

# Quality Improvement/Patient Safety: Moving from Chance Encounters to Intentional Design

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## Disclosure

- Drs. Thoma and Wilbur do NOT have any financial interest or affiliation with any entity that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.
- We will not discuss off-label use of medications or products.

# Objectives

- **Implement a longitudinal quality improvement/patient safety curriculum** that builds resident knowledge and skills and results in **meaningful resident-led QI projects** and system changes.
- **Facilitate a case-based adverse outcome conference** that uses root cause analysis methods to determine underlying sources of error and identifies system improvement opportunities.
- **Describe the ABFM Residency Performance Improvement Program ("ResPIP")** and understand how residency programs may use it to fulfill quality improvement requirements for the ABFM.

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## Poll Question

Have you completed any formal training program in QI/PS (e.g., IHI Open School courses)?

- A. Yes
- B. No

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## Poll Question

Rate your quality improvement and patient safety knowledge level:

- A. Novice
- B. Beginner
- C. Intermediate
- D. Advanced
- E. Legendary

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## Poll Question

Does your program have a QI/PS curriculum with protected time for residents to work on QI/PS?

- A. Yes
- B. No
- C. We have a curriculum but not protected time
- D. We give time but have no formal curriculum

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# Quality/Safety Curriculum at a Glance

- Didactics
- IHI Modules
- QI Project
- Presentation of a QI Project
- M&M Quality Improvement/Patient Safety session
- UIHC Quality/Safety team meeting
- QI-KAT pre- and post-tests

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## First, A Bit on Tools



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# Institute for Healthcare Improvement Modules

- QI modules 101-104
- PS modules 101-103
- Let's take a look



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## QIKAT-R

[SQUIRE](#) [SQUIRE 2.0 Guidelines](#) [About SQUIRE](#) [Conference](#) [QIKAT](#) [News and Events](#) [Login](#) [Search](#)

**Quality Improvement Knowledge Application Tool - Revised**

This is the current Quality Improvement Knowledge Application Tool - Revised (QIKAT-R) materials. There are 10 cases that have been used with students. Each case is scored on a 0-6 scale using the QIKAT-P scoring rubric. This rubric has been tested with students from around the world. *Journal of Clinical Medicine* (October 2014) 3(10): 1386-1397; Vannicelli, K., et al. "The Quality Improvement Knowledge Application Tool- Revised (QIKAT-R)." *Journal of Clinical Medicine* 3 (2014): 1386-1397.

For each case, a student is asked to write an aim, identify a measure, and recommend a change. The scoring system is a series of yes/no questions for each of the competencies for the cases: aim, measure, change (see "Case prompt" for "scoring rubric" for more detail). We have found that 5 cases work best at a time (briefest and most efficient).

The cases are complex, so there are many replies that would receive full credit. There is no official "passing" score and it has only been used as a one-part assessment.

This is open access, public domain materials, but please cite us as you use it. If you write new cases or modify the current ones, please send them to us at [qikat@squire-statement.org](mailto:qikat@squire-statement.org) so that we can share them with others on the website.

Thanks so much for your interest and use of the QIKAT-R!

Mark Bright, MD  
Greg Ogle, MD, MS  
Karen Cox, RN, PhD  
Mary Dzwonko, RN, PhD  
Julie Brind, PhD  
Laura J. Morrison, MD  
Beth Harwood, MD  
Greg Vannicelli, PhD  
Al Kiski, PhD  
Linda A. Hechtler, MD, MS

**QIKAT-R Citations**

Jones, Anne C., Scott A. Bishoen, and Greg Ogle. "Key characteristics of successful quality improvement curricula in physician education: a realist review." *BMJ quality & safety* 24.1 (2016): 77-85.

**QIKAT-R Materials**  
[QIKAT-R Case Prompts](#)  
[QIKAT-R Scoring Rubric](#)  
[Scenarios 1 - Internal Medicine](#)  
[Scenarios 2 - Emergency Department](#)  
[Scenarios 3 - Primary Care](#)  
[Scenarios 4 - Diabetes](#)  
[Scenarios 5 - Administration](#)  
[Scenarios 6 - Orthopedic Surgery](#)  
[Scenarios 7 - Neurology](#)  
[Scenarios 8 - Anesthesia](#)  
[Scenarios 9 - Radiology](#)

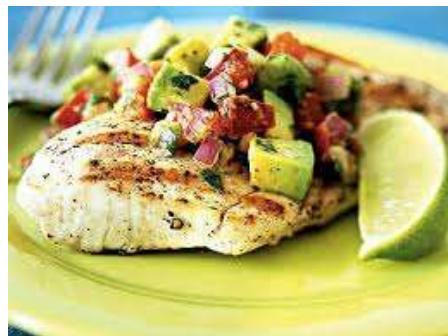
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# Now, The Main Course!



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## Didactics

- Based on IHI and The Model for Improvement
- Small R1 group
  - Lecture
  - Videos
  - Exercises
  - Brainstorming
  - Discussion

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## QI/PS Didactics: Part of Our Chronic Disease Management Block

- Block rotation for the whole R1 cohort
- Didactics, team building and clinical experiences that focus on:
  - Care of patients with chronic disease
  - Community medicine
  - Systems of care



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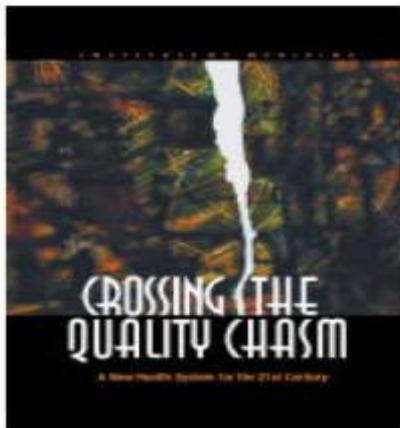
## What We Teach

- How to:
  - Find improvement opportunities
  - Define a problem
  - Write a “SMART” aim statement
  - Involve stakeholders and achieve buy-in
  - Select appropriate measures
  - Select an intervention
  - Collect and analyze data
  - Assess the project’s effect

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# We Define Quality Health Care

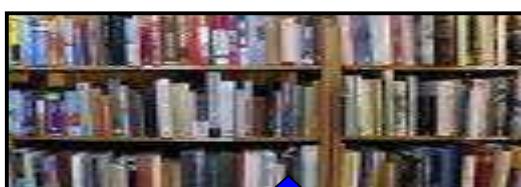


## Outcomes:

- Safe
- Timely
- Effective
- Efficient
- Equitable
- Personalized
- Value
- Access
- Prevention

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## The clinical care gap....



Ideal,  
evidence-based practice



Current practice

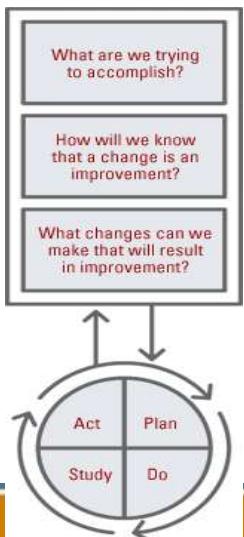
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# Plan-Do-Study-Act Cycle

AIM

MEASURE

CHANGE



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## Exercise #1

Projects come from everyday work!



Work with a partner:

- Think about your last couple rotations/weeks
- What care could have been better? Why?
- Write down your ideas.
- 3 minutes

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## Taking Aim



- Aim statements are very specific declarations of what a team will be focusing on as they strive to improve a process or a system.
- Aim statements should include:
  - **Who**: The system to be improved and the population
  - **What**: A numerical goal (preferably an ambitious “stretch” goal)
  - **When**: A timeframe

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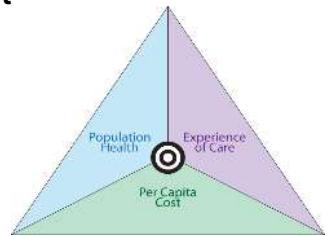
## Features of Good Aim Statements

- **Specific**
- **Measurable**
- **Aggressive yet Achievable**
- **Relevant**
- **Time-bound**

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# Types of measures

- Structure
  - How was care delivered to the patient
- Process
  - What was done to the patient
- Outcome
  - What happened to the patient
- Balancing
  - Unintended, undesirable consequences



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## How do you choose interventions?

- Brainstorming
  - Stakeholders, team members
- Literature Search
- Pragmatic Selections
  - Low-hanging fruit



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# Longitudinal QI Work

- Over a year, residents are provided 8 four-hour sessions of protected time to do research, work with stakeholders, meet with faculty mentor, plan interventions, collect data and prepare a presentation
- Past projects include:
  - Increasing AAA screening in appropriate patients
  - Increasing consistency of daily weights obtained on inpatients for whom daily weights were ordered
  - Standardizing diabetes patient education tools to improve self-management skills

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## Clinical Scholars Day

- Annual department-wide event where residents and fellows present QI projects and research
- QI projects are judged by a faculty panel and a winner is selected to present their project at a statewide research symposium



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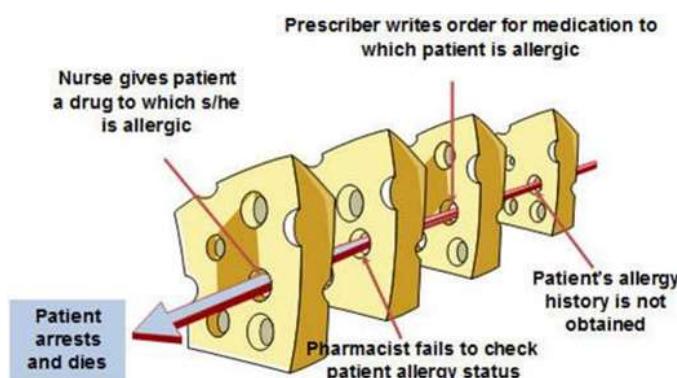
# QI or PS?

- Quality improvement
  - Better reliability
  - Better performance
  - Better outcomes for patients
- Patient safety
  - Less harm to patients from the healthcare system



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## How do errors result in adverse events?



James Reason's "Swiss Cheese" model of error causation. *Can J Surg* 2005;48(1):39-44.

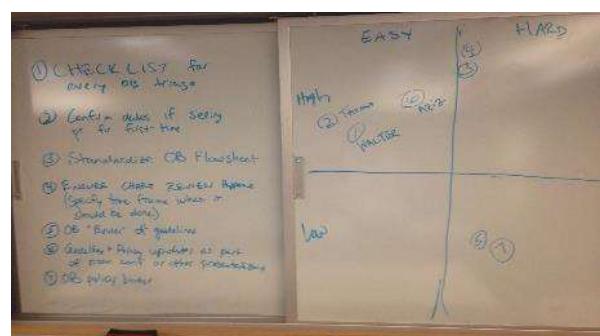
And now, here is a bucket of puppies...



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What Do Our MMQI/PS Presentations Look Like? Here's a Sample!



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# Review from past MMQI

## Opportunities

## Plans

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# Ground rules for MMQI

## Do:

- Participate with ideas for improvement, observations of what errors may have or could have occurred
- Brainstorm – no bad ideas
- Get involved – help determine what we can and should try to change; offer to lead change

## Avoid:

- Attacking – verbally, physically, mentally – the presenter or the persons/team involved in the care
- Dwelling on details of the case

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# Today's Case

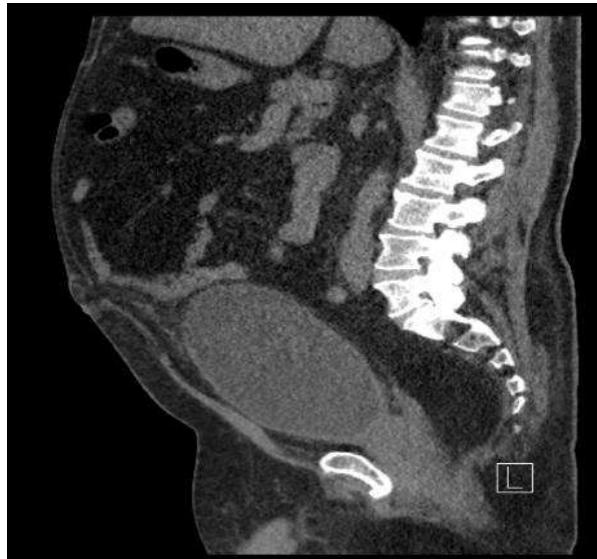
- 11/29/14 – 60 year old male with CAD, CABG presented to UIHC Fam Med clinic to establish care (new MD) “needing med refills” – history had “BPH” and pt’s tamsulosin dose was doubled
- 1/2/15 – returned with urinary symptoms, saw 1<sup>st</sup> MD’s partner, dx’ed with diabetes
- 1/16/15 – better BG control on metformin but persistent dysuria, urgency self-treated with cranberry juice; terazosin added to tamsulosin
- 1/20/15 – urgent care – another doctor – treated for UTI; noted inability to void more than “dribbling”

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# Today's case

- 1/23/15 - Admitted to Fam Med with AKI (Cr ~ 6, up from 0.8 on 1/2/15) and urethral obstruction.
- After cath, about 7.1 L of urine put out.
- Signs of pyelo on CT
- PSA 12; prostate large with hard nodule noted on exam

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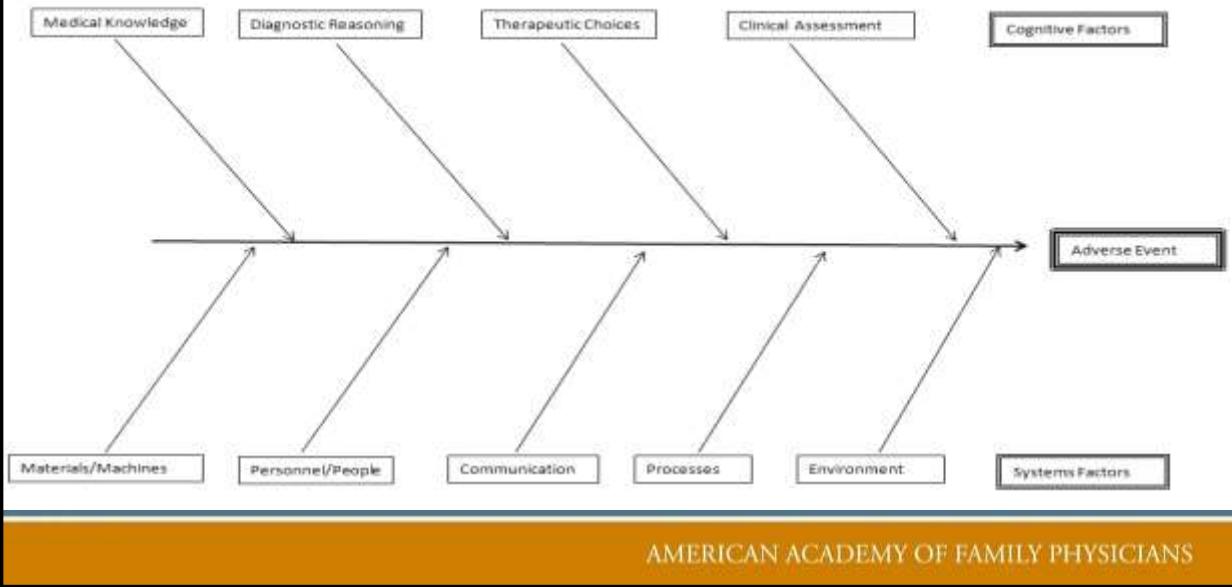
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## Clinical pearl(s)

- PSA and rectal exam are terrible screening tests for prostate cancer.
  - HOWEVER: in this case, they were used as diagnostic tests – a very different scenario.
- Don't avoid doing the uncomfortable, annoying, time-consuming, embarrassing, etc, exam when it's indicated.
- Terazosin + tamsulosin not likely to benefit BPH symptoms but could cause hypotension.

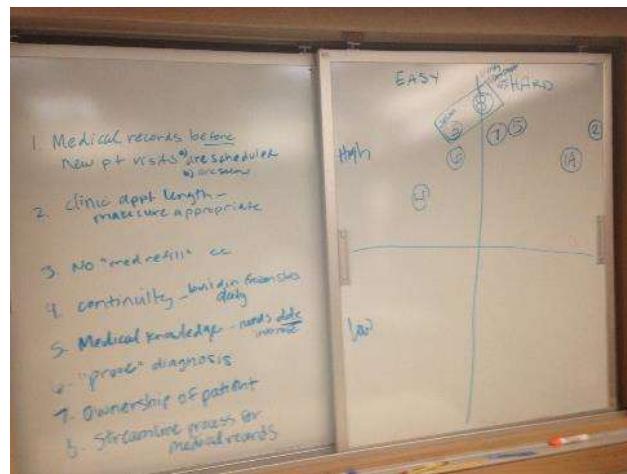
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B. **Modified Fishbone Analysis**  
(Please consider what factors may have contributed to the adverse event.)



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## List of interventions and “PICK” Chart



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# Challenges

- Case-finding
- Steering group away from natural tendency toward curiosity regarding case details
- Creating a safe environment to disclose errors
- Facilitating brainstorming
- Branching out to other members of the healthcare team
- Accomplishing tasks decided upon at the end of the session and closing communication loop on tasks

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...and we can satisfy some requirements for the....



American Board  
of Family Medicine

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In order to become certified by the ABFM, the following requirements must be met:

- Completion of 50 Family Medicine Certification points which includes:
  - Minimum of one (1) Knowledge Self-Assessment (KSA) activity (10 points each)
  - **Minimum of one (1) Performance Improvement (PI) activity with data from a patient population (20 points each)**
  - Additional approved KSA Knowledge Self-Assessment, Clinical Self-Assessment (CSA 5 points each), or Performance Improvement activities to reach a minimum of 50 points.
- In addition to licensure, residency completion, etc.....

### Poll Question

How does your program assure that residents receive MOC Part IV (performance improvement) credit from the ABFM?

- A. Performance in Practice Modules provided by the ABFM
- B. AAFP METRIC
- C. Self-directed resident projects submitted through MOCAM
- D. ResPIP
- E. Other

# ResPIP



The screenshot shows the ABFM ResPIP application page. At the top, there is the ABFM logo and navigation links for 'REGISTER', 'LOGIN', and 'SUPPORT'. Below the header, there are tabs for 'AMERICAN BOARD OF FAMILY MEDICINE', 'INDIVIDUAL PATHWAYS', and 'ORGANIZATIONAL PATHWAYS'. The main content area is titled 'RESIDENCY PERFORMANCE IMPROVEMENT PROGRAM (RESPIP)'. It contains a text box explaining the ResPIP pathway as a means for residency programs to demonstrate their ability to develop and oversee the successful execution of performance improvement (PI) projects for residents and faculty that meet the ABFM Family Medicine Certification requirements. Approved sponsors will be able to develop and oversee PI projects without having to submit an application for each activity for ABFM review. Below this text is a photograph of two healthcare professionals in a clinical setting. To the left of the text box, there is a list of components that the ABFM will assess, including institutional characteristics, organizational history of conducting PI projects, organizational readiness for developing, conducting, and supervising PI projects, infrastructure for supporting PI projects that meet standards and maintain participation, commitment to providing PI educational activities, and examples of recent completed PI projects that meet ABFM Performance Improvement Activity standards.

<https://theabfm.mymocam.com/resip/>

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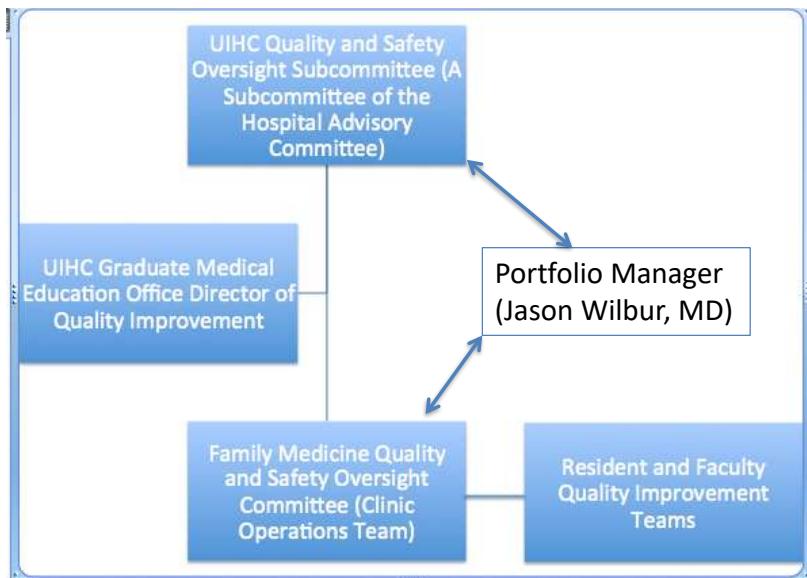
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## ResPIP Program Requirements

- Application process
- Local review committee
- Portfolio manager
- Notify ABFM of project approval and completion (2 steps)
- System to track resident/faculty participation and attestation
- Progress report every 3 years

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## Our Requirements for Residents

- The project must have potential to improve patient care or clinical processes.
- The goal of the project must be described in a “SMART” aim statement
- Residents must use The Model for Improvement, which we teach (or similar standardized QI approaches)

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# Our Requirements for Residents

- Residents must:
  - Select and design the project, including writing the aim statement and determining the measurements.
  - Involve stakeholders and act as the project leader.
  - Participate in the implementation of interventions, collection of data, and analysis of data.
  - Complete at least one PDSA cycle.
  - Present their project in a departmental or institutional QI forum where they receive feedback from faculty physicians and peers.

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# Our Early ResPIP Experience

- Application for pilot program accepted
- ResPIP application approved in 2017
- First cohort of 6 residents (4 projects) received credit Sept – Dec 2017

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# ResPIP QI Projects

- Aligning clinic opioid prescribing with best practices
- Improving inpatient handoff tool
- Increasing tobacco product counseling among adolescents during annual exams
- Increasing appropriate use of medications for alcohol use disorders

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## Poll Question

What will you do with this information  
when you leave here?

- A. Adapt this Quality/Safety curriculum to your institution
- B. Investigate IHI modules as tools to teach QI principles
- C. Develop an MMQIPS conference
- D. Consider applying for ResPIP
- E. Nothing

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## Poll Question:

Enter your email address to be included in any follow-up communication from the presenter(s).

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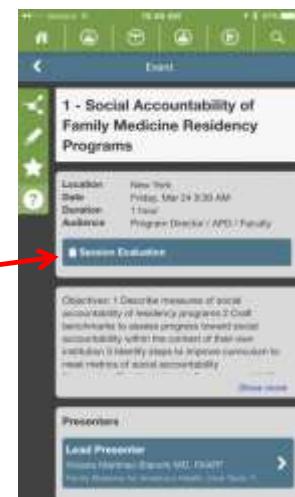


## Social Q & A

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Please...  
Complete the  
session evaluation.



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