The CanMEDS 2015
eHealth Expert Working Group Report

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The CanMEDS 2015 Expert Working Groups

Since its origins in the 1990s, the CanMEDS Project has been a grand collaborative effort of hundreds if not thousands of educators, Royal College Fellows, family physicians, and other experts. Its development has involved countless hours devoted to literature reviews, stakeholder surveys, focus groups, interviews, consultations, consensus-building, debate, and educational design. As a result, CanMEDS has been heralded worldwide for its utility as a framework to anchor physician competence in the service of patients.

In early 2013, the Royal College, along with key partners, assembled a series of Expert Working Groups (EWGs) organized around the seven core CanMEDS domains. In addition, two EWGs were organized to consider cross-cutting concepts, including Patient Safety and Quality Improvement and eHealth. As of January 2014, more than 100 people were involved in updating one or more CanMEDS 2015 subdomains. Each EWG is composed of medical educators and practising physicians from a range of specialties and locations. All participants have contributed their expertise to develop a first draft of the revised framework. Their role is to:

- review the CanMEDS 2005 Framework to identify potential concepts requiring clarification or modification, as well as any gaps or redundancies in the existing CanMEDS competencies
- incorporate new themes such as patient safety and intraprofessionalism into the framework
- ensure that the framework is practical and useful for education across the continuum

This report is meant to complement the current working draft of the CanMEDS 2015 Framework—the Series I draft—and to provide information and context for readers who may wish to delve into the rationale and work of the eHealth EWG. The report is organized into two sections. The first section summarizes our methods and principles. The second section contains notes and suggested entry-to-practice eHealth competencies for each of the seven CanMEDS Roles.

The eHealth review: objectives, principles, and methods

The CanMEDS 2015 eHealth EWG members adopted the following principles as foundational to their work:

- The process is one of revision and renewal: improvement, not reinvention, is the goal.
- The primary target audience is the users of the framework: trainees, front-line teachers, program directors, and Clinician Educators who design programs.
- The constructs of CanMEDS Framework need to be grounded in theory and best practices, while their presentation should be practical and related to the daily practice of any physician.
- Generic competencies related to eHealth should be articulated for all specialties.
- Concepts that are relevant to multiple Roles should be articulated in the Role where they are the most prominent. Although redundancy and overlap are accepted, and even expected, in practice, the framework itself should avoid repetition while ensuring the appropriate integration of Roles.

Our report was developed by means of the following activities and approaches:

- a review of recent literature (2005–2013)
• a review of the “Emerging Concepts” consultation document
• recruitment of working group members with expertise and interest in eHealth. All members were recruited from an existing AFMC working group on eHealth
• specific recruitment of participants (learners and faculty) as ePanel members, to achieve further breadth in consultation
• review of formal stakeholder consultation (including the CanMEDS 2013 survey and the ICRE 2013 Town Hall)

**Recommended competencies for CanMEDS Roles**

The eHealth EWG was commissioned to look at each of the CanMEDS Roles through the lens of eHealth to provide advice and guidance to each of the EWGs. Our report was circulated to the EWGs and ePanels for input and consideration in September 2013 and again in November and December 2013.

eHealth is defined as the appropriate use of information and communication technologies for health service delivery, education, and research. This document outlines recommended competencies for each of the CanMEDS Roles. The graduating resident will be able to fulfill the competencies of all the CanMEDS Roles in eHealth upon completion of specialty training.

Competencies in each CanMEDS Role are listed in order of importance. A note prefacing each section explains our thinking and highlights potential areas of overlap between Roles for the EWGs to consider.

**Medical Expert**

*In the Medical Expert Role we focus on the use of information technologies to enhance medical expertise, while recognizing that data and telehealth tools are adjuncts to support decision-making and that medical expertise is vital to patient management. There can be overlap here with the Scholar Role.*

1. Adopt a variety of information and communication technologies to deliver patient-centred care and provide expert consultation to diverse populations in a variety of settings.

**Communicator**

*In the Communicator Role we focus on the documentation, use, and exchange of data and communication with patients and their families.* Here, the emphasis is on communication for clarity and enhancement of the physician–patient relationship.

2. Employ clinical decision support tools as an adjunct to clinical judgment in providing timely, evidence-based, safe interventions.

3. Monitor and audit individual practice through the capture and analysis of health, quality, and patient safety data.

*Throughout the Series I draft of the CanMEDS 2015 Framework, the phrase “patient and their families” is intended to include all those who are personally significant to the patient and are concerned with his or her care, including, according to the patient’s circumstances, family members, partners, caregivers, legal guardians, and substitute decision-makers.*
3. Present health information to, and share expertise with, patients and their families, using context- and content-appropriate language and media resources.

4. Assist patient and their families to identify and make use of information and communication technologies to support their care and manage their health (for example telecommunications, smart phone applications).

5. Direct patients to current, credible, and relevant consumer health information resources that are appropriate to their level of health information literacy.

Collaborator

For the Collaborator Role, we highlight the importance of communicating and sharing electronic information with other health professionals and participating with other stakeholders in the development, advancement, and utilization of electronic information and management tools, processes, and resources to promote patient well-being, further patient care, and improve patient outcomes. This includes the promotion of interprofessional and stakeholder collaboration to improve our current eHealth environment, and recognition of the value of committed interprofessional and interdisciplinary collaboration towards shaping our health information systems.

1. Participate with other health system stakeholders in the development, advancement, utilization, and evaluation of electronic information and management systems, processes, and resources to facilitate best practice and the provision of safe, high-quality, and productive care:
   - Employ recognized pan-Canadian health information technology standards, classification schemes, and terminology for recording and communicating clinical data and facilitating information exchange (e.g., the Canada Health Infoway Standards Collaborative).
   - Identify barriers to information-sharing among health professionals when using information technologies and systems in local, regional, provincial/territorial, and national contexts, and identify solutions to these barriers where possible.

2. Share electronic information with other health care professionals collaboratively for the purpose of integrating and optimizing care and improving outcomes for individuals and populations.

3. Complete the electronic handover of professional responsibility and accountability to another health care professional in a manner that ensures quality, continuity, and patient safety.

Manager (now Leader)

For the Manager (Leader) Role, we articulate how clinicians have responsibility from the clinical service delivery point of view to understand the proper use of electronic health records, the pros and cons of integrating electronic health care resources into their practice, and their responsibility for factual, accurate output.

1. Support information technologies that protect the privacy of patients and the confidentiality of their personal health information while at the same time achieving system efficiency, transformation of care processes, improved outcomes, and/or reduction in health care costs.

2. Contrast the benefits and limitations of health information systems and apply this knowledge to patient management, patient safety, practice management, and continuous quality improvement in one's own practice and in all clinical and professional environments where one works.

3. Acknowledge that human–computer interface issues, organizational culture, technological restrictions, and device and infrastructure malfunction may generate errors or distortion of data that negatively affect patient safety. Advocate
for and implement harm reduction strategies in the workplace.

4. Understand the terms “health system use” in the Canadian context and “interoperability” with respect to their application to electronic health data and relevance to medical practice.

5. Customize the output from digital health records for purpose-driven use to improve patient care.

6. Comprehend the influence of data inter-relationships on data output, quality and usage.

7. Describe the impact of health record interoperability and data exchange on collaborative patient-centred care.

**Health Advocate**

For the Health Advocate Role, we articulate the need for physicians to advocate for humanism in the virtual health care workplace, while maintaining awareness of the tension between the needs of the patient and of the health care system more generally. It addresses the need to balance the use of health information for global initiatives while respecting the privacy of individual patient information. It speaks to the meaningful use of electronic resources to inform population health strategies. The role of individual physicians who contribute to public health and population health data is placed in this Role, but we do recognize that, for public health specialists, this pertains to their Expert and Scholar Roles.

1. Employ health informatics to enhance quality of care and service delivery in the context of acute and chronic disease management in community settings.

2. Advocate for balance between an individual’s right to privacy and the needs of the health care system when using aggregated health information in decision-making.

3. Appreciate that analysis of pooled health and demographic data informs health policy decision-making at local, regional, provincial/territorial, national, and international levels.

4. Describe how health and population information can be used for disease surveillance, adverse event tracking, population health monitoring, and risk management.

5. Speak out against harmful medical misinformation portrayed in social media.

**Scholar**

For the Scholar Role, we highlight the role of the individual physician in upholding and continuously improving information and communication technology best practices to enhance patient care, committing to lifelong learning and teaching, and striving toward continuous quality improvement and excellence in their own practices. There could be some overlap with the Medical Expert and Professional Roles.

1. Use information technologies to enhance knowledge, skill and judgment in the provision of evidence-informed patient care.

   – Articulate an information need and gather relevant data from a variety of sources, including the literature, electronic health records and databases, and discussions with colleagues.

   – Critically assess the reliability, quality and comprehensiveness of data used to inform health care decisions.

   – Appraise, consolidate, apply, and evaluate information acquired to care for and manage patients, bearing in mind their unique biological, personal, and cultural circumstances.

   – Participate in scholarly activity related to information and communication technology through the creation, maintenance, exchange and consumption of health data, information, and knowledge.

2. Organize, maintain, appraise, and continuously improve scholarly resource and health information management skills both for oneself and for others.
using information technologies throughout one’s professional career.

## Professional

**For the Professional Role, we define professional boundaries, obligations, and responsibilities as they translate into eHealth practices, including the ability to respect patient privacy and professional boundaries with the understanding that electronic information and communication widens the potential boundaries that can be breached and threatens the physician–patient relationship.**

1. Act to ensure that technology preserves and strengthens the physician–patient relationship, is of benefit to patients individually and collectively, and is used in a way that maintains public trust in the profession.

2. Demonstrate that professional judgment prevails over technologies designed to support clinical assessment, interventions, and evaluation.

3. Uphold professional obligations, comply with legislation, and maintain appropriate personal boundaries when engaging in the use of social media platforms and digital technologies to record, convey, and respond to information.*

4. Adhere to organizational, professional, regulatory, and legal tenets pertaining to privacy, confidentiality and security of data in health information systems.

5. Report system deficiencies, misuse, or errors.

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* It would be important for training institutions and individuals to be aware of their own provincial health information protection legislation and their provincial regulatory college statements relating to eHealth, Social Media, and telehealth (e.g., CPSA, CPSO, CPSBC, etc), as well as the CMA and CMPA’s position papers.

## Glossary

### Information and communication technologies:
examples include electronic health records, electronic medical records, telehealth, emails, online web conferencing applications, picture archiving clinical systems, pharmacy information systems, point of care tools, mobile technologies, and applications.

### Clinical decision support tools:
alerts, reminders, clinical practice guidelines, algorithms/critical pathways.

### Health Informatics:
a discipline that aims to promote health and improve the delivery of efficient patient-centred health care through the application of information systems to collect, manage, transform and share health information.