

## APPENDIX 1: CDB AND QUALITY IMPROVEMENT PROJECTS

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The pathway to competence in Radiology includes a series of key competencies, enabling competencies and milestones that are relevant to the process of undertaking a quality improvement project. These competencies and milestones are seen across the CanMEDS roles and can be aligned with observable actions or behavior by the trainee. This summary highlights the relevant competencies and milestones in the RCPSC Pathway to Competence in Diagnostic Radiology 2022 document and how they can relate to observable behaviors when undertaking a QI project.

Each section refers to a CanMEDS role.

Within each section the key competencies are followed by the enabling competencies and the milestones. There is a short paragraph highlighting the relevance of the CBD statements to undertaking a QI project. This is followed by suggestions for observations that can be made when evaluating a trainee as they undertake a QI project.

This adapted for local use.

## REFERENCES

Pathway to Competence Diagnostic Radiology Copyright © 2021 The Royal College of Physicians and Surgeons of Canada. Referenced and produced with permission.

Pathway to Competence User Guide. Ottawa: Royal College of Physicians and Surgeons of Canada; 2019.

S Dhillon. Integration of CanMEDS Roles and Clinical Audit.  
Canadian Conference Medical Education Meeting 16-19 April 2016, Montreal, Canada

## MEDICAL EXPERT MILESTONES

### ***1. Practice medicine within their defined scope of practice and expertise***

1.1	Demonstrate a commitment to high quality care for their patients.
1.3	Apply knowledge of the clinical and biomedical sciences relevant to Diagnostic Radiology
5.2	Adopt strategies that promote patient safety and address human and system factors.

- TTP Demonstrate a commitment to high-quality care of their patients.

- TTP Apply knowledge of quality control and testing of medical imaging equipment.
- TTP Apply knowledge of quality assurance and improvement of medical imaging services.

### **Relevance to Quality Improvement Project**

As a medical expert the resident will need to bring appropriate radiology expertise that may not be part of their co-investigators sphere. Any project must be approached from a sound evidence base. Conversely, they need to demonstrate they can accept expert knowledge from other (physician and non-physician) health professionals.

### **Observations during a Quality Improvement project**

- Provided good radiological advice.
- Performed an appropriate background search for information to support the QI project.

## **COMMUNICATOR MILESTONES**

### ***2. Elicit and synthesize accurate and relevant information***

### ***5. Document and share written and electronic information about the medical encounter to optimize clinical decision-making, patient safety, confidentiality, and privacy***

5.3	Share information with patients and others in a manner that enhances understanding and that respects patient privacy and confidentiality.
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- TTP Adopt strategies that promote patient safety and address human and system factors.
- TTP Share information with patients and others in a manner that enhances understanding and that respects patient privacy and confidentiality.

### **Relevance to Quality Improvement Project**

Communicator primarily refers to the clinical encounter with patients however it may also apply to some QI projects. The ability to maintain clear, accurate and appropriate records is important and observable during a QI project. Patient data is collected during a QI project which requires appropriate measures to maintain confidentiality when sharing with team members.

### **Observations during a Quality Improvement project**

- Maintained accurate and confidential documentation of the data collected.
- Regularly communicated and maintained close communication with the audit team.

## COLLABORATOR MILESTONES

**1. Work effectively with physicians and other colleagues in the health care professions**

**2. Work with physicians and other colleagues in the health care professions to promote understanding, manage differences, and resolve conflicts**

1.1	Establish and maintain positive relationships with physicians and other colleagues in the health care professions to support relationship- centred collaborative care.
1.3	Engage in respectful shared decision-making with physicians and other colleagues in the health care professions.
2.1	Show respect toward collaborators.
2.2	Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture.

- TTP Establish and maintain healthy relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care
- TTP Engage in respectful shared decision-making with physician and other colleagues in the health care professions.
- TTP Consult with colleagues with different expertise.
- TTP Incorporate the opinions and perspectives of other physicians.
- TTP Show respect toward Collaborators.
- TTP Facilitate the development of consensus when there are differences in recommendations provided by other health care professionals.

### Relevance to Quality Improvement Project

This is a prominent role in the audit process. Residents will work closely with non-physicians and will need to demonstrate the ability to be collaborative. They will need to participate effectively and appropriately in an inter-professional healthcare team. Effectively work with other health professionals to prevent, negotiate, and resolve inter-professional conflict.

### Observations during a Quality Improvement project

- Worked with the team including discussing all aspects of the project, form design, data collection, analysis, presentation.
- Resolved conflicts arising with the QI team.
- Included the QI team on all correspondence.
- Included QI the team on all publications.

## LEADER MILESTONES

**1. Contribute to the improvement of health care delivery in teams, organizations, and systems**

**2. Engage in the stewardship of health care resources**

**3. Demonstrate leadership in health care systems**

1.1	Apply the science of quality improvement to systems of patient care.
1.2	Contribute to a culture that promotes patient safety.
1.3	Analyze patient safety incidents to enhance systems of care.
1.4	Use health informatics to improve the quality of patient care and optimize patient safety.
3.1	Demonstrate leadership skills to enhance health care.
3.2	Facilitate change in health care to enhance services and outcomes.

- TTD Describe quality improvement methodologies.
- FD Compare and contrast the traditional methods of research design with those of improvement science.
- FD Compare and contrast systems of theory with traditional approaches to quality improvement.
- FD Seek data to inform practice and engage in an iterative process of improvement.
- CD Analyze and provide feedback on processes seen in one's own practice, team, organization, or system.
- CD Participate in a patient safety and/or quality improvement initiative.
- CD Develop a strategy for implementing change in health care with patients, physicians, and other health care professionals.
- TTP Apply the science of quality improvement to contribute to improving systems of patient care.
- TTP Contribute to a culture that promotes patient safety.
- TTP Analyze patient safety incidents to enhance systems of care.
- TTP Use health informatics to improve the quality of patient care and optimize patient safety.
- TTP Demonstrate leadership skills to enhance health care.
- TTP Facilitate change in health care to enhance services and outcomes.

### Relevance to Quality Improvement Project

Multiple competencies and milestones are included. As leads in a QI project, the residents display their ability to manage a project, which includes elements of collaborative decision making, Quality assurance and improvement, leadership, healthcare stewardship, and supervising others.

## Observations during a Quality Improvement project

- Maintained progress in ensuring the QI project is completed and presented to the QI teams' satisfaction.
- Ensured a good working relationship with the audit team and was able to resolve any conflicts.

## HEALTH ADVOCATE MILESTONES

### ***2. Respond to the needs of communities or populations they serve by advocating with them for system-level change in a socially accountable manner.***

2.1	Work with a community or population to identify the determinants of health that affect them.
2.2	Improve clinical practice by applying a process of continuous quality improvement to disease prevention, health promotion, and health surveillance activities.
2.3	Contribute to a process to improve health in the community or population they serve.

- CD Analyze current policy or policy developments that affect the communities or populations they serve.
- TTP Work with a community or population to identify the determinants of health that affect them.
- TTP Improve clinical practice by applying a process of continuous quality improvement to disease prevention, health promotion, and health surveillance activities.
- TTP Contribute to a process to improve health in the communities or populations they serve.

## Relevance to Quality Improvement Project

A QI project is a process which aims to improve the quality of patient care. Residents may initiate projects based on deficiencies they perceive in the standard or delivery of Imaging related healthcare. This may be within their institution or in the wider community.

## Observations during a Quality Improvement project

- Recognizes scenarios where there is potential for improvement in the quality of patient care or delivery of imaging services.
- Initiated a Quality improvement project.
- Ensures change in practice takes place when indicated by the QI project.

## SCHOLAR MILESTONES

**1. Engage in the continuous enhancement of their professional activities through ongoing learning.**

**3. Integrate best available evidence into practice.**

**4. Contribute to the creation and dissemination of knowledge and practices applicable to health**

1.3	Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice.
3.1	Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions that can address them.
3.3	Critically evaluate the integrity, reliability, and applicability of health-related research and literature.
3.4	Integrate evidence into decision-making in their practice.
4.1	Demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in health care.
4.4	Pose questions amenable to scholarly investigation and select appropriate methods to address them.
4.5	Summarize and communicate to professional and lay audiences, including patients and their families, the findings of relevant research and scholarly inquiry.

- TTP Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice.
- TTP Critically evaluate the integrity, reliability, and applicability of health-related research and literature.
- TTP Integrate best evidence and clinical expertise.
- TTP Demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in health care.
- TTP Pose medically and scientifically relevant and appropriately constructed questions amenable to scholarly investigation.
- TTP Summarize and communicate to professional and lay audiences, including patients and their families, the findings of applicable research.
- TTP Disseminate the findings of scholarly activity, in written or oral form.

### Relevance to Quality Improvement Project

The QI process involves many of the competencies associated with scholarly activities such as traditional research and learning. This includes evaluation of literature, recognition of knowledge gaps and deficiencies in healthcare, adhering to investigative principles, application of best evidence, and dissemination of new knowledge.

## Observations during a Quality Improvement project

- Reviewed the literature and guidelines relevant to the QI project.
- Can discuss the QI project and explain the findings to others.
- Presents the work to a wider audience as a formal presentation.

## PROFESSIONAL MILESTONES

**1. Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards.**

**2. Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.**

1.1	Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality.
1.2	Demonstrate a commitment to excellence in all aspects of practice.
2.2	Demonstrate a commitment to patient safety and quality improvement.
3.3	Participate in peer assessment and standard setting.

- FD Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures.
- TTP Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality.
- TTP Demonstrate a commitment to excellence in all aspects of practice.
- TTP Demonstrate a commitment to patient safety and quality improvement initiatives within their own practice environment.
- TTP Participate in peer assessment and standard- setting.

## Relevance to Quality Improvement Project

The QI process integrates with this role as it provides a tangible experience for residents to be involved in profession-led improvement in quality of care with an aim to bring high standards of practice both on an individual and system level for the public good.

## Observations during a Quality Improvement project

- Demonstration of the milestones in all the CanMEDs roles during the execution of a QI project.