



Queen's
UNIVERSITY



MD Program

COMPETENCY FRAMEWORK

Curricular Goals & Competency-Based Objectives

Queen's
UNIVERSITY

SCHOOL OF
MEDICINE

Eighth Edition
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Introduction

This is the eighth edition of the *Curricular Goals and Competency-Based Objectives* document. The first edition was created in 2008 by a Curricular Advisory Group that had been struck the year before to redesign our curriculum. That group consulted a number of sources, including the Four Principles of the College of Family Physicians of Canada, the Medical Council of Canada's (MCC) clinical presentations and Objectives for the Qualifying Examination, and the American Association of Medical Colleges' Scientific Foundations for Future Physicians. These and other sources were used to create a framework of program and learning objectives based on competency that informed the development of the curriculum, which was substantially defined in 2008. The transition to the complete curricular design occurred over the next five years.

Each of the previous seven revisions has refined and brought new perspective to the initial vision. The major motivation for this eighth edition was to ensure language within all parts of this document are aligned with current equity and diversity standards and to simplify language where possible. The seventh edition integrated Entrustable Professional Activities (EPAs) into our framework. EPAs have been accepted by all Canadian medical schools as a common set of abilities expected of all medical graduates. This document guides decisions at both of our campuses.

I would like to thank the current members of our Curriculum Committee for the excellent stewardship they provide our school and students, and particularly for their efforts in developing this eighth edition.

Eugenia Pilotis
Associate Dean
MD Program

A note to readers: We use "they/them/theirs" as singular gender-neutral pronouns throughout this document.



Curricular Governance at Queen's

The Curriculum Committee has authority, delegated from the Queen's Senate, for all components of the MD educational program. The objectives articulated in this document are the embodiment of this mandate and the foundation of our curricular design.

The MD Program Curriculum Committee has responsibility and authority for the design, content, implementation, and ongoing review of the medical education program. This mandate is rooted in the Committee on Accreditation of Canadian Medical Schools (CACMS) Accreditation Standard 8: Curricular Management, Evaluation, and Enhancement.

In addition to this overarching mandate, the MD Program Curriculum Committee is responsible for and takes its mandate from CACMS accreditation Standards 6: Competencies, Curricular Objectives, and Curricular Design; 7: Curricular Content; and 9: Teaching, Supervision, Assessment, and Student and Patient Safety. Some of these mandates are accomplished through subcommittees that report to the MD Program Curriculum Committee, such as the Teaching, Assessment, and Learning Committee.

The Terms of Reference of the Curriculum Committee provide for:

- Faculty, student, and administrative participation
- Expertise in curricular design, medical curricular content, pedagogy, assessment, and evaluation methods and student and patient safety
- The ability to establish, approve, and promote policy relevant to its mandate
- Authority for design of a coherent and coordinated curriculum that will achieve its educational objectives
- Responsibility for curricular management, which the standards characterize as “leading, directing, coordinating, controlling, planning, evaluating, and reporting on” the curriculum



Teaching & Learning

Teaching and learning at Queen's MD Program is relevant, integrated, and interactive. It is based on a competency framework that captures the multifaceted roles of a physician. Pre-clerkship emphasizes a combination of independent learning, collaborative problem solving, and expert-guided instruction. Students develop a broad skill set of knowledge and competencies as they work with other professionals, community agencies, researchers, and patients in planned, integrated curricular threads. Clerkship is an opportunity to apply prior learning and develop the knowledge, skills, and attitudes required to enter residency training and future practice.

Approach to Assessment

At Queen's MD Program, our primary goal is to use assessment strategies that support student learning and to prepare our students to be successful in residency programs as self-regulated learners. We provide multiple points of assessment, both formative and summative, with meaningful feedback that is aligned with the competency being assessed. Throughout their time in the MD Program, students are assessed frequently on any given curricular objective or MCC presentation by multiple assessors, in order to provide both the students and our program with rich assessment data. Our practices are informed by educational theory, literature, and best practices.

Curricular Governance: Roles & Committees

To carry out its mandate, the Curriculum Committee delegates responsibility for components of the curriculum to individuals and committees and, in turn, receives consultation and reports from them.

- **Course Directors** are faculty members with responsibility for curricular courses. They are represented on the Curriculum Committee and receive regular communications from the Committee. They meet at least twice per term at MD Program Retreats and Curricular Council meetings.
- **Curricular Directors** oversee and coordinate courses within each year of our curriculum or specific courses over more than one year. For example, there is a Pre-clerkship Director, as well as Clinical and Communication Skills, Procedural Skills, Clinical Clerkship, and Clerkship Curriculum Directors. They provide support to Course Directors within their mandated areas. All Curricular Directors sit on the Curriculum Committee.
- **Discipline Leads** oversee curricular content in content domains distributed within the curriculum. Discipline Leads work with Course Directors.
- **The Teaching, Assessment, and Learning Committee** is charged with policy development and ongoing review of teaching methods and integration of curriculum threads, and all curricular assessment processes. The Teaching, Assessment, and Learning Committee reports to the Curriculum Committee through its Chair.
- **The Course Faculty Review Team (CFRT)** is responsible for ongoing review of both course and faculty evaluations as part of the overall quality assurance of our curriculum. The CFRT report to Curriculum Committee through its Chair.
- **The Program Evaluation Team (PET)** ensures a robust and systematic approach is employed to evaluate the extent to which the MD program is achieving its goals and to inform its CQI activities. PET reports to MD-PEC Associate Dean and has an active relationship with the Curriculum Committee for supplying data.

Curriculum Committee Membership

The Curriculum Committee is the central governing body that has oversight for the alignment and execution of all aspects of undergraduate curriculum. Its membership is drawn from all components of curricular delivery and includes student representation, as follows:

- Associate Dean, MD Program
- Assistant Dean, Curriculum
- Assistant Dean, Academic Affairs and Programmatic Quality Assurance
- Assistant Dean, Queen's-Lakeridge Health Campus
- Pre-clerkship Director
- Curricular Director, Queen's-Lakeridge Health MD-FM
- Clinical Clerkship Director
- Regional Clerkship Director
- Clerkship Curricular Courses Director
- Clinical Skills Director
- Interprofessional Education Director
- Teaching, Assessment, and Learning Committee Chair
- Medical Humanities Lead
- Educational Developer
- Assessment & Evaluation Consultant
- Aesculapian Society Representative
- Clerkship Class Council Representative
- Member of the Department of Biomedical and Molecular Sciences
- Member of the Department of Family Medicine
- Student Affairs Representative
- Regional Representative
- Clinical Foundations Course Director
- Clerkship Course Director

Defining the Curriculum

The Queen's MD Program curriculum is a branching design: expressing, with increasing detail, educational goals at various levels. The curricular tree begins with the program's values and goals and extends through an analysis of roles and competencies program objectives, curricular objectives, and finally, to course and learning event objectives.

Our program reflects the mission and values of Queen's University and its faculty, as well as the needs of our society. Therefore, we start by defining a set of **values** that describe the expected professional and personal qualities of our students and the educational and clinical environment our school aims to create to foster these qualities. We have identified five core values: lifelong learning; service through patient care; citizenship; scholarship; and respect. These are described in greater detail on page 10.

Our values direct the **goals** of our program, which express the successful outcomes of our students as they progress through medical school. Our goals are summarized on page 10.

Queen's MD Program curriculum is competency-based, and includes diverse program and learning objectives in order to define the knowledge, skills and attitudes necessary for graduation. We have defined the curriculum through Values, Goals, and Entrustable Professional Activities (EPAs) aligned with Physician Roles, Competencies, Program Objectives, and Curricular Objectives.

Defining the Curriculum: Queen's Curricular Outline



MD Program Values

Learning

We believe learning is a lifelong process and that the skills and motivation for learning must begin at the undergraduate level.

- We promote student development of independent and collaborative learning strategies that will be effective throughout their careers.
- We foster an environment that optimizes learning in non-clinical and clinical settings.
- We support and encourage innovation in teaching and learning, including new instructional processes and technology.
- We value teaching. We support our educators and facilitate their growth and development.

Patient Care

In our medical school, our students' learning is directed to the ultimate goal of serving the needs of patients.

- We ensure our students understand normal and abnormal human functioning.
- We ensure our students are able to recognize and manage clinical presentations of disease.
- We ensure our students understand the impact of disease on patients, their families, and society.
- We ensure our students are able to direct appropriate preventive strategies.

Citizenship

We believe our students should be active contributors and participants in the leadership of their communities, society, and professional organizations.

Scholarship

We believe exemplary providers of patient care continually inquire: they are skilled problem solvers who are motivated by the highest standards of practice and research and contribute to the acquisition of new knowledge through active research and publication.

Respect

We believe physicians must hold a deep appreciation of humanity.

- We foster an ongoing sense of compassion for patients and their families.
- We encourage understanding of the roles of other health care providers.
- We foster tolerance and understanding of differences among people.

MD Program Goals

Our graduates will have exemplary foundations in medical roles and competencies that will prepare them for success in qualifying examinations, postgraduate training programs, and fulfilling careers serving their patients and their communities.

Our innovative approaches to adult education will provide relevant, integrated, and interactive learning experiences that foster lifelong learning.

Queen's Curricular Framework

There are three key frameworks that inform the Queen's MD Program curriculum: (1) the Intrinsic roles of physicians, as identified by the Royal College CanMEDS roles and the College of Family Physicians' CanMEDS-FM, (2) the Entrustable Professional Activities (EPAs) structure, and (3) the Clinical Presentations of the Medical Council of Canada (MCC). Together, the use of these three frameworks shapes the Queen's MD Program Curriculum.

The Curriculum Committee regularly reviews these curricular frameworks and consults with members of the MD Program curricular leadership, faculty, and students. Changes may arise as a result of this review or consultative processes that modify, eliminate, or impose new components. Once approved by the Curriculum Committee, new or revised components are published in a subsequent edition of the *MD Program Curricular Framework: Curricular Goals & Competency-Based Objectives* publication. Eliminated components are noted as having been retired within subsequent sections of this publication.

CanMEDS and Roles of a Physician

Queen's MD Program has adapted the [CanMEDS framework](#) as the foundation for its curriculum. The framework identifies and describes the abilities physicians require to effectively meet the health care needs of the people they serve and defines them as the seven roles of a physician.

Roles of a physician are broad distinguishable areas of competence that together form a descriptive framework for the profession of physician.

The seven roles of a physician for Queen's are expressed as:

Medical Expert (ME), Communicator (CM), Collaborator (CL), Leader (LD), Health Advocate (HA), Scholar (SC), and Professional (PR). Each of these roles is described in more detail through their associated Program and Curricular Objectives in the following pages.



Entrustable Professional Activities (EPAs) for the Graduating Student

As defined by the Association of Faculties of Medicine of Canada (AFMC), entrustable professional activities (EPAs) are: “groups of core activities required prior to starting residency. Each EPA maps to multiple CanMEDs roles (page 35) expecting the learner to demonstrate not only the required medical expertise in the context of clinical care but also the ability to master other intrinsic roles appropriate to the situation. The EPAs in this document are thought to be activities allowing entrustment at an indirect level of supervision (supervisor is not in the room, but is available to provide assistance) on day one of residency.”

Queen's 12 Entrustable Professional Activities

EPA 1-Obtain a history and perform a physical examination adapted to the patient's clinical situation.

The graduate performs a complete and a focused history and physical examination in a prioritized, organized manner. The history and physical examination is tailored to the clinical situation and specific patient encounter. The encounter should be conducted with respect, in a manner sensitive to the patient's particular circumstances, including sexual/gender orientation and cultural/religious beliefs.

EPA 2-Formulate and justify a prioritized differential diagnosis.

The graduate uses a systematic approach to formulate a prioritized list of possible diagnoses across clinical settings and patient demographics, in common clinical presentations. Through the integration of gathered information and the use of clinical reasoning skills, the graduate formulates a working diagnosis.

EPA 3-Formulate an initial plan of investigation based on the diagnostic hypotheses.

The graduate selects a series of tests to help refine the differential diagnosis for a clinical presentation and to enable them to make appropriate management decisions.

EPA 4-Interpret and communicate results of common diagnostic and screening tests.

The graduate recognizes normal and abnormal diagnostic and screening test results. They, in a timely and confidential way, explains the significance of test results, responds appropriately to these test results and communicates this information to the patient (family/caregiver/advocate), and relevant members of the health care team.

EPA 5-Formulate, communicate and implement management plans.

The graduate proposes an initial management plan for commonly encountered presentations and diagnoses, including consultations/referrals, written/electronic orders and prescriptions. They discuss these recommendations with other members of the healthcare team and patients (and family/caregiver/advocate where appropriate), to reach a shared management plan.

EPA 6-Present oral and written reports that document a clinical encounter.

The graduate presents a concise and relevant summary, including pertinent positives and negatives of a clinical encounter to members of the team (including patients, and family/caregiver/advocate where appropriate) facilitating ongoing care. The graduate follows legislation (e.g., privacy legislation) and confidentiality considerations.

EPA 7-Provide and receive the handover in transitions of care.

The graduate participates in safe transitions of care, both as a provider and receiver, with members of the health care team to ensure that pertinent information related to a specific patient is clearly conveyed and understood.

EPA 8-Recognize a patient requiring urgent or emergent care, provide initial management and seek help.

The graduate recognizes a patient who requires urgent or emergent care. They initiate rapid systems-based assessment, evaluate the patient's risk and need, manage for short term stabilization and communicate with team members and family/caregiver/advocate where appropriate. The graduate identifies their limitations and knows when to seek help.

EPA 9-Communicate in difficult situations.

The graduate communicates in difficult or challenging situations with patients, families, advocates, colleagues or other health care team members. Such situations could include delivering negative, unfortunate or difficult news, managing a crisis (anxiety, sadness or anger) or responding to care dissatisfaction.

EPA 10-Contribute to health quality improvement initiatives.

The graduate identifies threats to patient safety within the healthcare environment and critically analyzes safety issues to describe opportunities for sustainable change. They collaborate with interdisciplinary team members to develop and implement quality improvement initiatives that are grounded in the scientific method, and recognizes how to use process improvement cycles to contribute to support continuous improvement.

EPA 11-Perform general procedures of a physician.

The graduate applies the principles of safe performance of procedures. These principles include (a) describing indications/contraindications and risks/benefits of a procedure, (b) obtaining informed consent, and (c) performing the procedure including post-procedure care. Additionally, they include (d) recognizing complications and seeking help if necessary and (e) documenting completion of procedures, results and/or actions arising, in an accurate and timely fashion. The graduate identifies personal limitations and knows when not to perform a procedure which is above their abilities.

Queen's has chosen specific procedural skills for entrustment without guidance or assistance on a stable patient under direct observation of an assigned supervisor.

EPA 12-Educate patients on disease management, health promotion and preventive medicine.

The graduate counsels patients on disease management, risk factor modification, and health promotion adapted to meet the clinical context, using evidence-based information. They do so independently where appropriate, or in conjunction with other members of the health care team.

EPAs and Roles of a Physician

Each EPA encompasses many of the seven roles of a physician. For example, EPA 1, which is expressed as “Obtain a history and perform a physical examination adapted to the patient’s clinical situation” bundles several roles, such as Advocate, Communicator, Medical Expert, and Professional together in the demonstration of a competent physical examination and history.

For a table that demonstrates the roles represented in each EPA for Queen's, please see Appendix A.

Medical Council of Canada

The [Medical Council of Canada \(MCC\)](#) has identified core clinical presentations for the role of “Expert” that are the foundation of Canadian licensing examinations\.

Queen's uses these MCC presentations as the essential clinical presentations students encounter over the course of their undergraduate training. Each presentation is linked to one or more relevant courses from first to fourth year. A clinical presentation may be addressed in a variety of educational formats and with increasing depth as the student progresses. The Medical Expert competencies and objectives (following) assume the MCC presentations as their focus.

The MCC presentations provide clinically relevant guidance for, and encourage linkages between, pre-clinical and clinical courses. The process of analyzing undifferentiated presentations helps students integrate core content among systems, enables them to practice self-directed learning and critical appraisal skills, and illustrates the clinical relevance of the values, roles, and competencies upon which the curriculum is founded.

Competencies

Competencies are a series of identified, observable abilities applied within explicitly defined contexts that define a spectrum of achievement from novice to sophisticated learner. These are composed of multiple learning objectives.

Queen's MD Program has 14 Competencies, grouped under each of the Roles of a Physician, in which students are expected to demonstrate proficiency by graduation. We designate a specific code for each competency to ensure that these are captured in each course by our Learning Management System (LMS), Elentra.

The graduate:

1. Articulates and uses the basic sciences to inform disease prevention, health promotion and the assessment and management of patients presenting with clinical illness. **(ME1)**
2. Is able to perform a complete and appropriate clinical assessment of and provide initial management for patients presenting with clinical illness. **(ME2)**
3. Effectively communicates with colleagues, other health professionals, patients, families and other caregivers. **(CM1)**
4. Works with colleagues, other health professionals, patients, families and other caregivers. **(CL1)**
5. Implements strategies and skills for leadership in personal and professional life. **(LD1)**
6. Implements strategies and skills for leadership in medical practice and society. **(LD2)**
7. Responds to the individual patient's health needs by advocating (supporting and speaking up) with the patient within and beyond the clinical environment. **(HA1)**
8. Identifies and communicates about community resources to promote health, prevent disease and manage illness in the communities and populations that will impact their practice. **(HA2)**
9. Is able to identify and engage opportunities to demonstrate social responsibility and service. **(HA3)**
10. Demonstrates proficiency in the steps of evidence-based medical practice. **(SC1)**
11. Contributes to the process of knowledge creation (research). **(SC2)**
12. Engages in lifelong learning. **(SC3)**
13. Demonstrates appropriate professional behaviours to serve patients, the profession, and society. **(PR1)**
14. Applies knowledge of legal and ethical principles to serve patients, the profession, and society. **(PR2)**

Program and Curricular Objectives

Curricular Objectives, also known as Learning Objectives, are statements of knowledge, skills, and attitudes acquired after an instructional activity or unit. Together, they help to guide a student to build competence.

For each of the EPAs, Roles of a Physician, and Competencies, there are Program and Curricular Objectives that allow learners and teachers to define competence in an area and understand what is required to be demonstrated for assessment purposes. They provide an in-depth guide to the outcomes for a graduating student and are outlined throughout this book. We have coded the Program and Curricular Objectives so that they may be transparent in our courses and learning events within our LMS, Elentra. Thus, for example, within the role of Medical Expert (ME), students know they will be taught and assessed on ME2.3.1:

- The second Medical Expert competency (ME2) is *Clinical Presentations and Clinical Assessment*.
- Within this, the third program objective (ME2.3) is *The medical graduate demonstrates proficient and appropriate use of selected procedural skills and infection control practices*.
- And lastly, one of two curricular objectives assigned to courses (ME2.3.1) is *Demonstrate proficient, appropriate and timely performance of selected diagnostic and therapeutic procedural skills and standard infection control practices*.

It is important to recognize that each EPA contains an array of multiple curricular objectives. For example, the above Role, Competency, Program, and Curricular Objectives of ME2.3.1 align with EPA 11-Perform general procedures of a physician. Specific aspects of the curriculum link to Curricular Objectives within courses and learning events and provide the foundation for these components of the EPAs.

Pathway to Competency

For students' pathway to competency, we have identified milestones throughout our curriculum. Milestones are descriptors of performance as it develops over time. These markers of progression towards competence have been organized into content descriptors and contextual variables (see tables 1 and 2 on the following pages). The content descriptors map out the degree to which an EPA has been performed during designated points in our curriculum, while the contextual variables describe the context in which these EPAs are achieved (e.g., setting, case complexity, and level of supervision).



School of Medicine Convocation (Credit: Bernard Clark)

Table 1: Content Descriptors

EPA		TERM 2	TERM 4	TERM 5	TERM 8
1	History & Physical	Obtain a complete basic history and perform a basic physical examination	Obtain a complete history and perform a physical examination, adapted to key patient populations and patient's clinical presentation	Obtain a focused and accurate history and perform a thorough physical exam, relevant to patient's clinical presentation	
2	Differential Diagnosis	Recognize normal and abnormal physiologic mechanisms that underlie clinical presentations	For clinical presentations, formulate a differential diagnosis	Formulate and justify a prioritized differential diagnosis for patient's clinical presentation(s)	
3	Select Tests	Identify the methodology and significance of key diagnostic investigations	Select potential investigations relevant to the clinical presentations	Select appropriate tests to refine/investigate differential diagnosis	
4	Interpret Tests	For selected clinical presentations, explain the significance of normal and abnormal results of investigations	For clinical presentations, explain the significance of normal and abnormal results of investigations	Interpret, respond appropriately, and communicate results of common diagnostic and screening tests	
5	Management Plan	For selected clinical presentations, formulate basic management plans	For clinical presentations, formulate management plans, based on differential diagnosis and incorporating results from preliminary investigations	Formulate, communicate and implement effective, safe, cost-effective management plans, incorporating all clinical information	
6	Oral & Written Reports	Present history and physical in oral and written reports	Present oral and written reports, that document a clinical encounter	Present oral and written reports accurately and concisely that document a clinical encounter	
7	Handover	Recognize the components of care for safe handover	Identify the components of care for safe handover	Provide and receive handover in transition of care that is succinct, ensuring that all pertinent clinical information is clearly conveyed and understood	
8	Urgent & Emergent Care	Recognize a patient requiring urgent or emergent care, describe initial management and know to seek help	Recognize a patient requiring urgent or emergent care, identify management steps and rationale for choices	Recognize a patient requiring urgent or emergent care, provide initial management & seek help when uncertain or requiring assistance	
9	Communicate Difficult Situations	Recognize situation when difficult situation may arise	Communicate in difficult situations	Communicate in difficult or challenging situations	
10	Quality Improvement & Patient Safety	Recognize principles of patient safety and health quality improvement	Identify principles of patient safety and health quality improvements	Participate in patient safety and health quality improvement	Participate in patient safety and health quality improvement and plans a health quality improvement initiative
11	Procedural Skills	Perform general procedures of a physician	Perform general procedures of a physician	Perform general procedures of a physician	
12	Patient Education	For selected clinical presentations, educate patients on disease management, health promotion and preventive medicine	For clinical presentations, educate patients on disease management, health promotion and preventive medicine	Educate patients on disease management, health promotion and preventive medicine	

Table 2: Contextual Variables

VARIABLES	TERM 2	TERM 4	TERM 5	TERM 8
Setting	Classroom, SIM	Classroom, SIM, Clinical Setting	Clinical Setting, SIM	
Subjects	Theoretical cases, Standardized Patients, Volunteer Patients*	Theoretical cases, Standardized Patients, Volunteer Patients*	Actual Patients, Simulated Patients	
Case Complexity	Simple	Simple Complex & Frequent	Complex & Frequent	Complex, Frequent & Rare Diagnoses
Stability	Stable & Unstable (SIM)	Stable & Unstable (SIM)	Stable (Actual Patients) & Unstable (Simulated Patients)	Stable & Unstable (Actual Patients)
Simultaneous Clinical Presentations	Single	Single & Multiple Simultaneous Presentations	Single	Multiple Simultaneous Presentations
Communication Barriers (e.g., cultural, language, physical barriers)	Able to describe communication barriers	Able to engage Standardized or Volunteer Patients with communication barriers	Able to engage Actual Patients without communication barriers	Able to engage Actual Patients with communication barriers
Level of supervision	Direct supervision with guidance/assistance (Supervisor is in the room, and provides prompts or direction)	Direct supervision without guidance/assistance (Supervisor is in the room to observe and provide support)	Indirect supervision, all components double-checked (Supervisor is not in the room, but immediately available) Note: EPA 11, direct supervision with guidance/assistance on stable patient.	Indirect supervision, key components double-checked (Supervisor is not in the room, but immediately available) Note: EPA 11, direct supervision without guidance/assistance on stable patient.

*Definition of Volunteer Patient: SIM with real patient in a hospital setting or clinical skills, selected for patient education only; the student is not involved in clinical care.

Table 3: Relationship of EPAs, Roles, Competencies, Program, & Curricular Objectives

EPAs that apply	Role	Competency	Program Objectives	Curricular Objectives (n)
	Medical Expert			
1, 2, 8	ME1	Application of Basic Sciences	ME1.1 Scientific foundations for clinical practice	4
1 - 12	ME2	Clinical Presentations and Clinical Assessment	ME2.1 Clinical assessment	7
			ME2.2 Clinical management	6
			ME2.3 Procedural skills	2
	Communicator			
1, 4, 5, 6, 8, 9, 11, 12	CM1	Effective Communication	CM1.1 Therapeutic relationships	4
			CM1.2 Eliciting perspectives	2
			CM1.3 Sharing information	5
	Collaborator			
5, 7, 8, 10,	CL1	Effective Collaboration	CL1.1 Teamwork	4
			CL1.2 Conflict resolution	1
			CL1.3 Transition of care and patient safety	2
	Leader			
10, 12,	LD1	Leadership in Personal and Professional Life	LD1.1 Leadership Skills	1
			LD1.2 Wellness	3
			LD1.3 Career Exploration	1
			LD1.4 Financial Skills	1
5, 7, 10	LD2	Leadership in Medical Practice and Society	LD2.1 Health care systems	4
	Health Advocate			
1, 2, 9, 12	HA1	Advocates for the Patient	HA1.1 Advocates for the patient	3
	HA2	Advocates for the Community and Populations	HA2.1 Advocates for the community and population	3
	HA3	Identifies Service and Responsibility	HA3.1 Service and responsibility	3
	Scholar			
2-5, 10,	SC1	Evidence-Based Medical Practice	SC1.1 Translation of uncertainty into an answerable question	2
			SC1.2 Search for and retrieval of evidence	2
			SC1.3 Critical appraisal of evidence for validity and importance	2
	SC2	Research	SC2.1 Research methodology	2
SC2.2 Sharing results of studies and enquiries			1	
	SC3	Lifelong learning	SC3.1 Learning strategies	3
			SC3.2 Sharing information and learning with others	2
	Professional			
1, 6, 9, 11,	PR1	Professional Behaviour	PR1.1 Professional behaviour	1
			PR1.2 Professional self-awareness	2
9,	PR2	Principles of Professionalism	PR2.1 Ethics PR2.2 Law and regulation	3 3
	Total	14	29	79

Roles, Competencies, Program Objectives, and Curricular Objectives

The following section expands the curricular organizational “tree” from each of the roles into its core competencies, and from those to the program and curricular objectives. Individual courses have responsibility to provide instruction to a greater degree for some objectives than others, but all courses are expected to address relevant aspects of several roles and competencies.

Medical Expert

The undergraduate curriculum's primary goal is to provide students with the foundational knowledge, skills, and attitudes required to establish sound diagnostic and initial management approaches that enable them to be successful in postgraduate training and to become competent practitioners.

Foundational knowledge and skills include:

- Basic scientific knowledge fundamental to understanding the scientific basis of disease.
- Clinical knowledge, skills, and therapeutic approaches considered essential for all graduating physicians.
- Clinical judgment, decision making, problem-solving and critical appraisal.

Throughout the curriculum, foundational knowledge and skills are applied to all the clinical patient presentations of the Medical Council of Canada (MCC). The MCC presentations are reviewed by the Curriculum Committee, which updates the assignment of MCC clinical presentations to courses.

The program and curricular objectives described for the Medical Expert role represent a comprehensive itemization that guides curricular design. The Curriculum Committee, in consultation with Curricular and Course Directors, assigns Program and Curricular Objectives to courses and reviews their assignment annually. The Course Directors, with the guidance of the Curriculum Committee, are responsible for determining the depth to which each objective is achieved. These decisions are guided by the information required to address MCC presentations and the expectation of promoting lifelong learning skills. Students will practice the application of foundational skills and principles to clinically relevant examples.

Medical Expert Competency 1:

Application of Basic Sciences



The graduate articulates and uses the basic sciences to inform disease prevention, health promotion and the assessment and management of patients presenting with clinical illness.

ME1.1: Scientific foundations for clinical practice

The graduate applies the major principles of the sciences (genetics, physics, chemistry, biochemistry, and mathematics) to explain normal biology, pathological processes, and therapeutic management.

The graduate is able to:

1. For each major organ system, explain normal human structure (location, macroscopic and microscopic structure) and development, and demonstrate the ability to apply this knowledge to relevant clinical presentations.
2. For each major organ system, explain normal human function (with emphasis on homeostasis and integration) and demonstrate the ability to apply this knowledge to relevant clinical presentations.
3. Identify the consequences of structural variability and/or damage or loss of tissues and organs associated with genetic variation and pathophysiological processes including, but not limited to, inflammation, infection, neoplasia, atherosclerosis, hematological disorders and trauma.

4. Retired as of June 2016.
5. Apply an understanding of normal and abnormal genetics to health and disease.
6. Apply the concepts of pharmacokinetics and pharmacodynamics to understand drug mechanisms of action, individual variability and adverse responses.



Medical Expert Competency 2:

Clinical Presentations and Clinical Assessment



The graduate is able to perform a complete and appropriate clinical assessment of and provide initial management for patients presenting with clinical illness.

ME2.1: Clinical assessment

The graduate assesses a patient within a clinical encounter and generates an appropriate differential diagnosis and investigation plan.

The graduate is able to:

1. Retired as of June 2016.
2. Retired as of June 2016.
3. Elicit a history that is relevant to the specific patient encounter.
4. Perform a focused and complete physical examination that is relevant to the specific patient encounter.
5. Select and prioritize medically appropriate diagnostic tests depending on the urgency of the patient's condition, with consideration of risks, benefits and costs.
6. Correctly interpret diagnostic tests.
7. Explain and document clinical reasoning, prioritization and judgment to arrive at both provisional and definitive diagnoses.
8. Identify factors specific to a patient or relevant population that contribute to a patient's risk for disease or prognosis.
9. Assess the severity and/or urgency of a patient's illness.

ME2.2: Clinical management

The graduate is able to initiate appropriate management for the specific patient encounter, including urgent, emergent or chronic conditions.

The graduate is able to:

1. Develop and implement an appropriate management plan for the clinical presentation, including prescribing non-pharmacologic, pharmacologic and interventional options.
2. Integrate preventive measures and health promotion relevant to a given clinical presentation.
3. Suggest interventions to address modifiable risk factors directed at improving health and/or outcomes.
4. Retired as of June 2016.
5. Provide a rationale for any diagnostic/therapeutic procedures indicated.
6. Outline a plan for ongoing follow up of patients where indicated.
7. Provide appropriate initial management in an urgent care situation.

ME2.3: Procedural skills

The graduate demonstrates proficient and appropriate use of selected procedural skills and infection control practices.

The graduate is able to:

1. Demonstrate proficient, appropriate and timely performance of selected diagnostic and therapeutic procedural skills and standard infection control practices.
2. Retired as of 2016.
3. Obtain and record informed consent prior to performing a diagnostic or therapeutic procedure by accurately, clearly and sensitively describing the procedure including potential risks/benefits.



Learning in the Clinical Simulation Centre

Communicator

Physicians are involved in dynamic exchanges with patients, families, colleagues, and members of the community. Effective communication skills are therefore essential to successful medical practice and contribute to the successful fulfillment of all the physician roles.

Medical students will learn the principles of effective communication and will demonstrate these in a variety of educational and clinical settings. They will recognize that being a good communicator is a core clinical skill for physicians and that effective patient-centered communication can foster patient satisfaction, physician satisfaction, adherence, and improved clinical outcomes. In the clinical years, students will incorporate these principles in their management of patients.



Talking and listening are communication skills
(Credit: Yolanda Ma)

Communicator Competency 1:

Effective Communication



The graduate effectively communicates with colleagues, other health professionals, patients, families and other caregivers.

CM1.1: Therapeutic relationships

The graduate demonstrates skills and attitudes to foster rapport, trust and ethical therapeutic relationships with patients and families.

The graduate is able to:

1. Apply the skills that develop positive therapeutic relationships with patients and their families, characterized by understanding, trust, respect, honesty and empathy.
2. Respect patient confidentiality, privacy and autonomy, including in the use of electronic communications and social media.
3. Listen effectively and be aware of and responsive to verbal and nonverbal cues.
4. Respect diversity and difference and communicate effectively with individuals regardless of their social, cultural or ethnic backgrounds.

CM1.2: Eliciting perspectives

The graduate elicits and synthesizes relevant information and perspectives of patients and families, colleagues and other professionals.

The graduate is able to:

1. Gather information about a disease, and about a patient's beliefs, concerns, expectations and illness experience.
2. Appropriately seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals.

CM1.3: Sharing information

The graduate conveys relevant information and explanations appropriately to patients and families, colleagues and other professionals, orally and in writing.

The graduate is able to:

1. Provide accurate oral and written information to a patient and family, colleagues and other professionals in a clear, non-judgmental, and understandable manner including, but not limited to, such contexts as consultation and referral, handover and patient discharge with the goal of providing safe patient care.
2. Counsel patients and their families in a clear, non-judgmental, and understandable manner to facilitate a shared understanding and care plan.
3. Effectively manage challenging communication situations such as delivering bad news and barriers to communication.
4. Maintain clear, legible, accurate, timely and appropriate records of clinical encounters, clinical reasoning and care plans in line with current standards for written and electronic medical records.
5. Effectively present verbal reports of clinical encounters and plans.



Listen to your patient (Credit: Theresa Suart)

Collaborator

Physicians must collaborate effectively with others in a variety of settings to ensure delivery of optimal patient care. Respectful 'two-way' interaction allows physicians to give and receive information and advice and provide leadership when appropriate. Physicians must be able to work cooperatively with patients, families, relevant caregivers, and members of patient care teams. In the pre-clinical setting, medical students will learn the principles of effective teamwork and collaboration, along with the roles and responsibilities of members of patient care teams and community health care agencies. They will demonstrate the application of these principles and effective collaboration in their educational and clinical settings.

Collaborator Competency 1:

Effective Collaboration



The graduate works with colleagues, other health professionals, patients, families and other caregivers.

CL1.1: Teamwork

The graduate works collaboratively with other providers, patients and families to provide optimal patient care.

The graduate is able to:

1. Establish and maintain inter- and intra-professional working relationships for collaborative care.
2. Describe their role and that of others and negotiate overlapping/shared responsibility in the context of patient care.
3. Engage in effective and respectful shared decision-making with the patient and family in the context of patient care.
4. Engage in effective and respectful shared decision-making with team members in the context of patient care and/or learning teams.

CL1.2: Conflict resolution

The graduate uses strategies to recognize and resolve conflict in teams in a constructive fashion.

The graduate is able to:

1. Work with others to prevent misunderstandings, manage differences, and resolve conflicts in the context of patient care and/or learning teams.

CL1.3: Transition of care and patient safety

The graduate demonstrates collaborative behaviour that contributes to patient safety.

The graduate is able to:

1. Recognize when care should be transferred to another physician or health care provider including providing and receiving of handover of patient care with another physician.
2. Demonstrate effective communication with other health care providers with the goal of providing safe patient care in such contexts as consultation and referral, and patient discharge.

Leader

The knowledge and skill components of the educational process are insufficient to achieve career success unless accompanied by a process of personal development and engagement of professional identity.

The 2015 revision of the CanMEDS Physician Competency Framework recognized this when it replaced the “Manager” role with the “Leader” role. To quote from the Series 3 draft of that document, “A name change for the Role from ‘Manager’ to ‘Leader’ has been proposed to reflect an emphasis on the leadership skills needed by physicians to contribute to the shaping of health care.” It describes a number of key components including patient safety, skills to achieve balance between personal and professional life, resource stewardship, career development, and health informatics.

For Queen’s MD Program, this change provided an opportunity to incorporate more fully into our curriculum important learning elements developed in various forms over several years in response to critical learner needs, but without clear curricular structure, assessment, or oversight.

The Leader curriculum addresses the evolving CanMEDS framework by providing an integrated and progressive series of teaching and learning experiences that facilitate that development. It includes five essential elements:

- **Service-based Leadership:**

Students will recognize responsibilities and opportunities to lead change within their practices, health care system, professional organizations and communities. They will develop skills and techniques to enable learners to bring about effective change.

- **Wellness:**

Students will learn self-awareness, engagement of diversity, decision-making, the importance of personal health, both physical and psychological, the ability to recognize illness in oneself and colleagues, and mechanisms to effectively address illness in self and others.

- **Career Development and Engagement:**

Students will acquire an understanding of the various career and practice options available to them, an awareness of their own strengths and aptitudes, and guidance in engaging the process of career selection and application.

- **Managing Personal and Professional Finances:**

Undertaking medical education and medical practice requires considerable planning and expertise in the management of personal resources. Students will establish an effective foundation for those skills that not only prepares students for successful careers, but prevents early mistakes that can have long lasting consequences.

- **Physician Role and Responsibilities within the Health Care System:**

Physicians must understand how the system functions and their role within it. They must understand and engage their critical role in ensuring patient safety in all its dimensions and begin the process of engaging that role.



Leader: Keeping a patient safe
(Credit: Theresa Suart)

Leader Competency 1:

Leader in personal and professional life



The graduate implements strategies and skills for leadership in personal and professional life.

LD1.1: Leadership Skills

The graduate demonstrates a variety of leadership skills required for physicians.

The graduate is able to:

1. Develop and demonstrate specified leadership skills to enhance health care.

LD1.2: Wellness

The graduate practices personal and professional wellness.

The graduate is able to:

1. Set priorities and manage time to integrate education, practice, and personal life.
2. Develop and maintain skills to support colleagues in need.
3. Develop self-awareness and management strategies to promote personal well-being and professional performance.

LD1.3: Career exploration

The graduate is aware of the variety of practice options and settings within the practice of medicine, and makes informed personal choices regarding career direction.

The graduate is able to:

1. Identify and use fundamental elements of choosing and managing a career and practice.

LD1.4 Financial Skills

The graduate will employ financial skills for personal and professional practice.

The graduate is able to:

1. Identify and use sound financial management skills in personal and practice situations.



Leader Competency 2:

Leadership in Medical Practice and Society



The graduate implements strategies and skills for leadership in medical practice and society.

LD2.1 Health care systems

The graduate will understand and work within health care systems, including aspects impacting patient safety, cost-appropriate care, and quality improvement.

The graduate will:

1. Describe the principles, structure, historical context, and financing of the Canadian health care system
2. Contribute to a culture of patient safety
3. Identify and describe issues of stewardship of health care resources, at both the patient care and health care system levels.
4. Apply the science of quality improvement to systems of patient care.

Health Advocate

As health advocates, physicians recognize their duty and ability to improve the overall health of their patients, their communities, and the broader populations they serve. For the purposes of defining this role, a “community” is a group of people and/or patients connected to one’s practice, including those in the global community. A “population” is a group of people and/or patients with a shared issue or characteristic.

Health advocacy integrates the attitudes of compassion, understanding, respect for, and belief in the role of the physician to act on behalf of patient, community, and population health. Health advocacy recognizes and respects diversity in the patient population. It is important to note that these graduation competencies begin with the acquisition of specific knowledge about the diverse factors that influence the health of individuals, communities, and populations. This progresses to an investigation into or analysis of the possible obstacles to advocacy. Finally, students apply their learning in their clinical practice years.

Advocacy Competency 1:

Advocates for the Patient



The graduate responds to the individual patient’s health needs by advocating (supporting and speaking up) with the patient within and beyond the clinical environment.

HA1.1: Advocates for the patient

The graduate synthesizes and applies knowledge of factors that influence health, disease, disability and access to care of a patient and family.

The graduate is able to:

1. Apply knowledge of the determinants of health to a patient’s health needs and challenges respecting the importance of diversity.
2. Identify a patient’s obstacles to health care access, and work toward solutions, respecting the diversity of the patient population.
3. Retired as of June 2016.
4. Retired as of June 2016.
5. Provide examples of disease prevention and the promotion of healthy behaviours in clinical practice.



Advocacy Competency 2:

Advocates for the Community and the Population



The graduate identifies and communicates about community resources to promote health, prevent disease and manage illness in the communities and populations that will impact their practice.

HA2.1: Advocates for the community and the population

The graduate describes community and population health principles and concepts and their applications.

The graduate is able to:

1. Identify the health needs of a community or a population.
2. Identify the availability of and access to resources for a community or a population.
3. Retired as of June 2016.
4. Retired as of June 2016.
5. Explain the principles of Population Health as defined by the Medical Council of Canada (MCC) and describe methods to implement these for the health of the diverse peoples of Canada, and/or across social and national borders.



Advocacy Competency 3:

Identifies Service and Responsibility



The graduate is able to identify and engage opportunities to demonstrate social responsibility and service.

HA3.1: Service and responsibility

The graduate is able to identify and engage opportunities to demonstrate social responsibility and service.

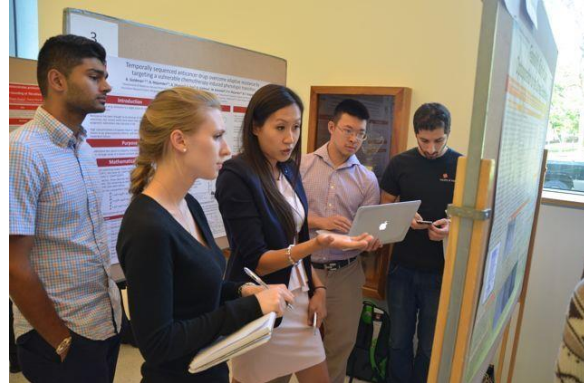
The graduate is able to:

1. Describe the role of physicians (individually and as represented by their organizations) to be socially accountable by advocating for individual and population health.
2. Retired as of June 2016.
3. Identify opportunities for service in medical education and medical practice with a focus on improving the health or health care of underserved and disadvantaged populations and developing an understanding and respect for the needs of different patients and communities.
4. Identify the implications of health policy in achieving the goals of population health.

Scholar

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

The graduating medical student will have developed effective learning strategies that include the capacity to engage in reflection and self-assessment, the ability to critically evaluate information and its sources (the literature), and the ability to contribute to the process of knowledge creation (research).



Teaching and learning at the Research Showcase
(Credit: Heather Murray)

Scholar Competency 1:

Evidence-Based Medical Practice



The graduate demonstrates proficiency in the steps of evidence-based medical practice.

SC1.1: Translation of uncertainty into an answerable question

The graduate recognizes knowledge gaps and can ask focused questions to address these gaps appropriately.

The graduate is able to:

1. Identify knowledge gaps and acknowledge areas of uncertainty when applied to specific clinical scenarios and to individual learning scenarios.
2. Develop focused questions to address knowledge gaps appropriately.

SC1.2: Search for and retrieval of evidence

The graduate is able to retrieve medical information efficiently and effectively.

The graduate is able to:

1. Efficiently search sources of medical information, in order to address specific clinical questions.
2. Use objective parameters to assess the reliability of various sources of medical information.

SC1.3: Critical appraisal of evidence for validity and importance

The graduate is able to critically evaluate the validity and applicability of medical procedures and therapeutic modalities to patient care using knowledge of research and statistical methodology.

The graduate is able to:

1. *1 to 5 Retired June 2016.*
6. Balance applicability/generalizability of scientific evidence with consideration of patient preferences in therapeutic decision-making.
7. Assess the validity of evidence regarding diagnosis, prognosis, therapy, and harm and of evidence summaries.



Scholar Competency 2:

Research



The graduate contributes to the process of knowledge creation (research).

SC2.1: Research methodology

The medical graduate adopts rigorous research methodology, consistent with ethical research practices.

The graduate is able to:

1. *1 to 3 Retired June 2016.*
4. List the fundamental ethical research practices regarding disclosure, conflicts of interest, research on human subjects and industry relations.
5. *Retired June 2016.*
6. Formulate relevant research hypotheses and design appropriate methods to test these hypotheses and evaluate the outcomes.

SC2.2: Sharing results of studies and enquiries

The competent medical graduate prepares and disseminates findings from studies to colleagues and faculty.

The graduate is able to:

1. Report to students and faculty new knowledge gained from research and enquiry using a variety of methods.



Scholar Competency 3:

Lifelong Learning



The medical graduate engages in lifelong learning.

SC3.1: Learning strategies

The graduate develops, monitors and adjusts their learning skills.

The graduate is able to:

1. Appropriately accept supervision and feedback.
2. Understand limitations, identify and prioritize their learning needs and formulate personal learning goals.
3. Implement learning strategies to meet educational goals, seek assistance where necessary and use multi-source feedback to monitor progress and adjust their learning plan as needed.

SC3.2: Sharing feedback, information and learning with others

The graduate educates and provides feedback, information and learning to peers, faculty, patients and others, using sound and professional methods.

The graduate is able to:

1. Learn and implement sound strategies to prepare material and teach others.
2. Give feedback to others in a professional manner.

Professional

Medical professionalism is defined as a set of values, behaviours, and relationships that underpin the trust the public has in doctors. Professionalism in medicine is based on ethical principles and bound by codes, both explicit and implicit, regarding the relationships among physicians and their patients, their profession, and society at large. As medical professionals, physicians demonstrate maintenance of competence, ethical behaviour, adherence to professional codes, adherence to legal principles and responsibilities, as well as the qualities of integrity, honesty, altruism, service to others, justice, respect for others, confidentiality, and self-regulation. The central importance of the patient-physician relationship is a crucial part of professionalism.

At the undergraduate level, professionalism begins with the study of foundational principles of professionalism. Students will be expected to demonstrate their understanding of these principles and integrate them into their behaviour in all their clinical and educational interactions throughout their four years of medical education. It is our hope that these will become integral to their lifelong behaviour as physicians.

Professional Competency 1:

Professional Behaviour



The graduate demonstrates appropriate professional behaviours to serve patients, the profession and society.

PR1.1: Professional behaviour

The graduate practices appropriate professional behaviours, including honesty, integrity, commitment, dependability, compassion, respect, an understanding of the human condition, and altruism in the educational and clinical settings.

The graduate is able to:

1. Identify honesty, integrity, commitment, dependability, compassion, respect, confidentiality and altruism in clinical practice and apply these concepts in their learning and in medical and professional encounters.

PR1.2: Professional self-awareness

The graduate is professionally self-aware, and seeks consultancy appropriately.

The graduate is able to:

1. Identify and address personal values, abilities, limitations, uncertainties, errors, and biases that affect their clinical judgment and practice.
2. Retired as of June 2014.
3. Recognize that maintaining personal wellness is a professional responsibility.



Professional Competency 2:

Principles of Professionalism



The medical graduate applies knowledge of legal and ethical principles to serve patients, the profession and society.

PR2.1: Ethics

The graduate analyzes and appropriately responds to ethical issues encountered in practice.

The graduate is able to:

1. Analyze and respond to ethical issues encountered in practice including, but not limited to, informed consent, confidentiality, truth telling, vulnerable populations, and conflict between resource allocation and individual patient need.
2. Analyze and respond to the psychosocial, cultural and religious issues that could affect patient management.
3. Define and implement principles of appropriate relationships with patients.

PR2.2: Law and regulation

The graduate applies profession-led regulation to serve patients, the profession and society.

The graduate is able to:

1. Recognize and apply the professional, legal and ethical codes and obligations required of current practice in a variety of practice settings, including, but not limited to, such concepts as informed consent, patient rights and privacy, disclosure of medical error, and end of life care.
2. Analyze legal issues encountered in practice.
3. Recognize and respond appropriately to unprofessional behaviour in colleagues consistent with professional, legal and ethical codes and obligations.

Appendix A:

EPA's mapped to physician roles with focus of assessment highlighted

EPA	Medical Expert	Communicator	Collaborator	Leader	Advocate	Scholar	Professional
EPA 1 - Obtain a history and perform a physical examination adapted to the patient's clinical situation <i>Hx and Px</i>	X	X			X		X
EPA 2 - Formulate and justify a prioritized differential diagnosis <i>Prioritized DDx</i>	X				X	X	
EPA 3 - Formulate an initial plan of investigation based on the diagnostic hypotheses <i>Investigation</i>	X					X	
EPA 4 - Interpret and communicate results of common diagnostic and screening tests <i>Diagnostic and screening tests</i>	X	X				X	
EPA 5 - Formulate, communicate and implement management plans <i>Management Plans</i>	X	X	X			X	
EPA 6 - Present oral and written reports that document a clinical encounter <i>Oral and written Reports</i>	X	X					X
EPA 7 - Provide and receive the handover in transitions of care <i>Handover</i>	X		X	X			
EPA 8 - Recognize a patient requiring urgent or emergent care, provide initial management and seek help <i>Urgent Care</i>	X	X	X				
EPA 9 - Communicate in difficult situations <i>Difficult Conversations</i>	X	X			X		X
EPA 10 – Contribute to safety and quality in patient care <i>Patient Safety/CQI</i>	X		X	X		X	
EPA 11 – Perform general procedures of a physician <i>Procedural Skills</i>	X	X					X
EPA 12 – Educate patients on disease management, health promotion and preventative medicine <i>Pt. Education/Promotion/Prevention</i>	X	X		X	X		

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