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

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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, which teaches QI and actively support QI projects.
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.
5. Where appropriate, align residents to active QI projects with staff physicians and multidisciplinary teams within the AHS quality management framework (QMF).

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:

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:

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 PDSA2 and change acceptance.

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 projects at an 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:
- Do you have a clear understanding of what QI is? 42% YES
- Would you have felt comfortable taking on a QI project? 25% YES
- Were you interested in QI? 90% YES
- Were you previously involved in a QI project? 29% YES

Outcome Measures:
- 100% of residents completed EPIC AIMS/CHANGE form
- 100% of residents complete an EPIQ PowerPoint overview
- 100% of residents post EPIQ session complete 3 on-line AHS AIW modules
- 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
- 10% of residents become table facilitators of the EPIQ course
- 5% of residents become lead facilitators of the EPIQ course

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 sustainability. 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.

References: Put the proper citation for EPIQ please