Overall Goals of Training
Core Internal Medicine Residency
Queen's University Department of Medicine

Preamble

Core Internal Medicine Training in Canada includes three years of approved residency training. Following these three years, residents move on to subspecialty training in any of the seventeen subspecialty fields[a] available to them. Residents not proceeding to a subspecialty training program complete a guaranteed fourth year of clinical internal medicine training within the Core Training Program. This document provides an overview of the goals of the core years of residency training at Queen's University.

Vision for the Queen's Faculty of Health Sciences

> *"Ask questions, seek answers, advance care, and inspire change"*

Vision for the Queen's University School of Medicine

> *"Advance the science and practice of medicine to benefit the health and well-being of the population. We do this through excellence in education, care and research."*

Goals for the Queen's University Internal Medicine Training Program:

We aim to train graduates who:

- Provide exceptional clinical care across diverse clinical settings
- Respond to the needs of their patients, communities, and society as a whole
- Have the foundation necessary to enter fellowship training in any of the medical subspecialties[1]
- Have had the opportunity to engage in significant research and lay the foundation towards a program of scholarship
- Advance the practice and science of healthcare through medical education, public health, professional advocacy, and healthcare administration

[1] Subspecialty fields include Cardiology, Clinical Allergy and Immunology, Clinical Pharmacology and Toxicology, Critical Care Medicine, Endocrinology and Metabolism, Gastroenterology, General Internal Medicine, Geriatric Medicine, Hematology, Infectious Disease, Medical Oncology, Nephrology, Occupational Medicine, Palliative Care, Respirology, and Rheumatology

Provide exceptional clinical care across diverse clinical settings

Our curriculum has been developed to ensure all residents receive a blend of training experiences that include ambulatory and acute care medicine. In addition, we require training experiences in palliative medicine and community settings that further broaden the diversity of clinical practice settings that residents experience. In all of these settings, residents are supervised by clinical faculty with appointments at Queen's University, ensuring accountability for high quality supervision and training. Finally, we require senior residents (Core of Discipline Stage) participate in a regular General Internal Medicine continuity clinic to gain experience and practice in caring for patients in a longitudinal practice setting.

Respond to the needs of their patients, communities, and society as a whole

The program is dedicated to promoting internal medicine as a profession characterized by social responsiveness and social responsibility. We have ensured that these principles are captured in the learning objectives, clinical learning experiences, and assessment strategies for all of our rotations. Our residents also participate in a variety of Quality Improvement projects aimed at improving the systems through which we deliver care.

Have the foundation necessary to enter fellowship training in any of the medical subspecialties

To ensure our program prepares residents to enter fellowship training in any of the medical subspecialties, we require residents complete a broad range of subspecialty learning experiences during their training. All of the major subspecialties of medicine[2] have clinical teaching services within our program. We also have clinical teaching services in dermatology and neurology, which provide essential foundational learning common to many subspecialties. Further, we provide residents with four electives and one selective over the course of residency to enable them to gain additional training experiences (either at Queen's or elsewhere) to support preparedness for fellowship training.

Have had the opportunity to engage in significant research and lay the foundation towards a program of scholarship

In September each year our program hosts a Resident Research Fair. This event provides residents with the information necessary on how to develop and execute a research project. This includes presentations from senior residents and faculty mentors on how to be successful as a resident researcher. In addition, research faculty from all divisions attend the session and present opportunities for involvement within their divisions.

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[2] Allergy and Immunology, Cardiology, Critical Care Medicine, Endocrinology, Gastroenterology, General Internal Medicine, Geriatrics, Hematology, Infectious Diseases, Medical Oncology, Nephrology, Palliative Care, Respirology, and Rheumatology

Following this, we have two dedicated Academic Halfday sessions on research methods and study design. To engage in research, residents are allowed to take up to three blocks over the course of residency to do research. The Office of Postgraduate Medical Education also runs a resident research session in the fall of each year that is mandatory for new residents. Residents are encouraged and supported to pursue resident research grants (such as PSI Grants). In May of each year the program runs Resident Research Day in which all residents who had a research block are required to present their work. Regardless of involvement in research, all residents are required to present some form of scholarly work at Resident Research Day at least once during training. Finally, we encourage and financially support our residents to present their scholarly work at national and international conferences.

Advance the practice and science of health care through medical education, public health, professional advocacy, and healthcare administration

We believe that physicians must be leaders in shaping health care for tomorrow. We have integrated various initiatives within our program to develop leadership skills and experience in these areas for our residents. These include Resident Leadership Teams, education initiatives (such as our JAMA rounds), Resident Wellness initiatives, and support for our residents to participate on local, provincial and national professional committees and organizations.

Overview of the curriculum (organized by CanMEDS roles)

The developmental descriptors of *Reporter*, *Interpreter*, *Manager*, and *Educator*, adapted from Pangaro's RIME model for assessment, are used in this section. Their descriptions have been re-written to specifically align with the stages of training in Competence by Design and to reflect the Entrustable Professional Activities (EPAs) and competencies for internal medicine expected in our program. The complete descriptions are included at the end of this document (see Appendix).

Medical Expert

The curriculum is delivered primarily in the context of direct patient care. Learning the Medical Expert content (and the content related to the Intrinsic Roles) is supplemented with regular teaching sessions at case conference (formally 'Morning Report'), noon conferences, academic half-days, Department of Medicine (DOM) Grand Rounds, DOM Morbidity and Mortality Rounds, Patient Safety Rounds, Journal Club and simulation sessions including the interdepartmental postgraduate "Nightmares Course". In addition, the program runs "bootcamps" to support learning required for major changes in level of responsibility; we have a Transition to Discipline bootcamp for incoming R1s, and CSU/R2 bootcamps to prepare resident for the transition to senior resident responsibilities. The residents are provided with adequate resources and supports for

learning the medical expert domains including access to online evidence-based resources through the library as well as UpToDate and the NEJM Knowledge+ program.

Regular assessment of a resident's knowledge, skills, and attitudes in the Medical Expert domain are part of the monthly assessment system for each clinical rotation. Residents receive point of care assessments weekly, and summary assessments twice a block, as a minimum. Procedural expertise is tracked using our procedural assessment forms and is tracked in our education management system, MEdTech. The resident's knowledge and skills in the Medical Expert domain is also assessed in an annual OSCE (R1-4), and through completion of the In-Training Examinations in the NEJM Knowledge+ program (R1-4).

Transition to Discipline Stage (Equivalent to early R1)
In completing the Transition to Discipline stage, residents will demonstrate the characteristics of a **reporter** for common clinical presentations**.**

- Perform a complete and reliable history and physical examination, and present findings to colleagues and supervisors
- Develop an appropriate differential diagnosis for common medical presentations
- Reliably completes admission orders, daily care orders, discharge summaries, and dictations
- Recognizes and provides initial response for common presentations of patients who are critically ill or unstable

Foundations of Discipline Stage (Equivalent to mid/late R1)
In completing the Transition to Discipline stage, residents will demonstrate the characteristics of an **interpreter** for common clinical presentations**.**

- Perform a complete and reliable history and physical examination, adapting questions and the physical examination in response to findings.
- Develop an appropriate and prioritized differential diagnosis, including less common but important diagnostic considerations
- Select appropriate investigations in a logical sequence, recognizing normal from abnormal results, and their significance
- **Procedures:** *competence* in obtaining consent for procedures, interpreting common electrocardiograms, venipuncture, radial artery blood sampling, and nasogastric tube insertions

R2. After the second year of residency training, the resident will demonstrate the characteristics of a **manager** for common clinical presentations and **interpreter** for uncommon clinical presentations.

- Formulate a comprehensive problem list, synthesize an effective diagnostic and therapeutic plan, and establish appropriate follow-up for common presentations
- Recognize important determinants of health in patient presentations
- Demonstrate effective consultation skills, presenting well-documented assessments and recommendations both verbally and in writing

- **Procedures:** *competence* in performing central venous catheter insertion, lumbar puncture, peripheral arterial catheter insertion, paracentesis, thoracentesis, arthrocentesis of the knee

R3. After the third year of residency training, the resident will demonstrate the characteristics of an **educator** for common clinical presentations and **manager** for uncommon clinical presentations.

- Be knowledgeable in both diagnosis and management of common and uncommon diseases.
- Routinely apply evidence-based practice, and also understand its limitations
- Demonstrate an ability to educate students and colleagues on findings
- **Procedures:** *established skills and the capacity to teach* the following procedures: electrocardiogram interpretation, venipuncture, nasogastric tube insertion, central venous catheter insertion, lumbar puncture, peripheral arterial catheter insertion, paracentesis, thoracentesis, endotracheal intubation and arthrocentesis of the knee.

The resident's knowledge, attitudes, and skills in this context will show appropriate evolution over the three years of training, with appropriate mastery of more advanced concepts and skills in this field as the resident's clinical training progresses.

R4. On completing a fourth year in the core program, residents will demonstrate the characteristics of an **educator**. Further, residents will demonstrate competence in advanced clinical skills across diverse clinical settings.

Communicator

The curriculum is structured to occur primarily in the patient-care context, focused on applying effective verbal and non-verbal communication in encounters with patients, families, and other caregivers. In addition, the curriculum emphasizes effective written and verbal communication with colleagues and other health care professionals in the care of patients. Communication skills of residents are also developed and assessed through regular presentations with feedback in Journal Club, Case Conference presentations, during most of their subspecialty rotations, and at our annual Resident Research Day. Additionally, topics relevant to the Communicator role have been included in the academic half-day series and patient safety rounds. The simulation-based training incorporates aspects of good communication in teams. Finally, residents are expected to complete the CanMEDs module for Communicator.

Regular assessment of a resident's knowledge, skill, and attitudes in this domain are part of the monthly assessment system for each clinical rotation. Directly observed patient interviews occur annually in the OSCEs and more frequently with point of care assessments. Communicator skills are also captured in our monthly peer-assessments.

Our curriculum demands residents demonstrate competence in the following aspects of the Communicator role:

- Establish rapport and trust in the doctor-patient relationship. This includes respect for diversity, overcoming language and cultural differences, empathy, listening, and non-verbal communication.
- Facilitate shared decision making, concordance, mutual understanding, integrity, flexibility, effective listening, respect, and appropriate documentation
- Elicit information for patient care through history taking, physical examination, chart review, and the use of informatics.
- Effectively communicate sensitive issues such as breaking bad news, addressing end-of-life issues, disclosure of error or adverse events.
- Conduct family and team conferences
- Establish rapport and trust in the team setting—this includes colleagues, allied health, and other professionals or team members in the care setting.
- Express accurate clinical findings, both verbally and in writing, in a manner that demonstrates a sound knowledge of the underlying illness scripts, and emphasizes the elements most likely to lead to a correct diagnosis and plan of action.

The resident's knowledge, attitudes, and skills in this context will show appropriate evolution over the three years of training, with appropriate mastery of more advanced concepts in communication as the resident's clinical training progresses.

Collaborator

The curriculum is structured to occur primarily through the patient-care context, where residents are collaborative members of multidisciplinary and interprofessional health-care teams. The simulation course in R1 year emphasises collaboration between team members and these issues are often discussed at patient safety rounds. On the CTU blocks daily “bullet” rounds are held with multiple members of the health care team (MDs, Nursing, CCAC, Social work, PT, OT, dietary etc) present to discuss appropriate management and placement of patients.

Regular assessment of a resident's knowledge, skill, and attitudes in this domain are part of the monthly assessment system for each clinical rotation, and specific feedback is sought from peers (R1 for R2/3 and R2/3 for R1), and Head Nurses (for R2) for each CTU block.

As a result, residents should demonstrate competence in the following elements of the collaborator domain

- Understand and describe the expertise and role of all of the members of an interprofessional team.
- Participate as a collaborative member of the health-care team, demonstrating shared analysis and decision-making skills and contributing appropriate expertise and leadership to the team.

- Develop a care plan for patients, based upon the collaboration among the different members of the health-care team.
- Constructively negotiate solutions to challenging clinical, psychological or social issues that arise in patient care or learning.
- Effectively resolve conflict
- Recognize personal limitations and seek proper assistance in the best interests of patients.

The resident's knowledge, attitudes, and skills in this context will show appropriate evolution over the three years of training, with appropriate mastery of more advanced attitudes and skills involved in being a collaborator as the resident's clinical training progresses.

Leader

The curriculum is structured to occur primarily through the patient-care context. Residents participate in the day-to-day care of inpatients and outpatients, routinely making practice decisions that influence resource utilization, co-workers, tasks, policies, and their personal lives. The ability to prioritize and effectively execute tasks is taught via the management of the resident's multiple roles and responsibilities, including inpatient care, outpatient clinics, teaching, administration, and personal responsibilities. Senior residents take charge of the coordination and direction of junior residents and students on clinical teaching units. The annual Queens conference on Academic Residency (QCARE) includes topic on personal care, and principles of practice management and financial planning.

Regular assessment of a resident's knowledge, skill, and attitudes in this domain are part of the monthly assessment system for each clinical rotation, and specific peer to peer, and nursing feedback is sought on CTU blocks.

As a result, residents should demonstrate competence in the following elements of the Leader role:

- Utilize personal resources effectively, including time and personal capacity, to balance patient care, learning needs, and outside activities.
- Demonstrate the ability to prioritize and triage in the context of competing demands.
- Allocate health-care resources wisely.
- Work efficiently in a health-care organization including engagement with secretarial staff, program assistants, managers, leaders and other stakeholders.
- Utilize information technology to optimize patient care, life-long learning, and other activities.
- Describe the business and financial skills necessary for a successful medical practice.
- Properly delegate tasks when appropriate and take responsibility for delegated tasks.

The resident's knowledge, attitudes, and skills in this context will show appropriate evolution over the three years of training, with appropriate mastery of more advanced attitudes and skills involved in being a manager as the resident's clinical training progresses. It is recognized that much of the skill development in this domain will continue into the fourth year of residency training and into practice.

Health Advocate

The curriculum is structured to occur primarily through the patient-care context. Residents participate in the day-to-day care of patients as an advocate for each individual patient and for society as a whole. Patient safety rounds is a monthly learning event where advocacy issues related to patient safety are discussed at a systems level. Residents also advance their knowledge in this area through completion of our CanMEDS modules. Through these modules, residents learn to principles of each of the roles, including Health Advocate, and are required to reflect on personal experiences to define the relevance of the role to their personal practice and practice goals.

Regular assessment of the resident's knowledge, skill, and attitudes in this domain are part of the monthly assessment system for each clinical rotation.

As a result, residents should demonstrate competence in the following elements of the Health Advocate role:

- Identify the important determinants of health affecting patients. More specifically, the resident will be able to educate patients about long-term healthy behaviour and preventive healthcare.
- Contribute to improved health of patients and communities.
- Appreciate and value global health advocacy initiatives
- Participate in quality improvement exercises in the context of patient care.
- Understand fiduciary duty to care
- Perform an assessment of decision-making capacity, and help find an ethical balance between a patient's expressed choice and their best interests.

The resident's knowledge, attitudes, and skills in this context will show appropriate evolution over the three years of training, with appropriate mastery of more advanced attitudes and skills involved in being a health advocate as the resident's clinical training progresses.

Scholar

The curriculum is structured to occur through regular journal clubs, academic half-days, subspecialty teaching sessions and supervised research projects. The resident have regular opportunities to present clinical cases at morning report, Case of the Month conference, and at various clinical conferences. A generous travel fund for all residents allows residents to present and attend national and international conferences.

Regular assessment of a resident's knowledge, skills, and attitudes in this domain are part of the monthly assessment system for each clinical rotation. In addition, residents receive feedback from faculty facilitators and co-residents on Journal Club presentations and Case of the Month presentations.

Residents have the opportunity to present their research work to their colleagues at the annual "Resident Research Day". Presentation of appropriate work at provincial, national, and international conferences is strongly encouraged and supported.

As a result, residents should demonstrate competence in the following elements of the Scholar role:

- Apply the principles of critical appraisal to sources of medical information, in the clinical, research, and educational contexts.
- Apply evidence-based knowledge in clinical practice
- Facilitate the learning of patients, students, residents, and other health-care professionals.
- Contribute to the development of new knowledge.
- Develop and implement a personal strategy for lifelong learning and maintenance of competence.
- Foster skills in self-assessment and directed learning.

The resident's knowledge, attitudes, and skills in this context will show appropriate evolution over the three years of training, with appropriate mastery of more advanced concepts in clinical epidemiology, teaching, and research as the resident's clinical training progresses.

Professional

The curriculum is structured to occur through the patient-care context. Further training in medico-legal issues is discussed at the annual QCARE conference (e.g. medico-legal risk, disclosure of adverse events), and issues are discussed at patient safety rounds and during academic half-day sessions (e.g. ‘stress’ management).

Regular assessment of a resident's knowledge, skill, and attitudes in this domain are part of the monthly assessment system for each clinical rotation.

As a result, residents should demonstrate competency in the following elements of the Professional role:

- Deliver quality care with integrity, honesty, and compassion.
- Show appropriate personal and interpersonal behaviours.
- Practice medicine ethically, consistent with the obligations of a physician.
- Maintain a commitment to excellence and mastery of the discipline of medicine
- Exercise facility in the application of bioethical principles and theories
- Disclose personal error and adverse events
- Develop and utilize social media skills in a responsible professional manner

The resident's knowledge, attitudes, and skills in this context will show appropriate evolution over the three years of training, with appropriate mastery of more advanced attitudes and skills involved in being a professional as the resident's clinical training progresses.

Appendix A Clinical role descriptions built on the RIME model, adapted from Pangaro's descriptor-based RIME assessment model[3]

Queen's Descriptions of Competence (Q-DOC) Model for Competence by Design (CBD) in Internal Medicine

RIME TITLES		Q-DOC/CBD TITLES
Reporter	=	Transition to Discipline
Interpreter	=	Foundations of Discipline
Manager	=	Core of Discipline
Educator	=	Transition to Practice

TTD Stage

At the TTD level, the trainee can accurately gather and clearly communicate the clinical facts about his or her own patients. He or she consistently shows the basic skills required to obtain a history, do an appropriately focused physical examination. At this level, the learner should be able to identify specific psychosocial challenges facing his or her patients. The trainee integrates the findings on history, physical examination, and diagnostic studies to generate a differential that, at a minimum, identifies the common and straightforward diagnostic possibilities. The trainee can safely admit patients to acute care settings under indirect supervision of a senior resident. On mastering this stage, the trainee can also identify typical presentations of unstable and critically ill patients; for these patients they are able to provide preliminary management and obtain help promptly. This level emphasizes day-to-day reliability and professionalism in patient and team interactions. The trainee at this stage has a sense of responsibility and is achieving consistency in bedside skills and interpersonal relationships with patients. The trainee is able to effectively balance personal, educational, and clinical priorities.

FOD Stage

The trainee again consistently gathers an accurate history, performs an appropriate exam, and identifies common diagnostic considerations. Further, he or she can prioritize among problems identified in his or her time with the patient. At this level an appropriate differential diagnosis should be consistently generated that also includes less common but important diagnostic considerations. He or she is able to select and correctly interpret basic diagnostic tests relevant to the clinical presentation. The FOD stage requires a higher level of knowledge, and the ability to establish and correctly order a differential. Further, at the interpreter level the trainee can identify knowledge gaps and use a variety of resources to fill those gaps. He or she is also aware of the impact of his or her own biases on his or her clinical interpretation. The learner transitions from executing plans to developing them independently. The resident how sees himself or herself as an active participant in patient care.

COD Stage

This stage demands consultant level knowledge and judgment in deciding when actions need to be taken, and proposing and selecting treatment options for patients. Treatments are consistently evidence-informed, appropriately follow guidelines and standards of care, and are applied across the full breadth of internal medicine presentations. At this stage a trainee must be able to identify and address risk factors, prognostic factors and patient specific challenges that will impact on the plan or care. The trainee also understands the relevance of resource utilization to clinical decision-making. Mastering this stage requires higher-level interpersonal skills, including the skills needed to educate patients and lead complicated family meetings. This level calls for the ability to communicate clearly with colleagues, consultants, and the multidisciplinary team, to deliver bad news to patients, and to answer more complex management questions. This stage also demands independence in performing all of the common procedures of internal medicine.

TTP Stage

The learner at this level has mastered the clinical skills required to care for medical patients across a broad range of diseases and presentations, but also is increasingly capable of caring for patients with uncertainty in diagnosis and/or management. This stage emphasizes the translation of clinical skills into the health systems in which we practice. Assessing and treating patients remotely through telephone consults and telehealth, facilitating transfers to other institutions, managing workflow in a busy clinic are examples of this translation. At this stage, learners are aware of the process of Quality Improvement (QI) and can participate in local QI initiatives when called to.

[3] Pangaro, L. (1999). A new vocabulary and other innovations for improving descriptive in-training evaluations. *Academic Medicine*, *74*(11), 1203–1207.