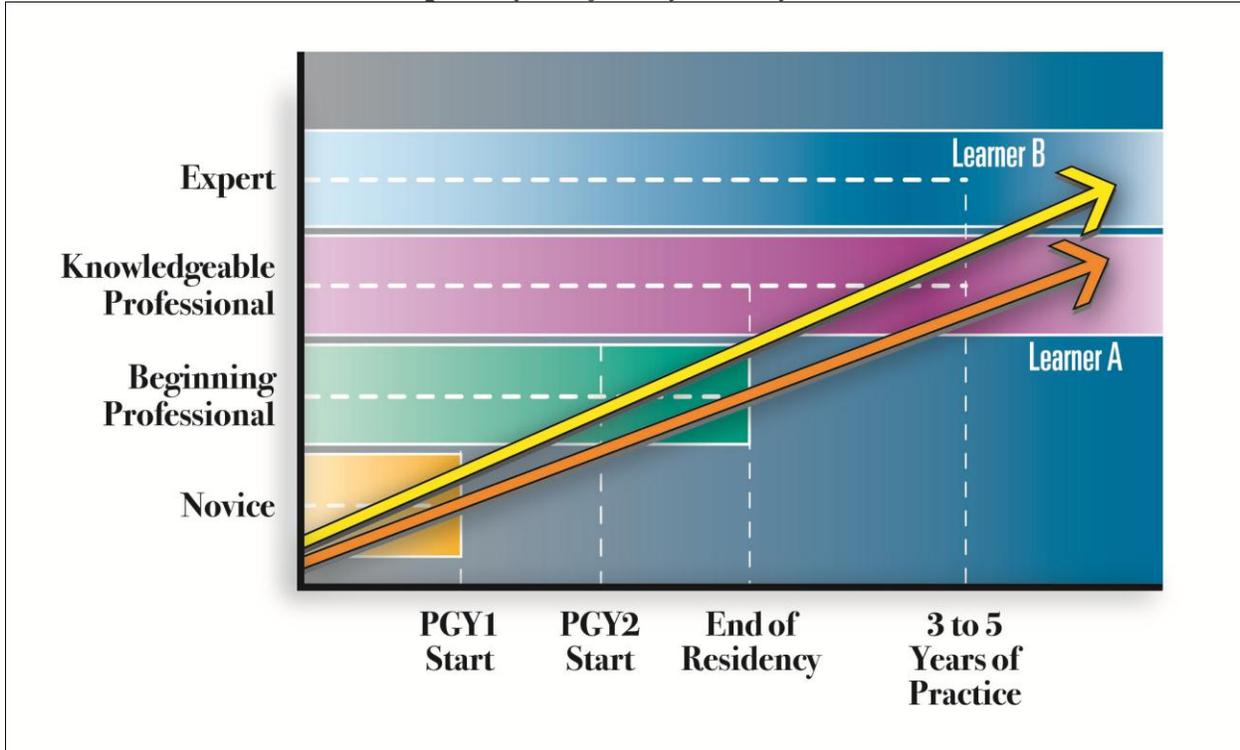
variety of “internal resources.” Once they have experienced most cases usually encountered in their discipline, including complex ones, they demonstrate sufficient self-confidence and autonomy, and they are deemed ready to practice independently.<sup>37</sup>

This is the goal of residency training: bringing a learner to the stage of “beginning professional.” At this stage, we have evidence that the professional uses pattern recognition to diagnose frequent cases but switches back to analytic reasoning for uncommon or complex cases.<sup>37</sup> He or she has developed a sense of responsibility and can “see the whole picture.” Ample debate exists within each discipline about the exact level that must be reached for each competency—and which competencies are essential and which are optional—to accept an apprentice as an independent professional.

Much more time and work is required after entry into practice to reach the stages of expertise and mastery.<sup>39</sup> “On the basis of past experience and a robust set of illness scripts, the expert... can act immediately to a majority of clinical encounters..., is mindful of [his or her] limits,” and is better able to tackle complex cases.<sup>37</sup> He or she reflects in, on, and for action. Some physicians eventually become masters of their discipline as a result of their high ability to self-assess and self-reflect.<sup>41</sup> For any physician, maintenance of competence depends on lifelong learning strategies, a reflective stance, and occasions to practice. Common sense, as well as research, tells us that expertise is lost unless continuous efforts are made to maintain overall competence or specific observable competencies.<sup>39</sup>

“Competency trajectory” refers to the ever-evolving characteristic of professional competence (Figure 1). Competence therefore must be considered a continuum, from entry into medical school, through postgraduate education, and into continuing professional education. Some of the general professional competencies form the focus of undergraduate training. As novices, medical students exercise basic components of competencies in limited and simple tasks across “generalist” clinical domains. Residents practice intensively in the clinical domains directly related to their discipline, with discipline-sensitive expectations for demonstration of all general competencies. Residents are assessed according to level-specific and discipline-specific “observable competencies,” until they demonstrate most of the expected outcomes. Further development—and loss—of competencies will continue throughout professional practice. Recognition of the continuum of learning calls for coherence throughout the continuum of training, with efforts toward clear demonstration of higher levels of “*savoir-agir*” in complexity at higher levels of training.

**Figure 1**  
**Competency Trajectory for Physicians**



- **Definition and Components of a Competency-based Residency Curriculum**

Putting the development of professional competence at the centre of the educational process leads to the selection of a competency-based approach to curriculum development. This educational approach has significant implications for educational planners and program coordinators; thus there is the need to emphasize the specificity of this approach in comparison with traditional curricular planning. In fact, “[o]ur choice of pedagogy has consequences for the way we structure the curriculum, its content, and its mode of delivery.”<sup>42</sup>

**Definition of a competency-based curriculum**

A curriculum is the overall educational plan embraced by an educational institution for a given training system. It includes the training goals and objectives, content and structure of the program, and teaching and learning methods, as well as learning environment, assessment processes, and program evaluation processes.<sup>30,42,43</sup>

A recent systematic review of competency-based literature has proposed the following definition for competency-based medical education in the 21<sup>st</sup> century: “an approach to preparing physicians for practice that is fundamentally oriented to graduate outcome abilities and organized around competencies derived from an analysis of societal and patient needs. It de-emphasizes time-based training and promises greater accountability, flexibility, and learner-centeredness.”<sup>44</sup> In other words, it takes an outcome-based approach to the design, implementation, assessment, and evaluation of medical education programs, using an organizing framework of competencies”

Competency-based medical education is a “form of outcome-based education employing explicitly defined competencies of graduates as an organizing curriculum for health professions.”<sup>45</sup> Competency-based curricular design involves four key elements in a fixed order:

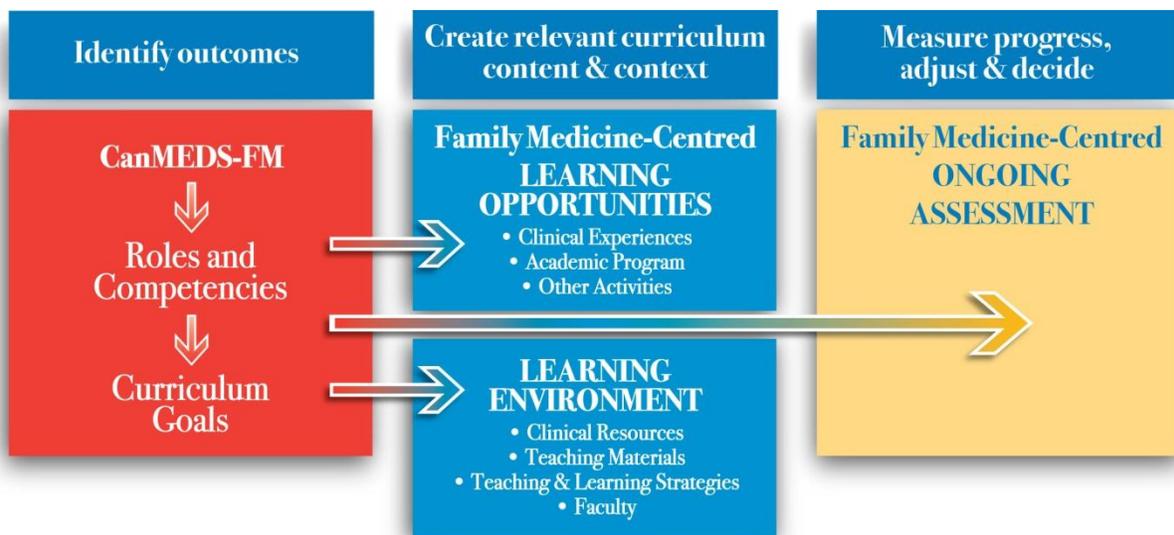
- The starting point of curricular planning is the set of competencies that learners must demonstrate at the end of their training.

These competencies then guide the following:

- The selection of what is to be learned (content).
- How content is to be learned (teaching and learning experiences, as well as learning environment).
- Assessment strategies and remediation planning.<sup>30,46</sup>

Overall coherence of any element of the educational system is key to the expected outcome. Figure 2 illustrates these four elements for a family medicine residency context.

**Figure 2**  
**Competency-based Curriculum Design**



By comparison, traditional residency training programs are “time-based.” That is, they are defined by “exposure to specific contents for specified periods of time” (i.e., rotations, such as one month of adolescent medicine),<sup>36</sup> which is the basis for promotion. Such programs also are “process-based” for accreditation purposes; programs must demonstrate the presence of a series of curricular processes and departmental resources, without being explicitly accountable for residents’ final performance.

Conversely, in a competency-based curriculum, training time is a resource for instruction, not the organizing framework for education. The desired outcome drives the length and type of educational experience, with periodic assessment until a specific resident demonstrates competence.<sup>44,47</sup> Providing a good learning environment and “passing through” the planned activities do not suffice. In addition, the learners are primary actors in this approach: they are the ones who must demonstrate that they have acquired the expected competencies.<sup>46</sup>

Several authors have emphasized the many strengths of competency-based education, but they also highlight some risks of reductionism.<sup>43,44,47,48</sup> There is a risk of short-sightedness if training is limited to immediate skills for actual professional activities, without preparing students for future transformations in the profession. Thus there should be room in training programs for learning some concepts and activities not linked directly to a given measurable outcome, but useful for future practice (e.g., preparation for lifelong learning, reflective practice, team collaboration, or research). Neither should training be limited to a level of expectation that is too low; excellence and some diversity among graduates should be encouraged. Christensen (2007) therefore argues that, while checking the outcomes of the educational process is a breakthrough in this era of quality assurance, some process evaluation is still relevant for program assessment (accreditation).<sup>48</sup> We therefore prefer the term “competency-based education” because it is inclusive: it is focused on outcomes, but the essential process components are not forgotten.

### **Characteristics of a competency-based curriculum**

Moving to a competency-based curriculum involves a paradigm shift from “traditional” rotation-based curricula. Table 2 shows the typical differences in paradigm and in curricular elements between these two systems.<sup>24,25,31,32,35,37</sup>

**Table 2**  
**Comparison Between Traditional Rotation-based and Competency-based Curricula**

	<b>Educational Program</b>	
<b>Characteristics</b>	<b>Traditional Rotation-based (Process-based) Curriculum</b>	<b>Competency-based Curriculum</b>
<b>Paradigm</b>		
<b>Focus</b>	<ul style="list-style-type: none"> <li>• Content: knowledge acquisition</li> <li>• Fixed rotations (time-based)</li> </ul>	<ul style="list-style-type: none"> <li>• Outcome: knowledge application</li> <li>• Acquisition of competencies</li> </ul>
<b>Actors</b>	<ul style="list-style-type: none"> <li>• Teacher to learner</li> </ul>	<ul style="list-style-type: none"> <li>• Learner and teacher, in collaboration</li> </ul>
<b>Type of learning promoted</b>	<ul style="list-style-type: none"> <li>• Primary focus on knowledge and skills, learned in a succession of rotations, in an additive and discontinuous way</li> </ul>	<ul style="list-style-type: none"> <li>• Application of knowledge, skills, attitudes, and judgment, integrated into competencies in a longitudinal manner<sup>39,50</sup></li> <li>• Emphasis on cognitive skills, critical thinking, and interpersonal skills<sup>36</sup></li> <li>• “Understanding of and in practice” and “development of professional identity”<sup>24</sup></li> </ul>
<b>Accountability</b>	<ul style="list-style-type: none"> <li>• Program is accountable for offering proper clinical and educational resources</li> </ul>	<ul style="list-style-type: none"> <li>• Program is accountable for the learner’s final performance</li> </ul>
<b>Curricular Elements</b>		
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>• Learning objectives, described as knowledge or skills or attitudes</li> <li>• Established on the basis of disciplinary content</li> <li>• Expectations that learners will acquire most objectives because of the time spent in each rotation</li> </ul>	<ul style="list-style-type: none"> <li>• Described as competencies, integrating knowledge, skills, attitudes, etc.</li> <li>• Development in dialogue with societal needs, according to desired professional outcomes</li> <li>• Clear to both learners and faculty</li> </ul>
<b>Content</b>	<ul style="list-style-type: none"> <li>• Congruent with learning objectives</li> <li>• Otherwise dependent on actual clinical opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Congruent with desired outcomes</li> <li>• Preoccupation that opportunities exist to develop each of the desired competencies</li> </ul>
<b>Teaching and learning experiences</b>	<ul style="list-style-type: none"> <li>• Discipline-based and time-based preset experience</li> </ul>	<ul style="list-style-type: none"> <li>• Attention paid to relevance and coherence, and relationship to future practice</li> <li>• Adaptation to each learner, according to monitoring of progression</li> </ul>
<b>Assessment</b>	<ul style="list-style-type: none"> <li>• Emphasis on knowledge</li> <li>• Emphasis on summative evaluation</li> <li>• Assessment tools: norm-referenced, single subjective measure, proxy measures, at a fixed time (i.e., overall impression during rotation)</li> </ul>	<ul style="list-style-type: none"> <li>• Emphasis on demonstration of outcomes</li> <li>• Emphasis on formative evaluation, monitoring of progression, and remediation, if needed</li> <li>• Assessment tools: criterion-referenced, multiple objective measures, in authentic activities, information gathered at variable time (i.e., an evaluation portfolio)</li> </ul>
<b>Program completion</b>	<ul style="list-style-type: none"> <li>• Fixed time</li> </ul>	<ul style="list-style-type: none"> <li>• Variable time</li> </ul>

In summary, Table 2 indicates that a strong competency-based curriculum must include the following:

- Defined outcomes (i.e., competencies expected of graduates).
  - Relevance (i.e., there must be an assemblage of educational experiences, such as clinical activities, academic teaching, etc., to allow development and demonstration of these competencies).
  - Ongoing and final assessment, as a direct component of training.

Two major implications for training stand at the heart of this approach:

- Recognition of the learner as an active participant in learning and in assessment.<sup>44,49</sup>
- Emphasis on authentic contexts of learning.

Recent educational studies have shown how the *context* of learning, as much as the *content* of learning, influences what is learned<sup>51,52</sup> through the type of patients and problems encountered, the type of problem-solving and integration skills promoted, the content of feedback and assessment received, and the role models encountered. Relevant contexts of learning also contribute greatly to positive professional socialization, whereas incongruent contexts of learning contribute to the sense of disconnectedness and negative self-image that family medicine residents experience so often.

## • **Rationale for Moving to a Competency-based Curriculum**

Moving to a competency-based curriculum seems 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.<sup>44</sup>

### **International educational trends and societal expectations**

Competency-based education has been an international trend in the health professions since the 1990s, with the development of competency frameworks in various countries, first at the undergraduate level and then at the postgraduate level. See Section 3 of this report and Appendix 2 for more information on these frameworks.

The emphasis on preparation for practice, not for intellectual or medicine's sake but for optimal outcomes for patients and society, sits well with the current focus on patient safety and medical school accountability. Although "wide variation exists in the extents to which true competency-based learning objectives [have been] instituted," existing comparisons with traditional training favour competency-based education.<sup>36</sup> Notable is the fact that this approach allows the identification of those who cannot demonstrate the expected outcome and should not be given permission to practice independently.<sup>36</sup> It also offers relevant solutions to medical schools, which must respond to societal demands for documented competence among medical professionals.<sup>53,54</sup>

In addition, it fits well with the increasing expectation that students will be prepared efficiently for professional practice, within institutions that rely on public funding in a context of scarce resources and financial constraints.<sup>24</sup>

### **A paradigm shift, supported by educational theories and practical experience**

Providing society with excellent new physicians is central to the educational mission. In fact, traditional medical education has always valued the demonstration of skills and attitudes. The problem arises from the fact that traditional curricular assessment emphasizes the knowledge base, with minimal assessment of other necessary competencies.<sup>44,49,55</sup> By contrast, competency-based medical education:

- Indicates to learners, faculty, and the outside world a defined end product.
- Measures directly whether these outcomes are achieved.
- Better identifies learners in difficulty and offers them a remediation plan.

All these characteristics are promising for ensuring the long-term quality of medical care.

In terms of educationally sound evidence, competency-based medical education takes into account and builds upon many educational principles and theories, such as:

- Experiential and work-based learning theories.
- Adult learning and deliberate professional practice theories.
- Social learning and constructivist theories.
- The theory of clinical reasoning, reflective practice, learner-centredness, and Rogerian counselling.
- The theory of situated learning.<sup>51,52</sup>

It puts more emphasis than ever on practicing the professional tasks at hand until one masters the tricks of the trade, and thus builds upon the traditional model of apprenticeship - with a new recognition that not all learners are the same and that they need some personalized attention and the practical experience of medical preceptors.

Competency-based education involves continuity with the type of teaching and learning goals and strategies typical of postgraduate training. Yet it must be considered a revolution: “[T]he paradigm shift from the current structure and process-based curriculum to a competency-based curriculum and evaluation of outcomes is the Flexnerian revolution of the 21<sup>st</sup> century.”<sup>36</sup> And “to advance, a redesign of the entire system will be necessary. This will require change at all levels of the educational process.”<sup>49</sup>

## **Conclusion**

Because of its central characteristics, competency-based education seems particularly well adapted to the training of future family physicians. It acknowledges the complexity of professional practice.<sup>24</sup> It takes into account the necessity of becoming a reflective practitioner, and it contributes directly to the development of professional identity.<sup>28</sup> Thus, promotion of a profound understanding of professional practice—that of family medicine—is an integral part of

this world view. Competency-based curriculum development optimally organizes an educational system in which learners practice constant adaptation to ever-changing contexts, in complex environments, and develop the skills to self-manage the ongoing competence development they require to deal with the dynamic changes inherent in professional practice. If such high expectations are to be met, a competency-based curriculum for family medicine must be centred in family medicine.

## 2.4. Family Medicine-centred Curriculum

- **Introduction**

The third key direction of the WPCR is that residency training must be centred in family medicine. Although the concept of competency-based education can apply to any postgraduate training program in medicine, if we are to meet this challenge in our own discipline, residency programs need to use a family medicine-centred approach. A family medicine-centred curriculum is necessary in order to promote and teach the Four Principles of Family Medicine, and to develop CanMEDS-FM competencies. This section of the report outlines the components of a family medicine-centred curriculum, and describes the rationale for the WPCR recommendation to move in this direction.

- **Definition of a Family Medicine-centred Curriculum**

The term “family medicine-centred,” as it refers to the curriculum, is new; thus there is no existing or accepted definition. Both the description and the definition relate to the *focus* of the experience, the primary *setting* and *teachers* for training, the amount of *time* spent in individual clinical settings, and the *learning processes* emphasized.

In a family medicine-centred curriculum, family medicine must be the *focus* of and be central to learning. Residents must see themselves and function primarily as family physicians taking responsibility for a panel of patients continuously during residency.<sup>56</sup>

Family medicine thus forms the foundation for the residency program. A family medicine-centred curriculum occurs primarily within a comprehensive family practice *setting*, including experiences in a variety of clinical environments required to expose the resident to the scope of comprehensive care generally provided by family physicians in Canada. Some focused specialized experiences should complement the primary training. These more intensive exposures should be designed to meet specific learning outcomes, which are then integrated back into family medicine settings.

In a family medicine-centred curriculum, the *teachers* must be primarily family physicians, who can act as proper role models for the practice of family medicine. They will guide residents by demonstrating the specific *learning processes of family medicine*, with emphasis on integration of knowledge, skills, and attitudes across disciplines and contexts, and their selective application to individual patients. Family physician teachers are the knowledgeable assessors of the

CanMEDS-FM competencies that residents must demonstrate. Thus continuity of supervision, as well as continuity of care, is important in a family medicine-centred curriculum. This teaching will be best complemented by input from colleagues with a focused practice and by consultants who have a clear understanding of the role of the family physician and a respect for this discipline.

Accordingly, a resident's *time* will be spent in a variety of family medicine-relevant settings, which provide the *focus, setting, and teachers* necessary to develop professional competence and an identity as a family physician.

In the medical education literature, several concepts are related to but not synonymous with the term "family medicine-centred." American postgraduate literature uses the term "longitudinal curriculum," which is defined as "one that has limited block rotations, with most of the resident's education supervised by the family medicine faculty in the family practice setting."<sup>57</sup> The term "horizontal curriculum" was defined in the 1995 CFPC postgraduate curriculum review document as "increasing the resident's weekly family medicine experience rather than concentrating the bulk of the resident's experience in a block."<sup>58</sup> These two concepts have been understood more as structural reorganizations than as different educational approaches.

We therefore prefer the concept of an "integrated curriculum," which emphasizes an educational paradigm similar to a family medicine-centred curriculum. In the undergraduate medical literature, the term "integrative or integrated curriculum" refers to clinical experiences that emphasize the interdependence of various specialties and health care providers. Such a curriculum, which is often structured longitudinally, actively promotes *integration* of all competencies learned.<sup>59</sup> A family medicine-centred curriculum is more easily served in a longitudinal structure and is, by its nature, integrated, with family medicine settings as the basis for all integration.

- **Comparing Block/Rotational and Family Medicine-centred Models of Training**

In a family medicine-centred curriculum, learning in other disciplines can be readily integrated into the family medicine context and, for the most part, occurs in the setting in which it will be applied. This approach contrasts with learning in sequential blocks of time, which are discipline specific. This is referred to in the literature as the "block or rotational model" of training.<sup>57,60</sup> In this paradigm, residents attempt to develop expertise in successive disciplines, with the understanding that family physicians need to know "a little bit about everything." Residents then need to apply the skills learned in specialist settings to the family medicine context. These two training models are compared in Table 3, which presents the extremes of the spectrum for purposes of contrast. The table may help program directors and faculty see where their programs are on the continuum as they move toward the family medicine-centred pole.

**Table 3**  
**Comparison Between Block/Rotational and**  
**Family Medicine-centred Curricular Models**

<i>Characteristics</i>	<i>Family Medicine-Centred</i>	<i>Block/Rotational</i>
<b>Clinical setting</b>	<ul style="list-style-type: none"> <li>• Predominantly varied family medicine settings: outpatient, inpatient, home, hospice, etc.</li> <li>• Setting more closely represents future clinical practice</li> </ul>	<ul style="list-style-type: none"> <li>• Generally secondary and tertiary hospital-based or specialty outpatient clinics</li> <li>• Less representative of future practice setting on a consistent basis</li> </ul>
<b>Type of patient problems</b>	<ul style="list-style-type: none"> <li>• Consistent exposure to patients with undifferentiated problems of any type, both acute and chronic, occurring in all ages and to both sexes, and varying in complexity</li> </ul>	<ul style="list-style-type: none"> <li>• Highly defined problems, with greater certainty of diagnosis and treatment plans, restricted to one age, sex, or illness at a time</li> </ul>
<b>Type of care provided</b>	<ul style="list-style-type: none"> <li>• Longitudinal care, with continuity</li> <li>• Experience of the spectrum of care: health promotion and disease prevention, diagnosis, acute treatment to chronic disease management, rehabilitation, and supportive care</li> <li>• Focus on the physician–patient relationship and the patient-centred clinical method</li> <li>• Collaboration and coordination of care required frequently</li> </ul>	<ul style="list-style-type: none"> <li>• Mostly episodic care</li> <li>• Greater focus on expertise in disease diagnosis and management</li> <li>• Focus on expertise of a given specialty, often working in parallel with other specialist consultants</li> </ul>
<b>Teachers</b>	<ul style="list-style-type: none"> <li>• Family physicians as the primary teachers throughout residency: demonstration of and teaching of “family medicine expertise” (i.e., a generalist approach)<sup>61</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Mostly consultant “experts” who have “deep” knowledge and skills in a specialized or sub-specialized area corresponding to one field of specialty, and often defined around one organ or system</li> </ul>
<b>Problem-solving approach</b> <sup>31,35</sup>	<p>Use of the generalist approach:</p> <ul style="list-style-type: none"> <li>• Multiple dimensions taken into account simultaneously: selectivity and uncertainty; probabilities and treatability; best evidence, experience, and the patient’s perspective</li> <li>• Constant adaptation of the scope of evaluation and of management decisions to the context</li> <li>• Simultaneous management of multiple problems</li> </ul>	<p>Use of a specialized and sub-specialized approach:</p> <ul style="list-style-type: none"> <li>• Reduced uncertainty</li> <li>• Equal value of many theoretical differential diagnoses, but mainly within one’s specialty</li> <li>• Management of one main problem at a time, in many disciplines; referral to consultants to manage other ongoing problems</li> </ul>
<b>Type of learning promoted</b>	<ul style="list-style-type: none"> <li>• Family physicians’ expertise is central (see CanMEDS-FM, Appendix 1)</li> <li>• Residents learn both <i>breadth</i> of clinical problems and contexts of care, and <i>integration</i> of problems, of patients, of care settings</li> </ul>	<ul style="list-style-type: none"> <li>• Specialists’ expertise is central: family medicine residents attempt to become “mini-experts” in a series of fields successively, with intense exposure in a specific clinical area</li> <li>• Disconnected learning; does not</li> </ul>

	<ul style="list-style-type: none"> <li>• Integrated learning in a family medicine context promoted through a longitudinal exposure over a longer period: residents can readily apply principles learned in focused experiences back to family medicine settings</li> <li>• Promotes an understanding of family medicine as a unique specialty with its own expertise</li> </ul>	<p>promote application and transfer from one learning setting/rotation to another</p> <ul style="list-style-type: none"> <li>• Does not promote integration of learning; onus is on the resident to apply the concepts back to family medicine</li> <li>• Promotes the understanding that family medicine is seen primarily as a compilation of a little bit of knowledge in every field -the additive or rotating internship perspective</li> </ul>
<b>Observed impacts on residents</b>	<ul style="list-style-type: none"> <li>• Better sense of professional identity</li> <li>• Better understanding and pride in family physicians' unique skills and expertise</li> <li>• Better perceived relevance of residency experience</li> <li>• Positive education-to-service ratio</li> <li>• Sense of time being used efficiently</li> </ul>	<ul style="list-style-type: none"> <li>• Residents often feel marginalized during clinical placement</li> <li>• Residents may sense family medicine residency as an impossible task and feel less competent in comparison with peers in specialty training, beside whom they work<sup>62</sup></li> <li>• May lead to learned helplessness detrimental to the development of a sound professional identity and self-confidence</li> <li>• Residents may be less willing to provide comprehensive care and more drawn to focused practice</li> </ul>

The characteristics of a family medicine-centred curriculum described in Table 3 support a move away from the traditional block/rotational focus to promote the development of graduates with problem-solving and cognitive processes necessary for family medicine expertise, and for the broad range of required learning outcomes.

### • **Rationale for a Family Medicine-centred Curriculum**

Given that many residency programs currently rely on specialty-centred, rotational experiences, and the significant resource implications of a shift to a family medicine-centred approach, a sound rationale must be established for moving to this curricular model.

Six major arguments form the basis for this recommendation:

- Historical and current trends in medical education.
- Evidence on longitudinal/integrated curricula.
- The development of family medicine expertise.
- The establishment of a professional identity.
- Issues of educational efficiency.
- Residents' perspective.

Where it exists, the postgraduate literature is reviewed. Much of the literature focuses on undergraduate education, but extrapolation to the postgraduate setting seems reasonable. In some

cases, no literature or evidence exists to support recommendations, and thus the thoughts presented represent “expert opinion” and logical argument. Note, however, that although the literature to support curricular change is not robust in terms of the hierarchy of evidence, there also is no literature to support the status quo.

### **Historical and current educational trends**

The recommendation to move toward a curriculum where the majority of training occurs within the context of family medicine is neither new nor unique. The CFPC initially espoused it in the 1995 report *The Postgraduate Family Medicine Curriculum: An Integrated Approach*.<sup>58</sup> In this document, the Committee on Curriculum of the Section of Teachers of Family Medicine recommended an integrated, community-based, experiential approach to training, and advocated specifically for a “horizontal program.”

More recently, Australia, the United Kingdom, and the United States have emphasized the importance of this educational focus in position papers.<sup>63-66</sup> In a 2001 survey of US family medicine programs, approximately 17% of programs were at least partly longitudinal, and an additional 15% were thinking of moving in that direction.<sup>57</sup> The emphasis of this survey was curricular structure, as opposed to competency-based education. Although we have no published Canadian data, a 2009 national survey of family medicine program directors suggested a shift toward this orientation, as residency programs undertake their own curricular revisions: a majority of new sites have adopted an integrated format, although few universities have made it a program-wide decision.

### **Evidence on longitudinal/integrated curricula**

The impact of rotation structure on actual learning outcomes has been little examined, with only one published trial in the postgraduate literature.<sup>67</sup> This was a comparison of residents’ geriatric knowledge following a longitudinal family medicine experience with knowledge following the addition of an intensive one-month block geriatrics rotation to the curriculum. At the end of residency, performance was significantly improved on written tests of knowledge in the group who experienced the block rotation. A critical analysis of the paper reveals that the longitudinal experience provided little intentional teaching around or exposure to geriatrics. Residents were dependent on the nature of patients presenting in the outpatient clinic or in-patient family medicine ward. Thus, the true conclusion is more likely that a well-designed block rotation improves a resident’s knowledge base better than does a poorly designed longitudinal one.

Significantly more literature examines short-term impacts of integrated and/or longitudinal clerkships. This type of clinical experience, with an emphasis on continuity of care, curriculum, and supervision, is on the rise.<sup>59,68,69</sup> Longitudinal experiences in medical school have been shown to enhance learner–patient relationships, and to help students gain insight into the psychosocial aspects of care and better understand chronic disease management.<sup>70</sup> Students educated in this curricular format performed as well on national examinations of clinical competence,<sup>68,70</sup> but were more likely to maintain high levels of humanism and patient-centredness.<sup>68</sup> A qualitative analysis of student narratives in an integrated, longitudinal clerkship at Harvard University also suggested that this type of learning powerfully promoted attributes of

patient-centredness and professionalism.<sup>71</sup> An enhanced opportunity to develop context-specific clinical reasoning and cross-disciplinary competencies within these integrated models was also noted.<sup>57</sup> However, although these outcomes are relevant to postgraduate training, and extrapolating the results from the undergraduate literature seems reasonable, no similar evaluations have been conducted at the residency level.

### **Development of family medicine expertise**

If they are to develop competence in family medicine, residents need to discover and develop the unique expertise of family physicians. The expert family physician has a well-developed ability to deal with complexity and uncertainty, appreciates the centrality of the patient–physician relationship, and manages multiple problems simultaneously.

Sound educational evidence indicates that complex skills must be learned in a context as similar as possible to that of future practice (i.e., in a family medicine context rather than a specialty-oriented one). This evidence is supported by research in the field of cognitive psychology, which reveals that knowledge integration and retrieval are highly context-specific.<sup>51,52</sup> Where and how one learns information largely determines one’s success at retrieving and using it. Students will retain concepts better when they learn them in the context of a relevant problem or presentation.

Expertise is promoted when students can reflect “on and in action” in an environment that is coherent with later practice.<sup>41</sup> This implies that one must make the learning and application environments as similar as possible.<sup>72</sup> Learning in a single environment may leave one less able to apply the knowledge in another environment (i.e., there may be less transferability of skill). A family medicine-centred curriculum provides integrated learning in specialized and diverse family medicine settings (office, hospital, home, and rural and urban settings), giving residents the best opportunity for contiguously applying knowledge learned in one setting to another.<sup>72</sup> If residents are to develop family medicine expertise, they must have opportunities for deliberate practice (practice plus expert feedback).<sup>39</sup> There must be a focus on superior, reproducible behaviours with representative tasks of family medicine, such as the management of multiple problems simultaneously.

Training environments must also teach residents to deal with complexity. Family medicine operates at the highest level of complexity and consequent uncertainty.<sup>73</sup> To address this, expert family physicians “have acquired a variety of complex skills that are stored and held together in cognitive networks (schemata),” which “are easier to retrieve than ‘chunks of information.’”<sup>50</sup> To develop these schemata, residents must have the opportunity to practice deliberately the coordinated performance of these skills.<sup>50</sup>

The development of expertise, however, occurs gradually over time, even in the most gifted students.<sup>39</sup> Thus, the resident must spend *time* in the appropriate setting and be allowed to practice the superior behaviours needed to deal successfully with issues presenting in family medicine.

The continuity inherent in a family medicine-centred curriculum offers the best opportunity to reinforce the centrality of the patient–physician relationship. Residents must have the

opportunity to follow patients long enough to witness the effects of their involvement with a patient, and to observe the course of the illness, the impact of health maintenance activities, and the stages of development in children or in prenatal patients. The concept of the “half-day back” during specialty rotations allows some opportunity to do this, but the main focus during this time is generally the specialty rotation. The family medicine-centred curriculum provides significantly greater opportunity for continuity experiences in the breadth of family medicine, with a learning focus on the resident’s chosen specialty. Similarly, continuity of the learning environment allows more opportunities for establishing connections with patients.<sup>69</sup>

One well-designed US pre–post study, in a single family medicine program, showed a statistically significant improvement in the continuity index after a curricular change permitted residents to spend part of every day in the family medicine clinic.<sup>74</sup> In the single published Canadian descriptive study of an integrated, longitudinal postgraduate curriculum in family medicine, residents reported positively on the opportunity for close and continuing contact and the development of strong relationships with their patients.<sup>56</sup>

Continuity of supervision, evaluation, and role modelling are complementary teaching and learning strategies arising from an ongoing placement. This happens more easily in a longitudinal, integrated curriculum, as Cox and Irby have demonstrated in the undergraduate context.<sup>69</sup>

### **Professional socialization: the development of professional identity**

The importance of the health education system for residents’ professional socialization as family physicians is another major argument in favour of a family medicine-centred curriculum.<sup>62</sup> Family medicine residents struggle to understand family physicians’ unique expertise and to develop a sense of professional pride, because of their exposure to the “hidden curriculum” of the specialist consultant as the only true expert.

Professionals need a clear sense of their identity and their area of expertise if they are to function effectively.<sup>62</sup> Sociology and educational theories emphasize the equal importance of social dimensions and cognitive processes in learning—and the under-recognition of the social dimensions.<sup>75</sup> Gaining professional competence involves progressive adoption of behaviours, beliefs, and values.<sup>51,52,75</sup> Through the professional tasks carried out by its members, a profession establishes its identity. Thus, prolonged and significant contact with family physicians is necessary for professional socialization. Residents must develop an understanding of and identification with the specific profession of family medicine: expertise, values, and other cultural aspects (e.g., evening/after-hours work, commitment to the community), as well as the rewards of the profession. Often they arrive with a limited understanding of family medicine and generalism because they have been exposed to the “expert consultant model.” Time is therefore needed to re-socialize them to a new culture.

Beaulieu identified that family medicine residents and faculty and specialists from 13 schools across the country place the breadth of practice and continuing relationships with patients at the core of their definition of family medicine.<sup>62</sup> We have argued previously that longitudinal exposure to family medicine is the best method for developing these relationships and, hence, for

strengthening this element of professional identity. Residents in this study, however, recognized a tension between the broad, holistic approach of family medicine and the strong trend toward increasing specialization. There remained a poor understanding of or pride in the family physician's unique expertise.

The exposure to family physician role models is currently limited by two major factors: we are the only postgraduate residency program in which the majority of training time is relegated to specialties other than our own and we have a much shorter residency than other specialties (two versus four to six years). This may lead to a sense that the expertise of specialization is the highest standard to be achieved. There is also less time to develop a specific social identity through daily professional socialization with senior colleagues and peers from the same discipline.

In a family medicine-centred curriculum, however, a majority of the training time is spent with family physicians. This allows significant exposure to role models who can make visible the invisible. As participant observers, residents can see family physicians decoding and sharing their problem-solving processes, as well as their relational and organizational coping strategies, their reflective stance, and their beliefs and values.<sup>52</sup> Repeated, ongoing family medicine experiences permit regular exposure to role models, the time necessary for an understanding of our profession, and the development of a positive professional identity.

### **Efficiency issues**

Efficiency issues also support moving to a competency-based, family medicine-centred curriculum. Section 1.2 of this report indicates that increased expectations exist for both the level and scope of competencies acquired by the end of residency. If residents are to acquire the expected educational outcomes within a two-year time frame, they must be primarily engaged in activities that directly contribute to their acquisition.

With the expansion of both undergraduate and postgraduate programs, resources become stretched. Residents in the current system often compete with other learners for patients, preceptor time, and specific clinical experiences. Residents frequently need additional academic sessions to develop new competencies, such as knowledge of ethics, cultural competency, pandemic planning, and others. The time spent in academic study must be balanced with direct clinical experience.

The challenge is thus to improve the efficiency of residency. Residency time should be spent in activities with high relevance to overall objectives. If the time spent in residency training is to be optimized, clinical service requirements must be connected to the educational experience, and aid in the development of professional skills. The resident must be performing tasks consistent with future practice within an authentic environment. All specific teaching and learning activities should therefore be revisited, in a search for maximal efficiency. We must critically examine their relevance to family medicine learning outcomes, the appropriateness of patient populations,

settings, the level of resident responsibility, and educational strategies for teaching and supervision. Teaching and learning must also include the opportunity for expert family physicians' regular evaluations of residents' performance.

### **Residents' perspective**

Residents recognize the challenge of providing opportunities to meet all relevant family medicine competencies in two years, and advocate repeatedly for experiences that are pertinent to the issues encountered in primary care.<sup>76</sup> In the CFPC Section of Residents' *Guide for the Improvement of Family Medicine Training*,<sup>76</sup> residents frequently comment on the need to re-examine the utility of educational experiences with high service-to-education ratios and little focus on relevant family medicine learning outcomes. This situation was evident, for instance, in some surgical specialty and tertiary care in-patient rotations.<sup>76</sup>

The same document indicates that residents engaged in a longitudinal curriculum appreciate the great variation in day-to-day exposure, as well as the opportunity for continuity of care. They highly value the enhanced autonomy when they follow patients for the duration of their residency. Tannenbaum found that they also appreciate the ability to build stronger relationships with patients, and believe that their identity as a functioning family physician develops earlier.<sup>56</sup>

The overarching emphasis with residents appears to be on the development of training experiences with high relevance to their eventual practice, with the opportunity for continuity of patient care. A competency-based, family medicine-centred curriculum will be necessary if these objectives are to be met.

## **Conclusion**

The burden of proof for the superiority of one curricular design over another should rest with an examination of the quality of graduates, their ability to meet community needs, and, over time, patient outcomes. Quality educational research is needed to answer questions about how certain competencies are best taught and evaluated. Even with the current information void, robust support exists for a move toward a family medicine-centred curriculum on the basis of international trends in medical education; pedagogy; and the development of family medicine expertise, professional socialization, and the need for efficient use of time. Having moved firmly in this new direction, we must now consider the implications for training programs and strategies to assist with implementation.

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# Section 3: CanMEDS-Family Medicine: A Comprehensive Framework of Competencies in Family Medicine

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## 3.1. Competency Frameworks and Their Use in Professional Education

Competency-based educational programs define educational objectives in terms of intended training program outcome. The outcome is the acquisition of competencies that the learner must demonstrate by the completion of training in order to be granted certification. The degree to which a training program is able to achieve the expected educational outcomes among its learners can be used as an accreditation tool by organizations responsible for setting and monitoring educational standards.

The competencies established for a professional discipline are commonly grouped into higher-level or general competencies (professional roles), each of which is accompanied by a set of competencies. Further layering of expanded sub-competencies leads to the articulation of finely detailed knowledge, skills, and attitudes. Together, the general and more specific competencies form a competency framework. This framework can be used to develop specific training outcomes and, ultimately, instruction-specific objectives for the many elements that make up an educational program. This organizational structure forms a taxonomy of competency levels.

Various frameworks have been used in medical education internationally (see Appendix 2) and across Canada. In determining how best to categorize family medicine educational competencies, the working group studied various approaches used internationally, including the CanMEDS framework of the Royal College of Physicians and Surgeons of Canada (RCPSC),<sup>1</sup> the Accreditation Council for Graduate Medical Education (ACGME) Outcomes Project in the United States,<sup>2</sup> the Educational Agenda of the Council of the European Academy of Teachers in General Practice,<sup>3</sup> the Curriculum for Australian General Practice,<sup>4</sup> and the general practice curriculum of the Royal College of General Practitioners in the United Kingdom.<sup>5</sup> Some of these frameworks have been developed for general use in medical education, while others have been designed specifically for family medicine. Some were developed for undergraduate training, while others were intended for residency training. Many of these models have been influenced by the CanMEDS framework.<sup>1</sup>

While these different models have served their individual contexts and populations sufficiently, an evaluation was needed to determine whether they were appropriate to serve family medicine in Canada. Albanese (2008) reviewed the question of whether one single set of competencies could serve the discipline across the world.<sup>6</sup> As each separate context is “bound to local political, social and economic circumstances, to health needs, to the availability of resources, and to the

structure of the health system,”<sup>6,7</sup> the working group needed to compare the observable behaviours of family physicians in each environment before developing such a framework. Ultimately, the working group decided to focus on frameworks developed in the Canadian context, in the belief that these are better adapted to describing the roles of physicians as they are uniquely played out in this country.

- **Building a Competency Framework in the Canadian Context: Evolution of the Four Principles, the EFPO Project, and CanMEDS**

A series of foundational initiatives within Canada has served as a stepping-stone for the development of a new competency framework. These projects are outlined in the sections below.

### **The Four Principles**

Before competency-based curricula were well described, The CFPC developed the Four Principles of Family Medicine (Appendix 3) as broad Roles for the family physician in Canada.<sup>8</sup> They were created as part of a 1985 CFPC curriculum document<sup>9</sup> and for almost 25 years they have served well as a foundation for the specialty of family medicine and the direction of family medicine education. These principles clearly describe how family physicians use an array of competencies in practice, which are complementary to medical expertise. The impact of the Four Principles on postgraduate family medicine training in Canada was to explicitly enhance the training of residents in areas beyond biomedical knowledge.

The Four Principles of Family Medicine are as follows:

1. *The family physician is a skilled clinician.*
2. *Family medicine is community based.*
3. *The family physician is a resource to a defined practice population.*
4. *The doctor–patient relationship is central to the role of the family physician.*

Developed partly in response to community needs and intended to provide direction for the specialty of family medicine into the future, the Four Principles were originally devised through surveys, literature review, and extensive discussions of the concepts.

The principles have been used as an organizing framework in directing objectives and evaluations for residency programs, undergraduate primary care experiences, and continuing professional development. With slight modifications and expanded explanations of the concepts behind them, they have been used as models for other physician groups over the past 25 years. Although they define broad roles, the Four Principles have not been operationalized as physician competencies.

### **The EFPO Project**

The Educating Future Physicians of Ontario (EFPO) Project arose because of a need for direction and a perceived gap between physicians and the public in the late 1980s.<sup>10,11</sup> Its goal was to make medical education in Ontario more responsive to the evolving health needs of that province. Five Ontario faculties of medicine, with representation from the public, residents, family physicians,

and consultant specialists, had extensive consultations with all stakeholders, especially the public. Review of existing frameworks, particularly the Four Principles of Family Medicine, helped shape the Roles that were developed to direct future undergraduate and postgraduate medical education. Although it was developed in Ontario, the EFPO project had a broader impact, as the extensive stakeholder consultation process meant that it was a useful tool for modifying medical education to be responsive to evolving societal needs.<sup>12</sup> Specifically, EFPO developed eight physician Roles:

1. Medical Expert (clinical decision-maker).
2. Communicator (educator, humanist, healer).
3. Health Advocate.
4. Learner.
5. Collaborator.
6. Gatekeeper/Resource Manager/Steward.
7. Scientist/Scholar.
8. A Person.

## **CanMEDS**

The RCPSC set up the Working Group on Societal Needs and developed CanMEDS (originally an acronym for “Canadian Medical Education Directions for Specialists”) after much consultation and use of the EFPO Roles. The framework was piloted in 1996 and then implemented throughout the RCPSC between 1997 and 2002.<sup>13</sup>

CanMEDS was updated in 2005<sup>1</sup> and made somewhat more generic so that the framework could be used across health disciplines and throughout the educational continuum, from undergraduate education through postgraduate education and continuing professional development. It is meant to guide curricula and to form the basis for the design and accreditation of residency programs. Its ultimate purpose is to improve patient care. CanMEDS 2005 describes essential and generic abilities for which educational programs should prepare residents in order to achieve optimal patient outcomes. Broad-based input from clinicians and educators from several health professions makes it a transportable product of wide interest. It lends itself to the construction of discipline-specific standards documents that share common terminology and a competency-based philosophy. The CanMEDS 2005 Roles are as follows:

- Medical Expert.
- Communicator.
- Collaborator.
- Manager.
- Health Advocate.
- Scholar.
- Professional.

## **The Four Principles and CanMEDS**

The Four Principles of Family Medicine are foundational concepts of the nature and practice of medicine, whereas CanMEDS focuses on outcomes of care or competencies expected of the practicing physician. The principles originally looked at aspects and characteristics that

physicians should acquire or aspire to in their practicing careers, especially with respect to their interaction with patients and the community. Patients' increasing desire to be part of their own health care decision-making, along with the need for increased accountability of the system and health care safety, changed the public's perception of "the physician."

The intertwined concepts of the Four Principles of Family Medicine, EFPO Roles, and CanMEDS Roles have influenced medical education, including undergraduate education, postgraduate education, continuing professional development, and faculty development. In all instances, these concepts and Roles take into consideration societal needs and future physicians' changing roles.

In Canada, the objectives and evaluations in many undergraduate courses overlap somewhat seamlessly with the Four Principles of Family Medicine and CanMEDS. An example in postgraduate medical education is the project Educating Future Physicians in Palliative and End of Life Care,<sup>14</sup> in which competencies have been developed using the Four Principles and CanMEDS. With its hierarchy of key and enabling competencies, CanMEDS helps to move the foundation concepts of the Four Principles through to competencies expected of the practicing physician.

The evolution of CanMEDS and CanMEDS-FM<sup>15</sup> is a natural one, as can be seen by the interrelationship of the groups over the past 25 years. The Four Principles relate as a foundation to CanMEDS-FM (Table 1). CanMEDS-FM further specifies the enabling competencies that may define a graduating physician's competencies, and additional growth is expected through practice.

### **3.2. Rationale for Using a CanMEDS-based Framework**

Family medicine competencies are embedded in the Four Principles of Family Medicine. Defining the essence of family medicine, the principles effectively describe what family physicians do in professional practice and continue to serve the discipline very well. They inform the development of a framework of competencies, but they do not necessarily articulate the competencies themselves.

After some reflection, the working group concluded that the CanMEDS framework was the most relevant and useful one to use in categorizing competencies in family medicine in Canada. The rationale behind this conclusion included a number of observations:

- The CanMEDS Roles were derived from the EFPO Project, which identified physician roles that were seen as important to the public.
- Family physicians participated in the development of the EFPO Roles and those of CanMEDS 2000 and CanMEDS 2005.
- CanMEDS is an internationally recognized and respected framework.
- CanMEDS has been adopted widely in undergraduate medical education in Canada.
- A harmonized RCPSC and CFPC approach to the definition of competencies, from undergraduate through postgraduate and continuing education, would promote clearer communication and goal-setting for those involved in curriculum planning and learner evaluation.

- The CanMEDS Roles and the associated key competencies are fairly generic and lend themselves to revisions that would serve the needs of family medicine.

The working group felt that the Four Principles must be retained because they are central to the description of family physicians’ work in Canada. After the Four Principles were described more than 20 years ago, further work was done to elucidate family physicians’ roles and competencies that existed within each principle. The working group chose to integrate these competencies into the appropriate CanMEDS Roles, in the creation of CanMEDS- FM, a new competency framework for family medicine in Canada. Where overlap existed, competencies derived from one principle were, in some cases, placed within multiple Roles (see Table 1).

**Table 1**  
**Comparison of the Four Principles and CanMEDS-FM Roles**

<b>Four Principles of Family Medicine<sup>8</sup></b> (foundation concepts)	<b>CanMEDS-FM Roles<sup>15</sup></b> (expected competencies )
The doctor–patient relationship is central to the role of the family physician.	2. Communicator 3. Collaborator 7. Professional
The family physician is a skilled clinician.	1. Family Medicine Expert 2. Communicator 6. Scholar
Family medicine is community-based.	3. Collaborator 4. Manager 5. Health Advocate
The family physician is a resource to a defined practice population.	3. Collaborator 4. Manager 5. Health Advocate 6. Scholar

Several other modifications have been made to the CanMEDS 2005 Roles in the development of CanMEDS-FM. These are outlined in “Modifications to the CanMEDS 2005 Roles” in this section of the report and in Appendix 4.

### **3.3. The CanMEDS-Family Medicine Framework**

#### **Introduction to CanMEDS-FM**

In June 2009, the CFPC approved CanMEDS-FM as the official competency framework to guide the design and implementation of curricula for postgraduate education in family medicine in Canada. CanMEDS-FM, a modification of CanMEDS that reflects family physicians’ general competencies, 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 practice as the foundation of health care for most individuals and families. CanMEDS-FM builds upon the root definition of the discipline of family medicine provided by the Four Principles, and creates a bridge with other health care specialties and across the educational continuum by adopting common terminology and by articulating, in a similar way, the key competencies required for professional practice.

## **The CanMEDS-FM Roles**

As indicated in Table 1, CanMEDS-FM comprises seven Roles. These are thematic groups of competencies that family physicians integrate into practice daily. These Roles are described in CanMEDS 2005: “The practice of medicine in any discipline is a science as well as an art. Any educational framework that tries to capture this essence is by necessity organized around some arbitrary divisions. Put another way, while the CanMEDS [-FM] framework has seven Roles[;] they are the words used to describe the abilities of the whole, complete physician. Where Collaborator begins and Communicator ends is based on an educational rationale that we believe facilitates the acquisition of abilities.”<sup>1</sup>

Each Role includes a definition and description to explain its importance and relevance to the practice of family medicine. The Roles can be broken down into “key” and “enabling” competencies, to be used for teaching, learning, observation, interaction, and assessment.

As with CanMEDS 2005<sup>1</sup> the word “Role” or the name of a Role (e.g., “Family Medicine Expert”) is capitalized throughout the document to situate the terms in the context of the CanMEDS-FM program. Furthermore, the official order in listing the Roles has been maintained as “Family Medicine Expert,” “Communicator,” “Collaborator,” “Manager,” “Health Advocate,” “Scholar,” and “Professional.”

## **Modifications to the CanMEDS 2005 Roles**

Each of the seven Roles in CanMEDS 2005 has been modified for CanMEDS-FM to reflect the relationships, encounters, and practice of family medicine. Some of the vocabulary used in the document has also been changed to reflect contemporary literature and practice. (For the complete CanMEDS-FM document, see Appendix 1.)

The working group felt that all CanMEDS 2005 physician Roles, except that of Medical Expert, reflected family physicians’ roles and competencies quite closely. The Royal College’s Medical Expert Role, as described, is more applicable to consultant physicians.

After considerable discussion and debate, the working group settled on a new term for the integrating role in family medicine: the “Family Medicine Expert.” This term better reflects the practice of family medicine, while retaining the term “Expert” to permit consistency in discussions across disciplines. This Role has been extensively revised from the Medical Expert Role appearing in the CanMEDS 2005 framework and identifies many of the key competencies required in the day-to-day practice of broad-based, comprehensive, and continuing care in family medicine.

The other two Roles that needed considerable modification were Communicator and Collaborator. The Communicator Role now emphasizes the centrality of the patient–physician relationship to the family physician’s work. It also includes an understanding of patients’ experience of illness, their ideas, feelings, and expectations, and of the impact of illness on the lives of patients and families. It adds the use of repeated contact with patients to build on the patient–physician relationship and the different contexts and forms in which communication takes place for family physicians. The Collaborator Role now has an increased emphasis on the family physician as being community based. It elaborates on the term “interprofessional health care team,” and includes working with consulting professionals and community agencies. The CanMEDS-FM Collaborator Role also includes involving patients and their families, when appropriate, as partners in collaboration. These and other changes to the CanMEDS Roles are highlighted in Appendix 4.

## **Educational Taxonomy of Family Medicine Competency**

Along with CanMEDS 2005, the RCPSC presented an educational taxonomy of competency levels. This has served extremely well in demonstrating how medical training programs can structure their learning opportunities and objectives, integrating a framework such as CanMEDS. Several modifications from this document were necessary, however, to create a taxonomy suitable to practice and learning in the family medicine setting.

A new educational taxonomy has been developed to provide an organized approach to family medicine competency in Canada, and to reinforce an understanding of how its different elements interrelate. This taxonomy will be useful to educators, and to those involved in curriculum and educational policy development, in family medicine.

To distinguish this new taxonomy from that of the RCPSC in Canadian medical education discussion, the term “tier,” rather than “level,” is used. The taxonomy organizes family medicine competencies into six tiers (Figure 1):

### **Tier 1: The Four Principles of Family Medicine**

This tier refers to the reality that each family physician has a unique set of qualities and skills that he or she demonstrates in his or her own practice. In action, these competencies are integrated into a seamless whole, and reflect the physician’s daily activities. The Four Principles of Family Medicine are the underlying foundation of this full range of competencies, which, in effect, represent the essence of the practice of family medicine.<sup>8</sup>

Overall professional competence is always changing, depending on the stage of practice which range from “beginning practitioner” to “knowledgeable practitioner,” “expert,” and “master.” Each individual family physician displays a combination of competencies that express the various Roles and are adapted to practice setting, personal needs, and community needs.

## **Tier 2: The CanMEDS-FM Roles**

This tier refers to a framework representing the expectations for practicing family physicians. It is organized under the seven Roles to form the CanMEDS-FM framework.<sup>15</sup>

The seven Roles are common to all family physicians. They are synergistic and interrelated. While all family physicians use each of the Roles, their areas of competence may be focused and/or may go beyond the level of competency expected at the end of residency.

The CanMEDS-FM framework encompasses the frontier between practicing family physicians and family medicine residency program objectives. The Roles provide a general sense of the areas for which residency programs must provide training, and in which residents must aim to develop competence.

Each Role describes a domain of related competencies, which are somewhat broader and deeper than what is achievable for any given resident at the end of two years of training, and for CFPC certification. Each Role is further organized into definition, description, key competencies, and enabling competencies, to help stakeholders understand the meaning and expectations for each Role.

## **Tier 3: Key Competencies**

Within each CanMEDS Role are a small number of essential competencies. This level represents “the key competencies.” These competencies involve the combination of knowledge, skills, judgment, attitudes, and personal values. They are written as global educational statements, and are sometimes somewhat broader than any directly observable and measurable behaviour. In curriculum development, these can serve as the basis for expected educational outcomes, rotation objectives, or instructional event-specific objectives. Their content informs the curriculum, even in domains that might not be easily assessed but that are useful in preparation for independent practice.

## **Tier 4: Enabling Competencies**

Enabling competencies are thematically grouped by general competency. They are distinguished from key competencies by the depth of detail presented. The term “enabling competencies” is used in the educational literature to refer to sub-abilities, made up of knowledge, skills, and attitudes, that are essential for attainment of a larger competency.

## **Tier 5: Program-level Outcomes**

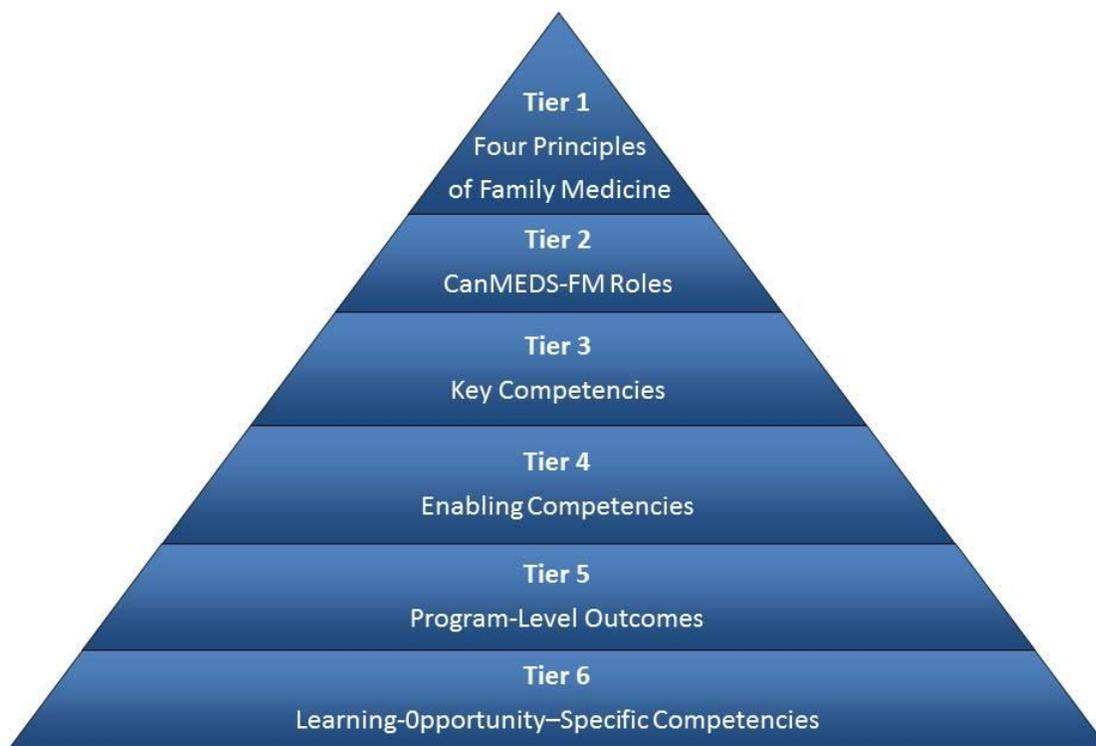
Tier 5 refers to overall program outcomes set at the level of each individual residency program in family medicine, including enhanced-skills programs. At this tier, the Roles and their related competencies are adapted to a level achievable at the end of residency and expected of a beginning professional. This is where training standards for family medicine are operationalized

and adapted to the universities where family medicine training will take place. These set outcomes will serve as the basis for curricular planning, for program evaluation, and for the assessment of residents.

### **Tier 6: Learning Opportunity-specific Competencies**

This tier includes the competencies—or elements of competencies—on which each specific learning opportunity should focus. Each individual educational activity or experience, including placements, electives and selectives, seminars and rounds, or other forms of academic teaching, will be planned by programs which must consider that competencies would normally be attained in part or in full through this learning opportunity. In this way, the opportunities available in each local context can be integrated into a curriculum that will allow the achievement of all the defined program outcomes. Such activities can be planned in the CanMEDS-FM format.

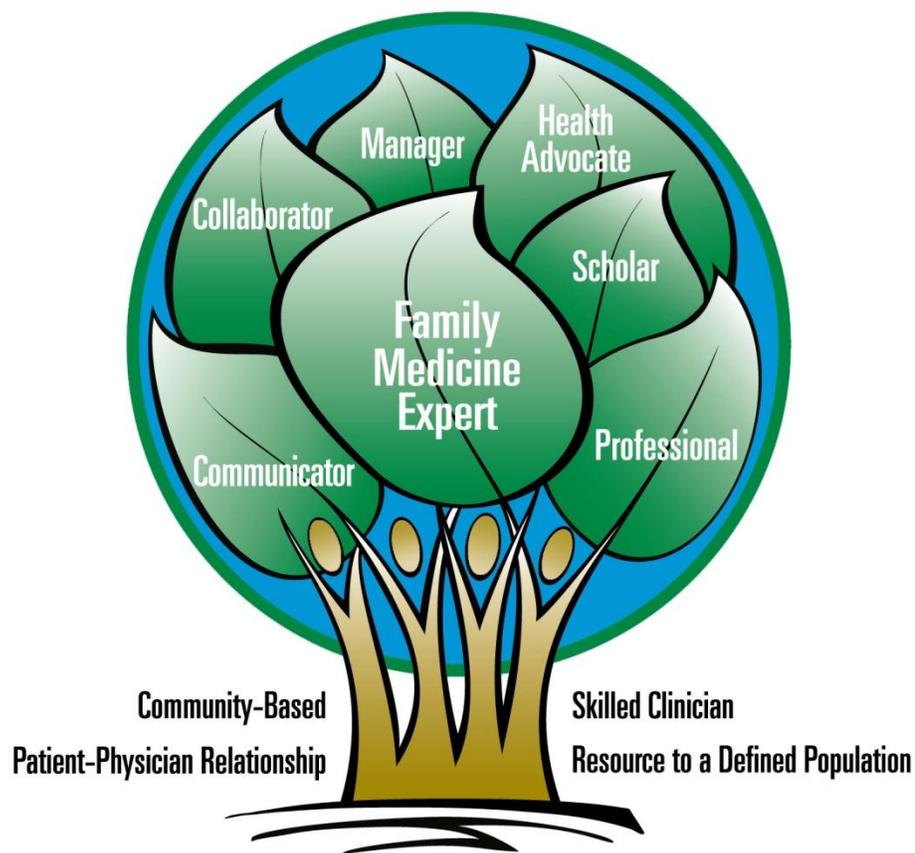
**Figure 1**  
**Family Medicine Educational Taxonomy**



### 3.4. The CanMEDS-FM Representation

A diagram has been developed to illustrate the relationship between the CanMEDS-FM Roles and the Four Principles of Family Medicine. It depicts the Four Principles of Family Medicine as the roots of a tree. The branches of the tree lead to the leaves of the seven CanMEDS-FM Roles, with the integrating “Family Medicine Expert” Role as a central leaf (Figure 2).<sup>†16</sup>

**Figure 2**  
**CanMEDS-FM Representation**



## CanMEDS-Family Medicine

<sup>†</sup> Adapted from the CanMEDS Physician Competency Diagram with permission of the Royal College of Physicians and Surgeons of Canada. Copyright © 2009.

### **3.5 The Future of CanMEDS-FM**

Competency frameworks are context dependent and are developed on the basis of local professional settings.<sup>6</sup> Thus, CanMEDS-FM should be expected to evolve over time. For example, over the past 10 years, an increased focus has been placed on issues of professionalism and on interprofessional collaborative care in medical education. More recently, patient safety has been emphasized. The seven Roles should remain stable, but we anticipate periodic changes for some key and enabling competencies - or a higher level of expectations at the end of training for an existing key competency. This 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 CanMEDS-FM.

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16. Adapted from the CanMEDS Physician Competency Diagram with permission of the Royal College of Physicians and Surgeons of Canada. Copyright © 2009.

## Appendix 1



# CanMEDS- Family Medicine

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Working Group on Curriculum Review

October 2009



CanMEDS-Family Medicine

Adapted from the CanMEDS Physician Competency Diagram with permission of the Royal College of Physicians and Surgeons of Canada. Copyright © 2009.

# CanMEDS-Family Medicine

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**Working Group on Curriculum Review**

**October 2009**

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# CanMEDS-Family Medicine: A Framework of Competencies in Family Medicine

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## INTRODUCTION

CanMEDS-Family Medicine (CanMEDS-FM) is an adaptation of CanMEDS 2005, the competency framework for medical education developed by the Royal College of Physicians and Surgeons of Canada (RCPSC). In keeping with CanMEDS 2005, CanMEDS-Family Medicine's purpose is to guide curriculum and to form the basis for the design and accreditation of residency programs. Its ultimate goal is to improve patient care and to ensure that postgraduate training programs in family medicine are responsive to societal needs.

### *Why CanMEDS for family medicine?*

In determining how best to categorize family medicine educational competencies, the Working Group on Postgraduate Curriculum Review studied various approaches used internationally in the growing area of competency-based education. Examples include:

- the Outcomes Project of the Accreditation Council for Graduate Medical Education in the United States
- the Educational Agenda of the Council of the European Academy of Teachers in General Practice
- the Curriculum for Australian General Practice
- the GP Curriculum of the Royal College of General Practice in the UK
- the CanMEDS framework of the RCPSC

The Working Group concluded that CanMEDS provided the most relevant and useful framework for categorizing competencies in family medicine in Canada. The rationale behind this conclusion included a number of observations:

- The CanMEDS roles were derived from the EFPO (Educating Future Physicians for Ontario) Project which identified generic physician roles that were seen as important to the public
- Family physicians participated in the development of the EFPO roles and those of CanMEDS 2000 and CanMEDS 2005
- CanMEDS is an internationally recognized and respected framework
- CanMEDS has been adopted widely in undergraduate medical education in Canada

- A harmonized approach to the definition of competencies between the RCPSC and CFPC and from undergraduate through postgraduate and continuing education would promote clearer communication and goal-setting for those involved in curriculum planning and learner evaluation
- The CanMEDS roles and the associated key competencies are fairly generic and lend themselves to revisions that would serve the needs of family medicine.

The CanMEDS 2005 structure includes seven physician roles: Medical Expert, Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional. These roles reflect quite closely those of family physicians; however, the Royal College’s Medical Expert role, as described, is most applicable to consultant physicians. CanMEDS-FM replaces “Medical Expert” with “Family Medicine Expert”. This role, which has been extensively revised from the CanMEDS 2005 Medical Expert Role, identifies many of the key competencies required in the day-to-day practice of broad-based, comprehensive and continuing care in family medicine.

### ***The Four Principles of Family Medicine***

It should be noted that the Four Principles and the CanMEDS roles coexist in a complementary way. The Four Principles are foundational concepts regarding the nature and practice of family medicine whereas CanMEDS focuses on outcomes of care and competencies expected of the practicing physician.

As articulated by McWhinney\*, Family Physicians are committed to the person first rather than to a particular body of knowledge, group of diseases or interventions. As such their clinical skills include the need to understand the patient’s perspective and experience of illness opening up the need to attach importance to subjective aspects of medicine. Family physicians are engaged with their patients’ emotions, and may become an important part of the patient’s network of relationships. The discipline is necessarily self-reflective. The above concepts are embodied within The Four Principles of Family Medicine that have defined the development of the discipline over the last 25 years. They remain an essential component of understanding the definitions of the roles in this document.

CanMEDS-FM retains the Four Principles by integrating them into the appropriate CanMEDS-FM roles. In some cases a principle appears in multiple roles. The following table links the Four Principles to the respective CanMEDS-FM Roles.

<b>Four Principles of Family Medicine</b> (foundational concepts)	<b>CanMEDS-FM Roles</b> (expected competencies )
<b>The Doctor Patient Relationship is Central to the Role of the Family Physician</b>	2.Communicator 3.Collaborator 7.Professional
<b>The Family Physician is a Skilled Clinician</b>	1. Family Medicine Expert 2. Communicator 6.Scholar
<b>Family Medicine is Community-Based</b>	3.Collaborator 4.Manager 5.Health Advocate
<b>The Family Physician is a Resource to a Defined Practice</b>	3.Collaborator 4.Manager 5.Health Advocate 6.Scholar

### ***CanMEDS-Family Medicine***

Readers will find that CanMEDS-FM serves as a broad and comprehensive description of the roles and responsibilities carried out by family physicians in their work with patients, families, 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 family medicine, the depth of the skills required for effective practice, and the crucial importance of family practice as the foundation of health care for most individuals and families. CanMEDS-FM builds upon the root definition of the discipline of Family Medicine provided by the Four Principles, and creates a bridge with other healthcare specialties and across the educational continuum by adopting common terminology and articulating, in a similar way, the key competencies required for professional practice.

\*McWhinney, Ian R. 1997. *A Textbook of Family Medicine (Second Edition)*. New York: Oxford University Press.

# The Family Medicine Expert

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## *Definition*

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-centred clinical method effectively. As Family Medicine Experts they integrate all the CanMEDS- Family Medicine (CanMEDS-FM) roles in their daily work.

## *Description*

Family physicians provide care for a wide range of health issues throughout the lifecycle, from birth through death, in a variety of settings within the community. At presentation, the patient may bring multiple problems that are not pre-selected, and are often undifferentiated and interdependent. It is through expert judgement and clinical reasoning that family physicians formulate the clinical problems presented and, in partnership with the patient, arrive at decisions regarding investigation, management and monitoring. The clinical responsibilities of family physicians span the spectrum of medical care: health promotion and disease prevention; diagnosis; acute treatment, including the management of life-threatening illness; chronic disease management; rehabilitation; supportive care; and palliation. Family physicians approach and manage clinical problems effectively, often in situations of diagnostic uncertainty and limited resources.

Family physicians' unique expertise is intimately tied to their relationships with their patients, for whom they are often the primary and continuing contact for health care. Theirs is a generalist approach and their perspective is comprehensive, integrating elements from multiple domains. Family physicians are a resource to their practices and communities as they adapt their knowledge base and skills over time to the specific patient populations they serve and to local needs. The four principles of family medicine guide the work of the family physician.

Family physicians possess a core body of knowledge, clinical and procedural skills and professional attitudes. They use the patient-centred clinical method in assessing and managing clinical problems, which involves partnering with patients and families in health and illness.

Family physicians are skilled at acquiring and interpreting information and solving clinical problems. They adapt effectively to the situation at hand and identify relevant priorities.

Family physicians communicate and collaborate effectively with patients, families, communities and other health care professionals, including teams of providers. They serve as coordinators of care and demonstrate a long term commitment to their patients.

The role of the Family Medicine Expert draws on the competencies included in the roles of Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional.

### ***Components of the Family Medicine Expert Role***

*Family physicians are able to...*

<b>Key Competencies</b>	<b>Enabling Competencies</b>
<p><b>1. Integrate all the CanMEDS-FM roles in order to function effectively as generalists</b></p>	<p>1.1 Utilize relevant competencies contained within the CanMEDS-FM roles when approaching clinical situations</p> <p>1.2 Prioritize professional duties when faced with multiple competing demands</p> <p>1.3 Demonstrate an awareness of the role of the family physician in situations other than patient care, such as participation in health care management, policy development and planning</p> <p>1.4 Consider issues of patient safety and ethical dimensions in the provision of care and other professional responsibilities</p>
<p><b>2. Establish and maintain clinical knowledge, skills and attitudes required to meet the needs of the practice and patient population served</b></p>	<p>2.1 Apply acquired knowledge, skills and attitudes to daily clinical practice</p> <p>2.2 Recognize personal limits in knowledge, skills and attitudes</p> <p>2.3 Apply the life-long learning skills of the Scholar Role to implement a personal learning program in response to the needs of their practice and patient population</p> <p>2.4 Contribute to the enhancement of quality of care in their practice, integrating the available best evidence and best practices</p>

<p><b>3. Demonstrate proficient assessment and management of patients using the patient-centred clinical method</b></p>	<p>3.1 Describe the components of the patient centred clinical method.</p> <p>3.2 Demonstrate skilled interviewing and physical examination techniques in gathering clinical data</p> <p>3.3 Explore both the disease and the patient’s personal experience of illness</p> <p>3.4 Understand the whole person: The life history, personal, and developmental issues as well as their context.</p> <p>3.5 Find common ground with the patient in regard to defining problems and priorities, setting goals of treatment and recognizing the roles of patient and family physician in each encounter</p> <p>3.6 Incorporate prevention and health promotion into the clinical encounter</p> <p>3.7 Consciously enhance the patient-physician relationship recognizing characteristics of a therapeutic and caring relationship</p> <p>3.8 Manage time and resources effectively</p>
<p><b>4. Provide comprehensive and continuing care throughout the life cycle incorporating appropriate preventive, diagnostic and therapeutic interventions</b></p>	<p>4.1 Provide primary contact and comprehensive continuing care to a defined population of patients through the spectrum of health promotion and disease prevention; diagnosis; acute treatment, including the management of life-threatening illness; chronic disease management; rehabilitation; supportive care; and palliation.</p> <p>4.2 Provide preventive care through application of current standards for the practice population</p> <p>4.3 Utilize diagnostic and therapeutic interventions meeting the needs of the patient according to available evidence, balancing risks, benefits and costs</p>

<p><b>5. Attend to complex clinical situations in family medicine effectively</b></p>	<p>5.1 Through clinical reasoning strategies, adapt the scope of clinical evaluation to the particular context in a selective manner in order to appropriately assess each patient</p> <p>5.2 Develop diagnostic hypotheses informed by prevalence, community incidence and consideration of urgent treatable problems</p> <p>5.3 Identify relevant priorities for management, based on the patient’s perspective, medical urgency and the context</p> <p>5.4 Make clinical decisions informed by best available evidence, past experience and the patient’s perspective</p> <p>5.5 Recognize and respond to the ethical dimensions in clinical decision-making</p> <p>5.6 Use time effectively in assessment and management</p> <p>5.7 Manage simultaneously multiple clinical issues, both acute and chronic, often in a context of uncertainty</p>
<p><b>6. Demonstrate proficient and evidence-based use of procedural skills</b></p>	<p>6.1 Demonstrate timely performance of relevant diagnostic and therapeutic procedures, including obtaining informed consent</p> <p>6.2 Appropriately document procedures performed and their outcomes, and ensure adequate follow-up</p>
<p><b>7. Provide coordination of patient care including collaboration and consultation with other health professionals and caregivers</b></p>	<p>7.1 Coordinate the care of patients with multiple care providers and teams of providers</p> <p>7.2 Apply the competencies of the Collaborator role in team-based care, and when working with consulting health professionals</p> <p>7.3 Appropriately incorporate families and other caregivers in the care of patients, while abiding by the ethical standards of patient autonomy and consent</p>

# Communicator

---

## *Definition*

As Communicators, family physicians facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

## *Description*

The patient-physician relationship is central to the role of the family physician. Family physicians integrate a sensitive, skillful, and appropriate search for disease and illness. They demonstrate an understanding of patients' experiences of illness, their ideas, feelings, and expectations and of the impact of illness on the lives of patients and families. They use repeated contacts with patients to build on the patient-physician relationship and to promote the healing power of interactions. Family physicians have an understanding and appreciation of the human condition, especially the nature of suffering and patients' response to illness.

Family physicians are adept at working with patients and families to reach common ground on the definition of problems, goals of treatment, and roles of family physician and patient in management. They are skilled at providing information to patients in a manner that respects their autonomy and empowers them to take charge of their own health care and make decisions in their best interests.

Family physicians enable effective dynamic interactions with patients, families, caregivers, health professionals, and other individuals. They communicate in various ways and in a variety of settings through their own initiative or at the request of the patient or family with the purpose of achieving the best health outcomes for patients but also to comfort, reassure, and alleviate suffering.

Family physicians are able to establish and maintain effective communication in the face of patients' disabilities, cultural differences, age group differences and in challenging situations.

The competencies of this role are essential for establishing rapport and trust, formulating a diagnosis, delivering information, striving for mutual understanding, and facilitating a shared plan of care.

## ***Components of the Communicator Role***

*Family physicians use the patient-centred clinical method, and...*

<b>Key Competencies</b>	<b>Enabling Competencies</b>
<p><b>1. Develop rapport, trust and ethical therapeutic relationships with patients and families</b></p>	<p>1.1 Recognize that being a good communicator is a core clinical skill for physicians, and that physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes</p> <p>1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy</p> <p>1.3 Respect patient confidentiality, privacy and autonomy</p> <p>1.4 Listen effectively</p> <p>1.5 Develop awareness of, and responsiveness to, non-verbal cues</p> <p>1.6 Facilitate a structured clinical encounter</p> <p>1.7 Acquire skills of cross-cultural communication</p> <p>1.8 Respect boundaries in the doctor-patient relationship</p>
<p><b>2. Accurately elicit and synthesize information from, and perspectives of, patients and families, colleagues and other professionals</b></p>	<p>2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience</p> <p>2.2 Explore the patient's psychosocial context</p> <p>2.3 Seek out and synthesize information from other sources, such as a patient's family, caregivers and other professionals</p> <p>2.4 Conduct an interview with multiple participants to gather information about factors affecting the patient</p>

<p><b>3. Accurately convey needed information and explanations to patients and families, colleagues and other professionals</b></p>	<p>3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable and encourages discussion and participation in decision-making</p> <p>3.2 Disclose error / adverse events in an effective manner</p>
<p><b>4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop, provide and follow-up on a shared plan of care</b></p>	<p>4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient’s context, responses, concerns, and preferences</p> <p>4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making</p> <p>4.3 Encourage discussion, questions, and interaction in the encounter</p> <p>4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care</p> <p>4.5 Communicate effectively as a member or leader of a health care team or other professional group</p> <p>4.6 Provide follow-up contact with patient and family using a form of communication that will achieve the best outcome for the patient and family</p> <p>4.7 Effectively address challenging communication issues such as motivating behavioural change, delivering bad news, and addressing anger or dependency</p> <p>4.8 Provide therapeutic interventions through supportive and other counselling techniques used in primary care</p> <p>4.9 Communicate utilizing an interpreter</p>

**5. Convey effective oral and written information**

- 5.1 Maintain clear, accurate, and appropriate records (e.g., written and electronic) of clinical encounters and plans
- 5.2 Use effective written and oral communication for referral and collaborative care.
- 5.3 Effectively present verbal reports of clinical encounters and plans
- 5.4 Communicate appropriately using electronic mail and other electronic means, while maintaining patient confidentiality
- 5.5 When requested or needed by a community, present medical information to the public or media about a medical issue

# Collaborator

---

## *Definition*

As Collaborators, family physicians work with patients, families, healthcare teams, other health professionals, and communities to achieve optimal patient care.

## *Description*

Family physicians collaborate and consult with others in the health care system who are involved in the care of individuals or specific groups of patients. Family physicians see themselves as part of a community network of health professionals and are skilled at collaborating as team members or team leaders. This is increasingly important in a modern multiprofessional environment, where the goal of patient-centred care is widely shared.

Modern healthcare teams not only include a group of professionals working closely together at single sites, but also extended teams with a variety of perspectives and skills, in multiple locations. It is therefore essential for family physicians to be able to collaborate with patients, families, health professionals, community agencies and policy makers for the provision of optimal care, education and scholarship.

## *Components of the Collaborator Role*

*Family physicians are able to:*

Key Competencies	Enabling Competencies
<b>1. Participate in a collaborative team-based model and with consulting health professionals in the care of patients</b>	<ul style="list-style-type: none"><li>1.1 Clearly describe their roles and responsibilities to other professionals</li><li>1.2 Describe the roles and responsibilities of other professionals within the health care team</li><li>1.3 Recognize and respect the diversity of roles, responsibilities and competencies of other professionals in relation to their own</li><li>1.4 Work with others to assess, plan, provide and integrate care for individual patients or groups of patients.</li><li>1.5 Where needed, work with others to assess, plan, provide and review non-clinical tasks, such as</li></ul>

	<p>research problems, educational work, program review or administrative responsibilities</p> <p>1.6 Participate effectively in interprofessional team meetings</p> <p>1.7 Enter into interdependent relationships with other professions for the provision of quality care</p> <p>1.8 Utilize the principles of team dynamics to enhance team performance</p> <p>1.9 Contribute to working relationships on teams and participate in a collegial process to designate appropriate team leadership roles</p> <p>1.10 Respect team ethics, including confidentiality, resource allocation and professionalism</p> <p>1.11 Where appropriate, demonstrate leadership in a healthcare team</p>
<p><b>2. Maintain a positive working environment with consulting health professionals, health care team members, and community agencies</b></p>	<p>2.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team</p> <p>2.2 Work with other professionals to prevent conflicts</p> <p>2.3 Employ collaborative negotiation to resolve conflicts</p> <p>2.4 Respect differences, misunderstandings and limitations in other professionals</p> <p>2.5 Recognize one’s own differences, misunderstanding and limitations that may contribute to interprofessional tension</p> <p>2.6 Reflect on interprofessional team function</p>
<p><b>3. Engage patients or specific groups of patients and their families as active participants in their care</b></p>	<p>3.1 Find common ground on the identification of problems and priorities of interventions</p> <p>3.2 Find common ground on the methods and goals of treatment</p> <p>3.3 Work to establish the respective roles of family physician and patient</p> <p>3.4 Work with patients and families to optimize health</p>

# Manager

---

## *Definition*

As Managers, family physicians are central to the primary health care team and integral participants in healthcare organizations. They use resources wisely and organize practices which are a resource to their patient population to sustain and improve health, coordinating care within the other members of the health care system.

## *Description*

Family physicians interact with their work environment as individuals, as members of teams or groups, and as participants in the health system locally, regionally and nationally. They are often the first contact with the health care system and need to coordinate care with other members of the health care system, including the community. They manage everyday practice activities, and balance their personal lives. They organize their practices using information systems as a resource to their patient population. Family physicians require the ability to prioritize, use health resources wisely, and effectively execute tasks collaboratively with colleagues. Family physicians engage in continuous quality improvement within their own practice environment. Family physicians are actively engaged as integral participants in decision-making in the operation of the health care system.

## *Components of the Manager Role*

*Family physicians are able to...*

<b>Key Competencies</b>	<b>Enabling Competencies</b>
<b>1. Participate in activities that contribute to the effectiveness of their own practice , healthcare organizations and systems</b>	<ul style="list-style-type: none"><li>1.1 Describe the role of the family physician in the health care system and their relationships with other health care professionals, and community organizations</li><li>1.2 Work collaboratively with other health care professionals and community organizations to provide coordinated care for patients</li><li>1.3 Participate in systemic quality process evaluation and improvement such as patient safety initiatives</li><li>1.4 Participate in continuous quality improvement activities within their own practice environment, such</li></ul>

	<p>as practice audit.</p> <p>1.5 Describe the structure and function of the health care system including different models of primary care organization and funding</p>
<b>2. Manage their practice and career effectively</b>	<p>2.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life</p> <p>2.2 Manage a practice including finances and human resources, collaboratively when indicated.</p> <p>2.3 Implement processes to ensure continuous quality improvement within a practice</p> <p>2.4 Employ information technology, including electronic medical records to plan appropriately for patient care</p>
<b>3. Allocate finite healthcare resources appropriately</b>	<p>3.1 Recognize the importance of appropriate allocation of healthcare resources, including referral to other health care professionals and community resources, balancing effectiveness, efficiency and access with optimal patient care</p> <p>3.2 Apply evidence and management processes for cost-appropriate care</p> <p>3.3 Judiciously manage access to scarce community resources and referral sources</p> <p>3.4 Integrate knowledge of the structure of the health care system and its components in the provision of care</p>
<b>4. Serve in administration and leadership roles, as appropriate</b>	<p>4.1 Chair or participate effectively in committees and meetings</p> <p>4.2 Lead or implement a change in health care practice</p> <p>4.3 Contribute to policy development related to systems of health care</p> <p>4.4 Participate in relevant administrative roles related to clinical care</p>

# Health Advocate

---

## *Definition*

As health advocates, family physicians responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

## *Description*

Family physicians recognize their duty and ability to improve the overall health of their patients and the society they serve. Family physicians identify advocacy activities as important for the individual patient, for populations of patients and for communities. Individual patients need their family physician to assist them in health promotion and enhancement navigating the healthcare system and accessing the appropriate health resources in a timely manner. Communities and societies need family physicians' special expertise to identify and collaboratively address broad health issues and the determinants of health. At this level, health advocacy involves efforts to change specific practices or policies on behalf of those served. Framed in this multi-level way, health advocacy is an essential and fundamental component of health promotion. Health advocacy is appropriately expressed both by the actions of individual family physicians and through collective actions with other health professionals in influencing population health and public policy.

## *Components of the Health Advocate Role*

*Family physicians are able to...*

<b>Key Competencies</b>	<b>Enabling Competencies</b>
<b>1. Respond to individual patient health needs and issues as part of patient care</b>	<ul style="list-style-type: none"><li>1.1 Identify the health needs of an individual patient</li><li>1.2 Advocate for individual patients around relevant health matters</li><li>1.3 Implement health promotion and disease prevention policies and interventions for individual patients and the patient population served</li></ul>

<p><b>2. Respond to the health needs of the communities that they serve</b></p>	<p>2.1 Describe the practice communities that they serve</p> <p>2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately</p> <p>2.3 Appreciate the possibility of competing interests between the communities served and other populations</p>
<p><b>3. Identify the determinants of health within their communities</b></p>	<p>3.1 Identify the determinants of health within their communities, including barriers to accessing care and resources</p> <p>3.2 Identify vulnerable or marginalized populations and respond as needed</p>
<p><b>4. Promote the health of individual patients, communities and populations</b></p>	<p>4.1 Describe approaches to implementing changes in determinants of health of the population served</p> <p>4.2 Describe how public policy, healthcare delivery and healthcare financing impact access to care and the health of the population served</p> <p>4.3 Identify points of influence in the healthcare system and its structure</p> <p>4.4 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism</p> <p>4.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper</p> <p>4.6 Describe the role of the medical profession in advocating collectively for health and patient safety</p>

# Scholar

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## *Definition*

As Scholars, family physicians demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of knowledge.

## *Description*

Family physicians engage daily in the search for answers to patient care questions and strive to adapt and increase their knowledge and skills to meet the needs of their patients and community. As reflective learners, they recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the creation, dissemination, application and translation of knowledge. As teachers, they facilitate the education of their students, patients, colleagues, and others. Family physicians adopt a critical and evidence-informed approach to practice and maintain this approach through continued learning and quality improvement.

## *Components of the Scholar Role*

*Family physicians are able to...*

Key Competencies	Enabling Competencies
<b>1. Maintain and enhance professional activities through ongoing self-directed learning based on reflective practice</b>	<ul style="list-style-type: none"><li>1.1 Describe the principles in maintaining professional competence and implementing a personal knowledge management system</li><li>1.2 Recognize and reflect learning issues in practice</li><li>1.3 Conduct a personal practice audit</li><li>1.4 Formulate a learning question</li><li>1.5 Identify sources of knowledge appropriate to the question</li><li>1.6 Access and interpret the relevant evidence</li><li>1.7 Integrate new learning into practice</li><li>1.8 Evaluate the impact of any change in practice</li><li>1.9 Document the learning process</li></ul>

<p><b>2. Critically evaluate medical information, its sources, and its relevance to their practice, and apply this information to practice decisions</b></p>	<p>2.1 Describe the principles of critical appraisal</p> <p>2.2 Critically appraise retrieved evidence in order to address a clinical question</p> <p>2.3 Integrate critical appraisal conclusions into clinical care</p>
<p><b>3. Facilitate the education of patients, families, trainees, other health professional colleagues, and the public, as appropriate</b></p>	<p>3.1 Describe principles of learning relevant to medical education</p> <p>3.2 Collaboratively identify the learning needs and desired learning outcomes of others</p> <p>3.3 Discuss the benefits of collaborative learning</p> <p>3.4 Deliver a learner-centred approach to teaching</p> <p>3.5 Select effective teaching strategies and content to facilitate others' learning</p> <p>3.6 Deliver an effective presentation</p> <p>3.7 Assess and reflect on a teaching encounter</p> <p>3.8 Provide effective feedback</p> <p>3.9 Describe the principles of ethics with respect to teaching</p>
<p><b>4. Contribute to the creation, dissemination, application, and translation of new knowledge and practices</b></p>	<p>4.1 Describe the principles of research and scholarly inquiry</p> <p>4.2 Judge the relevance, validity, and applicability of research findings to their own practice and individual patients</p> <p>4.3 Describe the principles of research ethics</p> <p>4.4 Pose a scholarly question</p> <p>4.5 Conduct a systematic search for evidence</p> <p>4.6 Select and apply appropriate methods to address the question</p> <p>4.7 Appropriately disseminate the findings of a study</p>

# Professional

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## *Definition*

As Professionals, family physicians are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

## *Description*

Family physicians have a societal role as professionals who are dedicated to the health and caring of others. Their work requires the mastery of a complex body of knowledge and skills, as well as the art of medicine. As such, the Professional Role is guided by codes of ethics and a commitment to clinical competence, appropriate attitudes and behaviours, integrity, altruism, personal well-being, and the public good.

These commitments form the basis of a social contract between a physician and society. Society, in return, grants physicians the privilege of profession-led regulation with the understanding that they are accountable to those served.

## *Components of Professional Role*

*Family physicians are able to...*

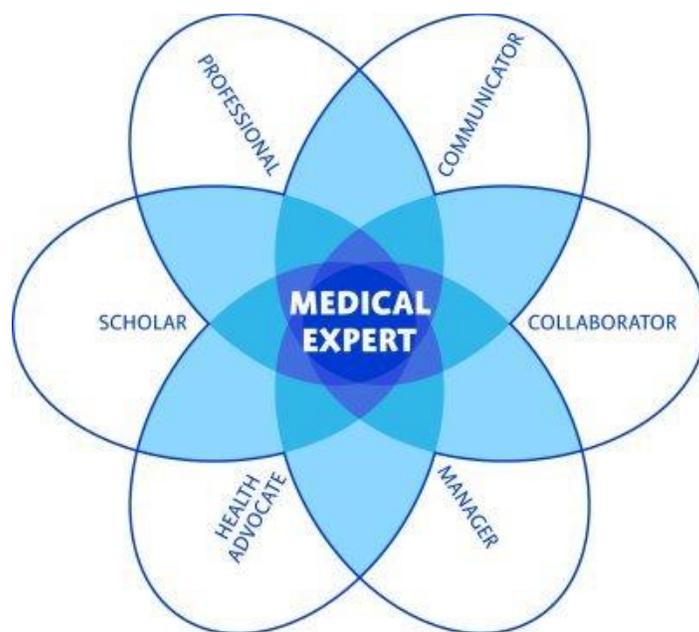
Key Competencies	Enabling Competencies
<b>1. Demonstrate a commitment to their patients, profession, and society through ethical practice</b>	<ul style="list-style-type: none"><li>1.1 Exhibit professional behaviours in practice, including honesty, integrity, reliability, compassion, respect, altruism, and commitment to patient well-being</li><li>1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence</li><li>1.3 Recognize and appropriately respond to ethical issues encountered in practice</li><li>1.4 Demonstrate respect for colleagues and team members</li><li>1.5 Appropriately manage conflicts of interest</li><li>1.6 Recognize the principles and limits of patient confidentiality as defined by professional practice</li></ul>

	<p>standards and the law</p> <p>1.7 Maintain appropriate professional boundaries</p> <p>1.8 Speak directly and respectfully to colleagues whose behaviour may put patients or others at risk</p>
<p><b>2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation</b></p>	<p>2.1 Appreciate the professional, legal and ethical codes of practice, including knowledge of the CMA Code of Ethics</p> <p>2.2 Fulfill the regulatory and legal obligations required of current practice</p> <p>2.3 Demonstrate accountability to professional regulatory bodies</p> <p>2.4 Recognize and respond to others' unprofessional behaviours in practice</p> <p>2.5 Participate in peer review</p>
<p><b>3. Demonstrate a commitment to physician health and sustainable practice</b></p>	<p>3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice</p> <p>3.2 Strive to heighten personal and professional awareness and insight</p> <p>3.3 Recognize and respond to other professionals in need</p>
<p><b>4. Demonstrate a commitment to reflective practice</b></p>	<p>4.1 Demonstrate the ability to gather information about personal performance, know one's own limits, and seek help appropriately</p> <p>4.2 Demonstrate an awareness of self, and an understanding how one's attitudes and feelings impact their practice</p> <p>4.3 Reflect on practice events, especially critical incidents, to deepen self knowledge</p>

## Appendix 2: Examples of Competency Frameworks Used Internationally

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Various elements of competency-based medical education have been discussed since as early as the 1950s. Through the 1960s<sup>1</sup> and into the 1970s,<sup>2</sup> the various elements of defining competence and the characteristics of clinical competence have evolved. The Royal College of Physicians and Surgeons of Canada CanMEDS project started in 1993 and was adopted in 1996.<sup>3</sup> It places the medical expert at its centre, and the core competencies, described as Roles taken on by physicians, emanate from this (Figure 1). This framework has been adopted internationally for medical education, especially in the Netherlands.



**Figure 1**

### **CanMEDs Diagram of the Medical Expert and Roles<sup>3</sup>**

In the United States, the Society of Teachers of Family Medicine Task Force on Residency Curriculum for the Future distributed its final report in 1989, which brought competency-based curricula into the arena of discussion in medical education circles.<sup>4</sup> In 1999, the US Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties jointly agreed on six competencies to be used in certification, accreditation, and maintenance of certification.<sup>5</sup> This was known as the

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<sup>3</sup> Copyright © 2005 The Royal College of Physicians and Surgeons of Canada.  
<http://rcpsc.medical.org/canmeds>. Reproduced with permission.

Outcome Project and listed the general competencies expected of a new medical practitioner in the following areas:

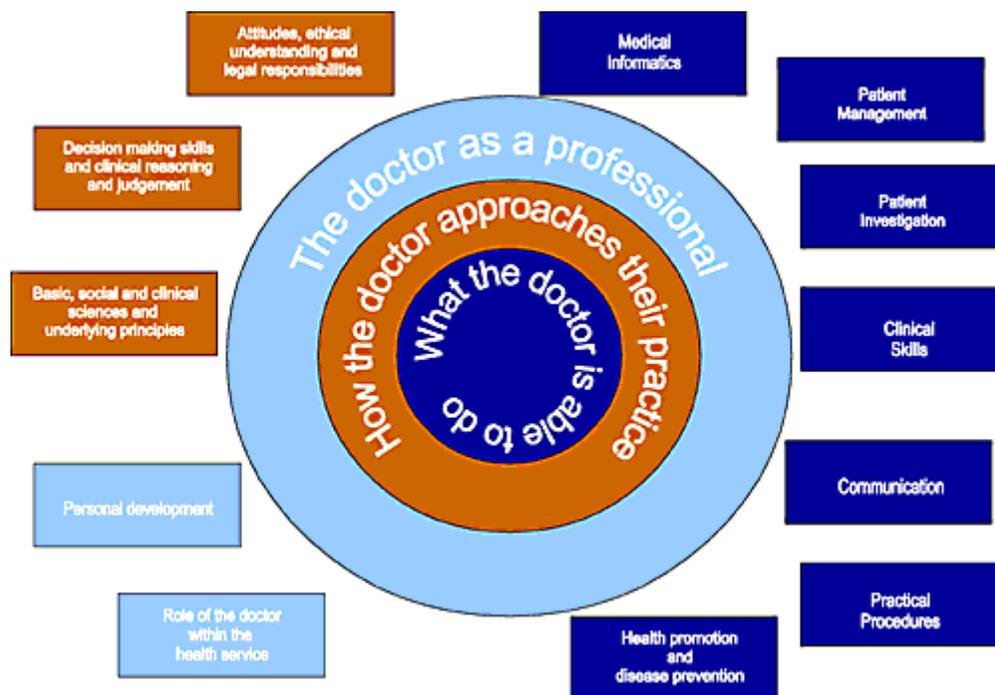
1. Medical knowledge.
2. Patient care.
3. Interpersonal and communication skills.
4. Professionalism.
5. Systems-based practice.
6. Practice-based learning.

This stimulated implementation of competency-based curricula throughout the United States.

In 2002, the Institute for International Medical Education set out learning outcomes as the minimum essential core competencies that all physicians should have.<sup>6</sup> The seven domains are as follows:

1. Professional values, attitudes, behavior, and ethics.
2. Scientific foundation of medicine.
3. Clinical skills.
4. Communication skills.
5. Population health and health systems.
6. Management of information.
7. Critical thinking and research systems.

In Europe, Harden et al.'s Dundee Outcome Model (Figure 2) helped push these concepts forward.<sup>7</sup>



**Figure 2**

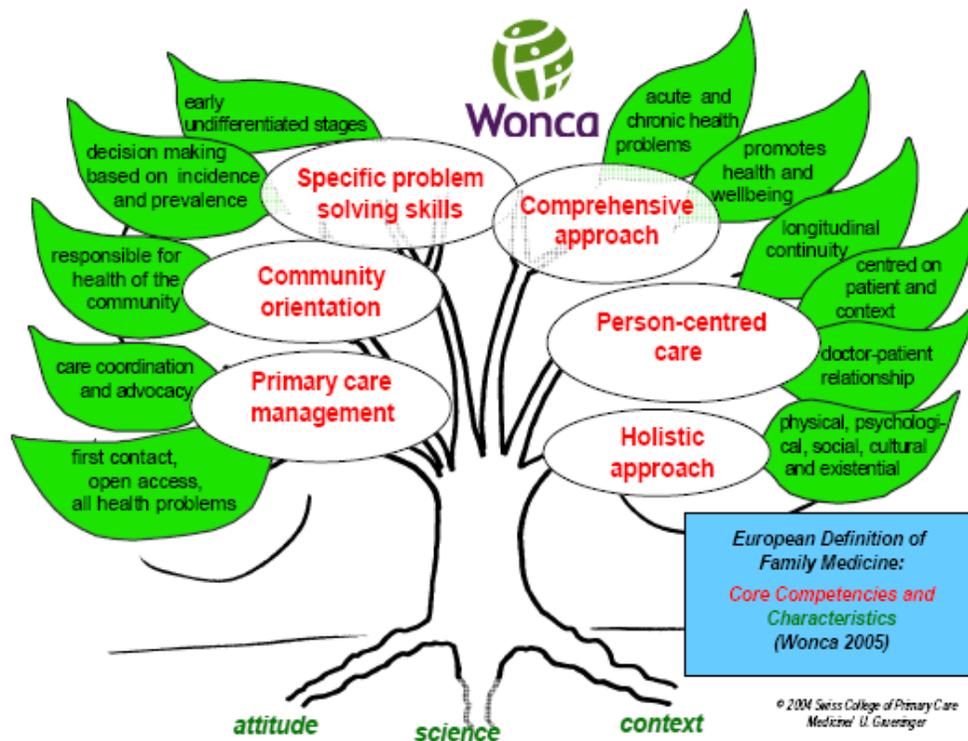
**Learning Outcomes: Dundee Outcome Model<sup>7</sup>**

Both the Royal College of General Practitioners (RCGP)<sup>8</sup> in the United Kingdom and the European Academy of Teachers in General Practice (EURACT)<sup>9</sup> developed six core competencies or domains that are similar to those in the other frameworks. These competencies or domains include the following:

1. Primary care management.
2. Person-centred care.
3. Specific problem-solving skills.
4. Comprehensive approach.
5. Community orientation.
6. Holistic approach.

Along with these competencies, the RCGP and EURACT consider three features essential for a person-centred scientific discipline such as general practice. These features are context, attitude, and science.

The EURACT concept is visually represented as a tree of family medicine competencies with essential features at the roots and six core domains in the central tree (Figure 3).



**Figure 3**

**The EURACT Tree of Family Medicine Competencies<sup>9, 10</sup>**

The Royal Australian College of General Practitioners has developed five domains of general practice.<sup>11</sup> The curriculum for general practice from prevocational training through the general practitioner’s life cycle (i.e., lifelong learning) is based on these five domains. Graphically, the domains are represented by the “star of general practice” (Figure 4).



**Figure 4**

**The Royal Australian College of General Practitioners’ “Star of General Practice”<sup>11</sup>**

These different models share some common features (Table 1). Within some frameworks, there may be overlap with more than one area of another framework, because of more detailed descriptions in the original documents. The comparison in Table 1 is an approximation.

**Table 1**

**A Comparison of Competency Frameworks**

<b>CanMEDS-FM 7 Roles<sup>3</sup></b>	<b>EURACT 6 Competencies<sup>9</sup></b>	<b>ACGME 6 Competencies<sup>5</sup></b>	<b>RACGP 5 Domains<sup>11</sup></b>	<b>Dundee 7 Outcomes<sup>7</sup></b>
Family Medicine Expert	<ul style="list-style-type: none"> <li>• Primary care management</li> <li>• Specific problem-solving skills</li> <li>• Holistic approach</li> </ul>	<ul style="list-style-type: none"> <li>• Patient care</li> <li>• Medical knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Applied professional knowledge and skills</li> </ul>	<ul style="list-style-type: none"> <li>• Decision-making skills</li> <li>• Clinical reasoning and judgment</li> <li>• Basic, social, clinical sciences, and underlying principles</li> <li>• Patient management</li> <li>• Patient investigation</li> <li>• Clinical skills</li> <li>• Practical procedures</li> </ul>
Communicator	<ul style="list-style-type: none"> <li>• Person-centred care</li> </ul>	<ul style="list-style-type: none"> <li>• Interpersonal and communication skills</li> </ul>	<ul style="list-style-type: none"> <li>• Communication skills and the patient–doctor relationship</li> </ul>	<ul style="list-style-type: none"> <li>• Communication</li> </ul>
Collaborator	<ul style="list-style-type: none"> <li>• Primary care management</li> </ul>			<ul style="list-style-type: none"> <li>• The role of the doctor within the health service</li> </ul>
Manager	<ul style="list-style-type: none"> <li>• Community orientation</li> </ul>	<ul style="list-style-type: none"> <li>• Systems-based practice</li> </ul>	<ul style="list-style-type: none"> <li>• Organizational and legal dimensions</li> </ul>	<ul style="list-style-type: none"> <li>• Medical informatics</li> </ul>
Health Advocate	<ul style="list-style-type: none"> <li>• Comprehensive approach</li> <li>• Primary care management</li> </ul>		<ul style="list-style-type: none"> <li>• Population health and the context of general practice</li> </ul>	<ul style="list-style-type: none"> <li>• Health promotion and disease prevention</li> </ul>
Scholar	<ul style="list-style-type: none"> <li>• Central features (context, attitude, science)</li> </ul>	<ul style="list-style-type: none"> <li>• Practice-based learning</li> </ul>	<ul style="list-style-type: none"> <li>• Professional and ethical role</li> </ul>	<ul style="list-style-type: none"> <li>• Basic, social, clinical sciences and underlying principles</li> </ul>
Professional	<ul style="list-style-type: none"> <li>• Holistic approach</li> <li>• Central features (context, attitude, science)</li> </ul>	<ul style="list-style-type: none"> <li>• Professional</li> </ul>	<ul style="list-style-type: none"> <li>• Professional and ethical role</li> </ul>	<ul style="list-style-type: none"> <li>• Attitudes, ethical understanding, legal responsibilities</li> <li>• Personal development</li> </ul>

ACGME = Accreditation Council for Graduate Medical Education; CanMEDS-FM = Canadian Medical Education Directions for Specialists–Family Medicine; EURACT = European Academy of Teachers in General Practice; RACGP = The Royal Australian College of General Practitioners

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# Appendix 3: The Four Principles of Family Medicine

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The College of Family Physicians of Canada's 2006 *Standards for Accreditation of Residency Training Programs: Family Medicine; Emergency Medicine; Enhanced Skills; Palliative Medicine* (The Red Book) defines the effective family physician as someone who "brings a unique set of qualities and skills to a unique practice setting, keeps these up to date, and applies them by using the patient-centered clinical method to maintain and promote the health of patients in his or her practice."<sup>1</sup>

More specifically, the effective family physician demonstrates the Four Principles of Family Medicine:<sup>2</sup>

## **Principle 1: The family physician is a skilled clinician.**

Family physicians demonstrate competence in the patient-centered clinical method: they integrate a sensitive, skillful, and appropriate search for disease. They demonstrate an understanding of patients' experience of illness (particularly their ideas, feelings, and expectations) and of the impact of illness on patients' lives. Family physicians have expert knowledge and skills related to the wide range of common health problems and conditions of patients in the community, and of less common but life-threatening and treatable emergencies in patients in all age groups. Their approach to health care is based on the best scientific evidence available. Family physicians use their understanding of human development and family and other social systems to develop a comprehensive approach to the management of disease and illness in patients and their families.

Family physicians are also adept at working with patients to reach common ground on the definition of the problems, goals of treatment, and roles of physician and patient in management. They are skilled at providing information to patients in a manner that respects their autonomy and empowers them to "take charge" of their own health care and make decisions in their best interests. Clinical problems presenting to a community-based family physician are not preselected and are commonly encountered at an undifferentiated stage. Family physicians are skilled at dealing with ambiguity and uncertainty. The family physician will see patients with chronic diseases; emotional problems; acute disorders, ranging from those that are minor and self-limiting to those that are life-threatening; and complex bio-psychosocial problems. Finally, the family physician may provide palliative care to people with terminal diseases.

## **Principle 2: Family medicine is community-based.**

Family medicine is based in the community and is significantly influenced by community factors. As a member of the community, the family physician is able to respond to people's changing needs, to adapt quickly to changing circumstances, and to mobilize

appropriate resources to address patients' needs. The family physician may care for patients in the office; the hospital, including the emergency department; other health care facilities; or the home. Family physicians see themselves as part of a community network of health care providers and are skilled at collaborating as team members or team leaders. They use referral to specialists and community resources judiciously.

**Principle 3: The family physician is a resource to a defined practice population.**

The family physician views his or her practice as a "population at risk," and organizes the practice to ensure that patients' health is maintained whether or not they are visiting the office. Such organization requires the ability to evaluate new information and its relevance to practice, knowledge and skills to assess the effectiveness of care provided by the practice, the appropriate use of medical records and/or other information systems, and the ability to plan and implement policies that will enhance patients' health. Family physicians have effective strategies for self-directed, lifelong learning. Family physicians have the responsibility to advocate public policy that promotes their patients' health. Family physicians accept their responsibility in the health care system for wise stewardship of scarce resources. They consider the needs of both the individual and the community.

**Principle 4: The doctor-patient relationship is central to the role of the family physician.**

Family physicians understand and appreciate the human condition, especially the nature of suffering and patients' response to sickness. Family physicians are aware of their strengths and limitations, and recognize when their own personal issues interfere with effective care. Family physicians respect the primacy of the person. The relationship has the qualities of a covenant—a promise, by physicians, to be faithful to their commitment to the wellbeing of patients, whether or not patients are able to follow through on their commitments. Family physicians are cognizant of the power imbalance between physicians and patients, and of the potential for abuse of this power. Family physicians provide continuing care to their patients. They use repeated contacts with patients to build on their relationship and to promote the healing power of their interactions. Over time, the relationship takes on special importance to patients, their families, and the physician. As a result, the family physician becomes an advocate for the patient.

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# Appendix 4: Major Modifications to CanMEDS 2005 for CanMEDS-FM

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Below are the highlights of the changes made to each CanMEDS-FM<sup>1</sup> Role from the corresponding Role in CanMEDS 2005:<sup>2</sup>

## **Family Medicine Expert (formerly “Medical Expert”)**

- Describes the role of the family physician as the personal physician providing comprehensive, continuing care in a long-term relationship of trust with patients and families.
- Extensive rewriting of definitions and descriptions.
- Increased emphasis on
  - the patient-centred clinical method.
  - comprehensive, continuing care.
  - management of complex situations.
  - coordinating care and collaboration.

## **Communicator**

- Emphasizes the centrality of the patient–physician relationship to the family physician’s role.
- Includes an understanding of patients’ experience of illness, their ideas, feelings, and expectations, and of the impact of illness on the lives of patients and families.
- Includes the use of repeated contact with patients to build on the patient-physician relationship.
- Includes promoting the healing power of interactions.
- Includes reaching common ground.
- Includes empowering patients to “take charge” of the own health.
- Includes communication in various ways and settings.
- Includes effective communication in the face of patients’ disabilities, cultural differences, and age group differences, and in challenging situations.

## **Collaborator**

- Emphasizes that the family physician is community-based.
- Elaborates on the term “interprofessional health care team.”
- Includes work with consulting professionals and community agencies.
- Expands on the competency of conflict resolution to include a positive working environment.
- Includes patients and their families as partners in collaboration.
- Includes management of scarce resources and an understanding of the health care system.

**Manager**

- Emphasizes the first-contact nature of family medicine.
- Includes the role of family physicians as a resource to their patient population to sustain and improve health.
- Emphasizes the increased need for family physicians to work with other members of the health care team.
- Emphasizes family physicians' role in coordinating patient care.
- Emphasizes the effectively use of electronic medical records.
- Emphasizes understanding and working in the different primary care models.

**Health Advocate**

1. Includes only minor changes.

**Scholar**

2. Includes only minor changes.

**Professional**

- Includes setting appropriate boundaries with patients.
- Emphasizes respect for colleagues and team members.
- Indicates a commitment to patient well-being.
- Focuses on the use of evidence-based medicine and critical appraisal.
- Emphasizes the demonstration of reflective practice (i.e., self-awareness, knowing personal limitations).

## References

1. College of Family Physicians of Canada, Working Group on Curriculum Review. CanMEDS-Family Medicine: a framework of competencies in family medicine. Mississauga, ON: CFPC; 2009 Oct [cited 2009 Dec 14]. Available from: <http://www.cfpc.ca/uploadedFiles/Education/CanMeds%20FM%20Eng.pdf>
2. Frank JR, ed. The CanMEDS 2005 physician competency framework. Better standards. Better physicians. Better care. Ottawa: The Royal College of Physicians and Surgeons of Canada; 2005 [cited 2009 Dec 14]. Available from: <http://rcpsc.medical.org/canmeds/index.php>