



Guide for Quality Improvement Projects in Medical Imaging

1. What is Quality Improvement

Resource: Video by Dr. Mike Evans on Quality Improvement

<http://www.ihl.org/resources/Pages/HowtoImprove/default.aspx>

2. Differentiating Research and Quality Improvement

The following table outlines key considerations when determining if your project requires approval as Quality Improvement or Research.

	Research	Quality Improvement
Purpose	to develop or contribute to generalizable knowledge	to implement knowledge, assess a process or program as judged by established or accepted standards
Rationale	knowledge-seeking independent routine care and intended to answer a question or test a hypothesis	knowledge-seeking integral to the ongoing process of health care delivery
Design	follows a rigid protocol that will remain unchanged throughout the study	adaptive, iterative design; flexible and responsive to change throughout project lifecycle
Benefits	might or might not benefit current subjects; intended to benefit future patients	directly benefits a process, system or program; might or might not benefit patients
Risks	may put subjects at risk	does not increase risk or cause excessive burden to patients or staff
Participant Obligation	no obligation of individuals to participate	participation typically occurs as component of care or work
Endpoint	answer a research question and contributes to generalizable knowledge	improve a program, process or system



Analysis	statistically prove or disprove hypothesis	compare program, process or system to an already established or accepted standard
Adoption of Results	little urgency to disseminate results	results rapidly adopted into local setting

Extracted from: https://www.uhn.ca/corporate/For_Staff/Krembil_Nursing_Awards/Documents/QI-Submission-Form.docx

3. Choose a Quality Improvement project

- a. Identify a Problem
- b. Gap Analysis
- c. Examine Root-Causes of Your Problem
 - a. Fishbone diagram
 - b. Five Why's

Video: [video: https://www.youtube.com/watch?v=JbRx5pw-efg](https://www.youtube.com/watch?v=JbRx5pw-efg)

- d. Assess Feasibility

4. Define your project

- a. Create an AIM Statement
- b. Select your process measures
- c. Consider balancing measures

Resource on setting aims:

<http://www.ihl.org/resources/Pages/HowtoImprove/ScienceofImprovementSettingAims.aspx>

Resource on establishing measures:

<http://www.ihl.org/resources/Pages/HowtoImprove/ScienceofImprovementEstablishingMeasures.aspx>

3. Complete the project planning form (at the end of the document)

4. Identify your supervisor

- a. Obtain approval Project Planning Form
- b. Consider stakeholders/leaders that require early involvement

5. Obtain Quality Improvement REB as per your hospital guidelines

- a. Sunnybrook: <https://sunnybrook.ca/research/content/?page=62363>



- b. SickKids: No public domain (only accessible through internal website)
- c. Other hospitals: No public domain (only accessible through internal website)

6. Create a QI Team

- a. Stakeholder mapping
- b. Create a process map
- c. Plan intervention (ie. change idea)

Resource:

<http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementFormingtheTeam.aspx>

7. Implement a change idea using the QI Framework

- a. Plan-Do-Study-Act

<http://www.ihi.org/resources/Pages/Tools/PlanDoStudyActWorksheet.aspx>

Video on PDSA cycles:

<http://www.ihi.org/education/IHIOpenSchool/resources/Pages/AudioandVideo/Whiteboard5.aspx>

- b. How to measure changes

8. Continue to modify the proposed intervention from the PDSA feedback

9. Measure your project progress

10. Analyze your project results

11. Assess fidelity

12. Write up a QI report

Additional Resources:

- IHI Quality Improvement Essentials Toolkit:
<http://www.ihi.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx>
- CPSO QI Partnership for Hospitals:
<https://www.cpso.on.ca/admin/CPSO/media/Documents/physician/your-practice/quality-in-practice/qi-partnership/qi-hospital-information-package.pdf>
- Centre for Quality Improvement and Patient Safety (CQuIPS)
<https://cquips.ca/>



Medical Imaging QI Project Planning Template		
Project Title:		
Start Date:	Estimated Completion Date:	
Problem Description:	Expected Benefits:	
Root Cause Analysis:	Potential Areas for Change:	
	<ol style="list-style-type: none"> 1. 2. 3. 4. 	
	AIM Statement:	
PDSA Cycles	Team Members	
	Name	Role
1.		
2.		
3.		
4.		
Outcome Measures:	Balancing Measures:	