Shaping a Culture of Quality: A Framework for Residents to Develop Effective Quality Improvement Projects

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GOAL
To engage and educate OB/GYN residents in quality improvement (QI) science.

OBJECTIVE
To establish a sustainable QI project curriculum.

BACKGROUND
• Familiarity with and involvement in quality improvement (QI) projects is low among residents in the Department of Obstetrics, Gynecology, & Reproductive Sciences at Yale.
• QI projects are an important tool in the continual advancement of healthcare. The role of the physician is critical.
• QI is an ACGME educational milestone.
• There is no existing standard within OB/GYN residencies.
• The process for QI projects should be streamlined and efficient; the residents have many conflicting clinical duties and educational objectives.
• Few faculty in OB/GYN have QI expertise.

METHOD
• Performed gap analysis. (Figure 1)
• Solicited endorsement from educational and departmental leadership.
• Identified QI Coaches (2) who will continue to guide QI Projects.
• Generated consistent and clear expectations regarding QI projects as graduation requirement. (Figure 4)
• Designed curriculum.
  • Interactive workshop on validated QI improvement tools.
  • “Teach the teachers” workshop to develop core of QI project mentors. (Figures 6 and 7)
  • Developed and promoted use of QI Project Roadmap (Figure 2)
• Provided standardized criteria for project development and success measures (Figures 3, 4 and 5)
• Generated available reference resource
• Ongoing resident QI Project case study workgroup
• Implemented curriculum to all 33 OB/GYN Residents.

RESULTS
• Gap analysis in Department performed, revealing: (Figure 1)
  • No formal QI lectures/didactics.
  • Current QI projects do not follow rigorous methodology and are rarely published
  • QI project curriculum implemented in April 2019; involves all 33 resident
  • QI projects are now a graduation requirement for residents graduating in June 2020
  • QI mentor training of faculty (2 sessions) involving 9 faculty
  • Number of ongoing departmental QI Projects: 11
  • Reference resource for QI activities uploaded to central access site
  • Continued evaluation and improvement of all components of the curriculum through formal assessments and surveys

THE ROADMAP: QI STEPS TO DESIGN A PROJECT

Objective: To design, implement, and evaluate a Quality improvement project.

Defining the problem:
• What is the problem you are trying to solve?
• Why is it important? How do you know?

Process mapping (understanding causal relationships):
• What is the current process?
• What drives the process, and are there apparent gaps in the process that may have led to the problem?
• What is the process you are proposing?
• What variables will you introduce or change?

AIM STATEMENT:
• Write a clear and concise statement about what you are trying to accomplish. Think unambiguous and achievable targets.
  • By when? What For? Whom? How much?

Time Management Guideline for QI Project

Written Assignment due at the end of the project:
1. Documentation of thought process
   • Key Driver diagram and AIM statement
   • PDSA cycle table and run chart
   • Project summary (i.e. the roadmap)
2. Reflections on Success of project
   • Did you solve the problem and accomplish AIM?
   • If not, why didn’t it solve the problem?

How a Project is scored:
0.5 - Intent to Participate
1.0 - Charter and Team Established
1.5 - Planning for the Project has begun
2.0 - Activity, but no changes
2.5 - Changes tested, but no improvement
3.0 - Modest Improvement
3.5 – Improvement
4.0 – Significant Improvement
4.5 – Sustainable Improvement
5.0 – Outstanding Sustainable Results

CURRICULUM STRATEGIES

REFERENCES
3. Wang, Brian M. MD; Gadomski, Joanna PhD; Grogan, Jeanette M. MD; MGIS, David; Bliznakov, Levkia MD; Van Hedel, Elaine PhD; Kuper, Ayed MD; Dultynski, Kevin; Sandford, GM; Assaf, Abir; Goyal, Gopinath; Jain, Gaurav. A Curriculum for Faculty Development in Quality Improvement. Acad Med. 2016 Jan;91(1):115-119.
7. IHI progress project scale: app.ihi.org/extranetng/.../IA%20Project%20Progress%20Assessment%20Scale.xls

CONCLUSIONS
Residencies at academic institutions typically have infrastructure, as well as, more extensive support for “traditional” research; however, the support for QI projects is more elusive. Departmental leadership buy-in, and a clear delineated path with a plan for sustainability facilitates and encourages broader recruitment of project mentors. By focusing on resident identification of the problem, experiential learning, completion of successful QI projects, and creating sustainable solutions to healthcare problems, this encourages quality culture. This QI project curriculum is being offered as a core component of residency. It is difficult to assess intrinsic learning and sustainability of using QI tools beyond training [3-7], however, this model, because of it’s basis in problem-based learning may encourage trainees to engage in QI projects in an enduring fashion.

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CASE STUDY:
How do you get from an observation to a QI project?
4.0  Significant Improvement
3.5 – Improvement
3.0 – Modest Improvement
2.5 – Changes tested, but no improvement
2.0 – Activity, but no changes
1.5 – Planning for the Project has begun
1.0 – Charter and Team Established
0.5 - Intent to Participate

Christian Pettker, MD making process maps at a “Teach the teachers” case study exercise.

Example of “teach the teachers” case study exercise.