Using Quality Improvement (QI) Methodology to Develop a Standardized QI Educational Curriculum for Internal Medicine Residents

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Presentation PDF

DEFINE OPPORTUNITY

Background: As our healthcare system continues to evolve, the need for residents and physicians to have the understanding and ability to take part in quality improvement (QI) initiatives has become increasingly important. Participation in a scholarly project, such as research or quality improvement, is an accreditation standard and is part of the Canadian Royal College Certification in Internal Medicine. Involvement in QI provides not only the opportunity to fulfill these objectives, but also a platform to stimulate ongoing change within our hospitals and healthcare system. Residents had previously been encouraged to take part in QI projects, however most did not have a framework or the basic QI knowledge needed to translate a QI project into reality.

Problem: Currently, core internal medicine residents at the University of Alberta do not have a standardized quality improvement (QI) educational curriculum. This limitation impacts the number of QI physician champions who can teach QI and actively support QI projects.
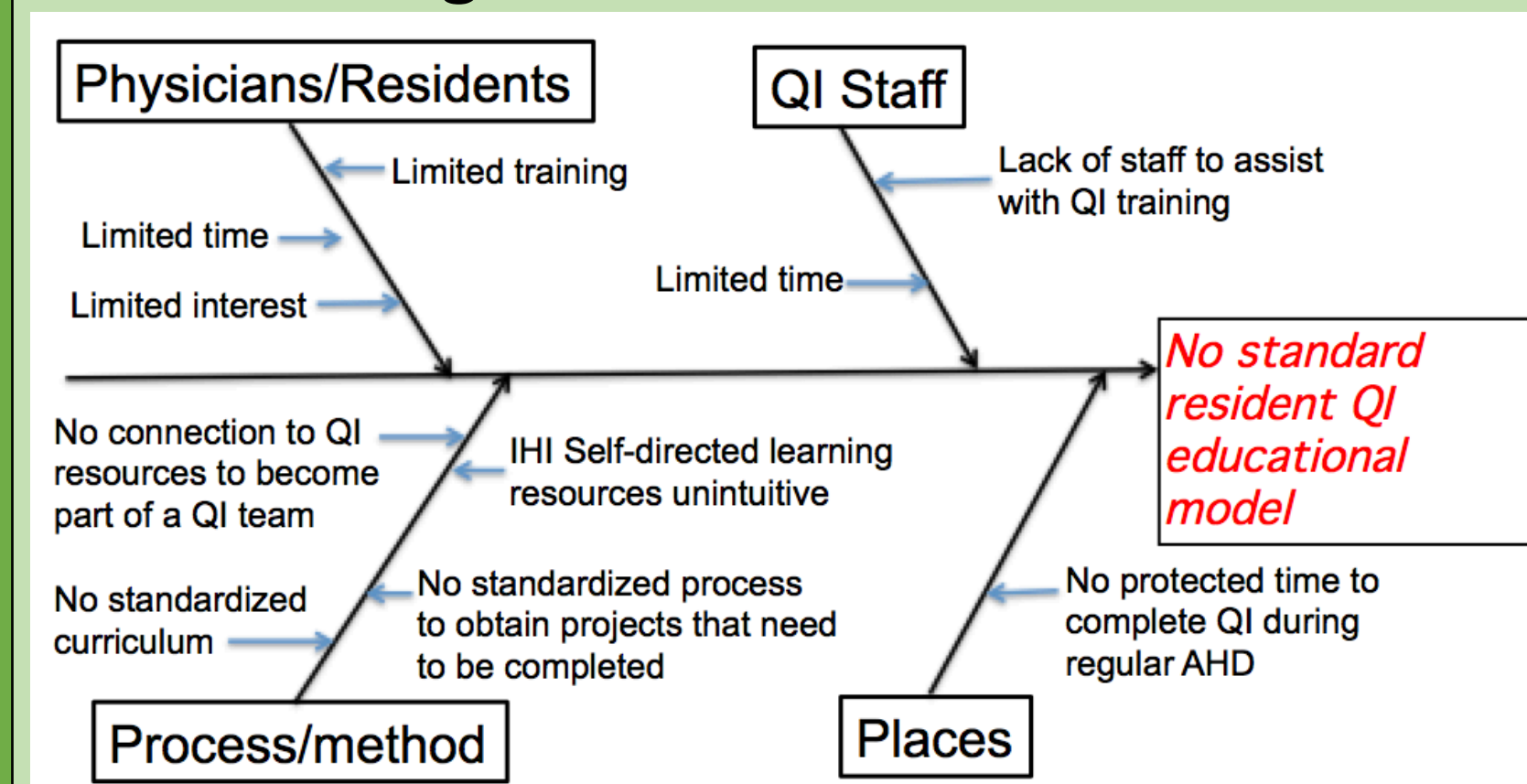
Aim: To develop and implement a standardized QI curriculum using QI principles by June 2018. Objectives were to:
1. Provide all core internal medicine residents the Evidence-based Practice for Improving Quality (EPIQ) training course,
2. Have resident teams develop potential QI projects during the course,
3. Identify resident QI champions to coach future EPIQ sessions the next calendar year,
4. Post EPIQ training, provide the Alberta Health Services (AHS) Alberta Improvement Way (AIW) modules to complete an AHS AIW yellow belt in QI, and
5. Where appropriate, align residents to active QI projects with staff physicians and multidisciplinary teams within the AHS quality management framework (QMF).
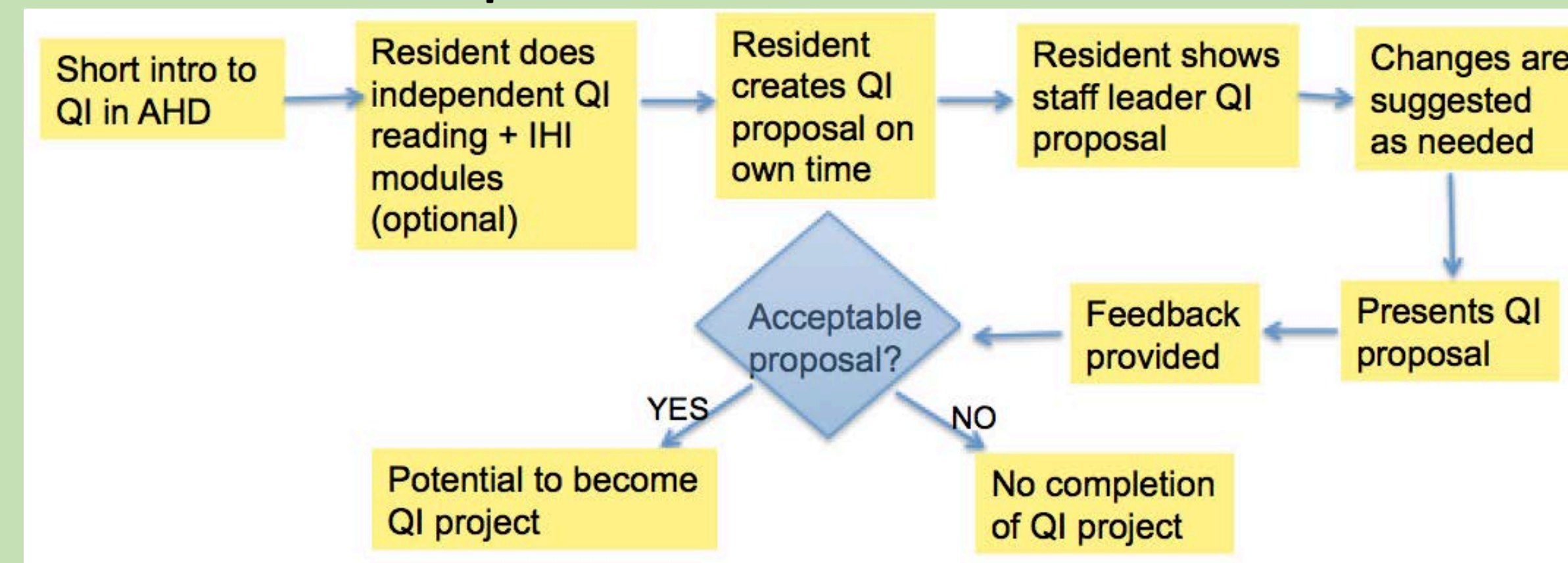
BUILD UNDERSTANDING

Process Assessment: A brief literature review, along with an Ishikawa diagram, and a current state process map were used to explore root causes and current gaps to identify areas for change opportunity.

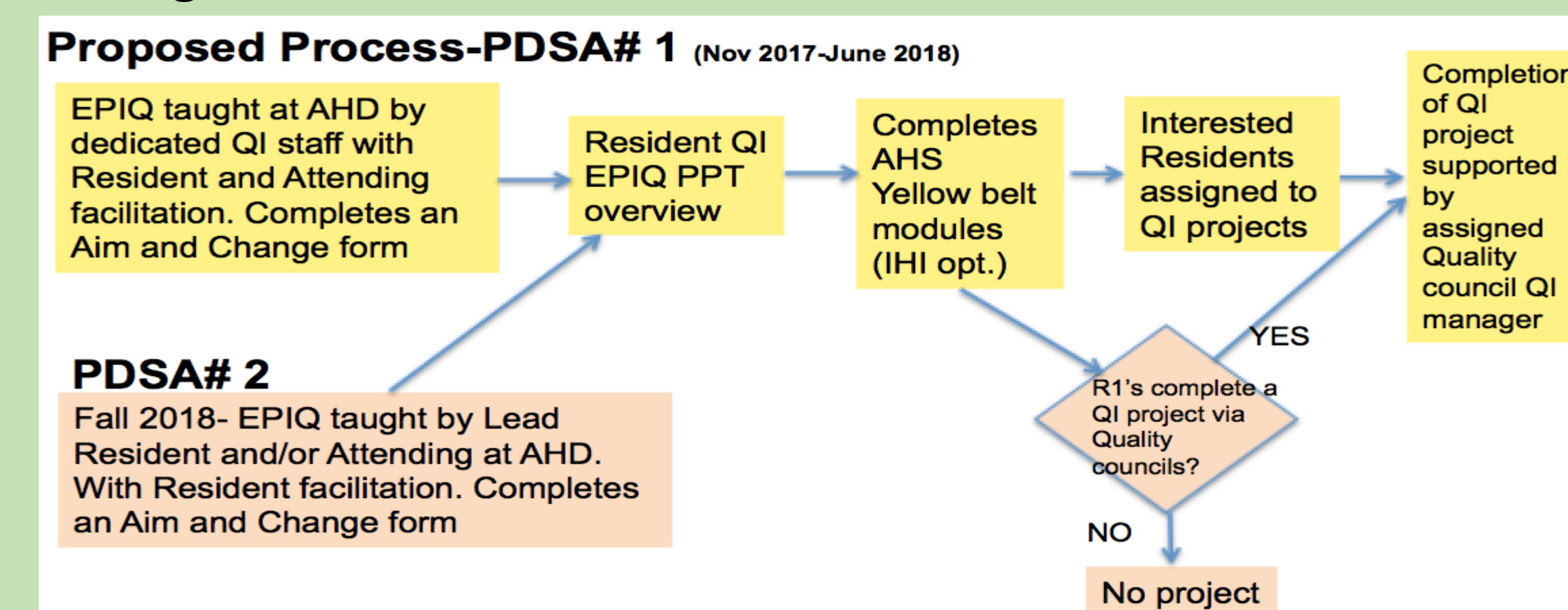**Ishikawa Diagram:**

Current Process Map:

Main Gaps: QI Education - independent reading materials, completed at home, no real-time application, very few residents completed QI projects, no dedicated QI staff supporting both physicians and residents QI literacy.

EPIQ 10 Steps Diagram:

Arising QI Curriculum Process:

MANAGE CHANGE

Collaboration & Communication Strategies:
- QI team included 3 residents, attending and a QI consultant. Meet regularly to discuss educational approach to ensure that the goal would be met.
- Prior to the EPIQ training session all attendees were sent the entire PowerPoint slide deck along with a facilitator guide.
- Held small focus groups and 1:1 meetings with residents gathering feedback which supported change acceptance.
- Shared project with the Edmonton Zone Medicine Quality Council and at Medical Grand Rounds to obtain further project insight supporting PDSA#2 and change acceptance.

ACT TO IMPROVE

PDSA #1: December 2017 to June 2018

Plan	Implement a quality improvement curriculum in the core internal medicine program.
Do	Deliver 3 cycles of the EPIQ course throughout December and February 2018. Complete a EPIQ PowerPoint overview -April 2018 Complete 3 AHS online modules-June 2018
Study	Complete post-course plan surveys to evaluate residents' knowledge acquisition and comfort in using QI principles. Focus groups to obtain feedback.
Act	Residents trained in EPIQ previously, facilitate future EPIQ courses to subspecialty residents.

Gaps	Intervention
No Standard QI platform that utilizes a collaborative learning approach	EPIQ Platform
No dedicated QI staff to support training of both Attending's and Residents	Assigned a dedicated QI staff to support Resident and Physician training for PDSA#1
No linkage to AHS QI platform, therefore Physician and Residents would need to take the AHS AIW course to obtain a AHS QI yellow belt	AHS AIW and EPIQ course equivalence obtained
No access to AHS AIW modules, due to no access to AHS my learning link	AHS AIW modules provided to PGME office, providing access to Residents and physicians
Very few QI projects completed	Aligned with the Quality management framework / Quality councils to complete QI projects
No built in Resident training sustainment plan	Resident and Attending trained to teach as lead EPIQ facilitator

Process measures:
- 100% of trained residents complete EPIQ AIM/CHANGE form
- 100% of trained residents complete an EPIQ PowerPoint overview
- 80% of residents post EPIQ session complete 3 on-line AHS AIW modules

Outcome measures:
- 100% of residents complete the EPIQ course
- 80% of residents receive AHS yellow belt in QI
- 10% of residents take part in active QI projects with Staff Physician aligned to AHS Quality management framework
- 10% of residents become table facilitators of the EPIQ course
- 5% of residents become lead facilitators of the EPIQ course

SUSTAIN RESULTS

Results: December 2017 to February 2018, three cycles of the EPIQ course were delivered to PGY-1, PGY-2 and PGY-3 cohorts; total of 110 residents. Residents were grouped into teams of 6-10 to work through potential QI projects completing an aim and change form during the EPIQ course. Following completion of the course, residents presented their QI projects at an assigned academic half-day in April 2018. A designated QI staff member evaluated and scored their presentations. Residents completed post-course surveys to evaluate knowledge acquisition of QI principles, likelihood of residents to take part in future QI projects, interest in learning more about QI, and interest in becoming an EPIQ facilitator.

Pre-EPIQ Survey:

Did you have a clear understanding of what QI is? (basic understanding of QI principles)	42% YES
Would you have felt comfortable taking on a QI project?(pursuing a QI project)	25% YES
Were you interested in QI?	50% YES
Were you previously involved in QI or a QI project?	29% YES

Post-EPIQ Survey:

Do you have basic understanding of QI principles?	98% YES
Do you feel comfortable working through the EPIQ 10 steps?	88% YES
Are in interested in pursuing a QI project?	65% YES
Are you interested in becoming a QI EPIQ facilitator?	17% YES

Overall:
- 94% of PGY-2 and PGY-3 residents preferred this method of learning QI to the previous years.
- There was a 56% absolute increase in understanding of QI principles and a 15% absolute increase in interest in pursuing a QI project. 17% of residents are interested in EPIQ course facilitation.
- 38 internal medicine residents have completed the AHS AIW yellow belt certification and 18 residents are involved in a active QI projects.
- PDSA cycle #2 will take place in December 2018 to deliver the EPIQ course to the incoming PGY-1 residents. For this next cycle we plan to have residents complete a pre-course and post-course test to better assess QI knowledge acquisition. An interested PGY-1 will be coordinating the QI day and liaising with QI staff to increased resident involvement.

SHARE LEARNING

Lessons Learned:
- Overall, the written and verbal feedback obtained from residents has been overwhelmingly positive.
- Having a structured process with dedicated academic time to teach QI was successful and enjoyable for residents.
- Developing a QI curriculum using validated QI tools highlighted the areas of change opportunity supporting change acceptance and sustainment. As more cycles of EPIQ are delivered and more residents become facilitators, it is our aim to have this curriculum sustained by future residents.

Why this QI matters

To Patients
Knowing their physicians are trained in QI and focused on improving care

To Albertans
Improving the quality of care within our local hospitals

To the healthcare system
Fostering a culture within our healthcare system to create ongoing positive change in the future

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Reference: *Put in the proper citation for EPIQ please*