Background
ACGME Competencies and Milestones

<table>
<thead>
<tr>
<th>Competency</th>
<th>Milestones</th>
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<tbody>
<tr>
<td>Practice-Based Learning Improvement</td>
<td>Appreciate responsibility to assess and improve care collectively for a panel of patients</td>
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<td>Perform audit of a panel of patients using standardized, disease-specific, and evidence based criteria</td>
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<td>Reflect on audit compared with local or national benchmarks and explore possible explanations for deficiencies</td>
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<td>Identify areas in resident’s own practice and local system that can be changed to improve affect of the processes and outcomes of care</td>
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<td>Engage in a quality improvement intervention</td>
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<td>Systems-Based Practice</td>
<td>Recognizes system error and advocates for system improvement</td>
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<td>Recognize health system forces that increase the risk for error including barriers to optimal patient care</td>
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<td>Identify, reflect on, and learn from critical incidents such as near misses, and preventable medical errors</td>
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<td>Dialogue with care team members to identify risk for and prevention of medical error</td>
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<td>Demonstrate ability to understand and engage in a system-level quality improvement intervention</td>
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<td>Partner with other healthcare professionals to identify, propose improvement opportunities within the system</td>
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Needs Assessment
- Residents and fellows have haphazard or infrequent opportunities to participate in QI or patient safety efforts
  - Generally not included in root cause analyses of sentinel events
  - Often not reporting in local PSNs
  - Typically not on hospital committees or on clinical teams focused on quality improvement initiatives
- Lack of structured educational opportunities to participate in QI
  - Currently only a handful of programs: elective at PSL, Hospitalist track at University
  - Few faculty available as mentors for QI projects
  - No formal warehouse of ongoing QI initiatives in which residents may be interested in participating
- Opportunities
  - QI efforts are ongoing at institutions that our residents visit, both in the ambulatory and inpatient setting
  - Multiple methods (RIEs @ DH, Committee work and task forces at UCH, clinical QI at VA
  - Subspecialties (and fellowship programs) are already engaging in some QI activity
Ideal Approach

- Competencies and milestones would be met
- Residents and medical students would be able to participate in personal and system-level identification of errors and quality improvement
- Residents interested in an immersion experience would be able to find mentorship and opportunities to participate in or lead QI projects
- Experiences whether introductory or immersive would be authentic and relevant
- Resident efforts would support or enhance faculty and departmental initiatives
- Scholarly products would be generated by QI efforts with residents and students
- Residents could experience improvement in patient care based on their experiences

Major Stakeholders

- Program Directors of IMRP
- CMRs
- Clinical partners: DH, PSL, VA, UCH
  - Inpatient: inpatient ward attendings, committee members
  - Outpatient: clinic directors, clinic coordinators
- Residents
- Administrative staff
Learning Objectives and Possible Strategies

By the end of their residency training, residents will be able to:

<table>
<thead>
<tr>
<th>Milestones</th>
<th>Learning Objectives for Learners (K=knowledge, A=attitudes, S=skills, P=process)</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Practice Based Learning Improvement</strong></td>
<td>▪ Define quality improvement (QI) (K)</td>
<td>CURRENTLY</td>
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<tr>
<td>▪ Appreciate responsibility to assess and improve care collectively for a panel of patients</td>
<td>▪ Rate QI in their clinical practice as important (A)</td>
<td>▪ Residents will participate in performance assessment and improvement in their outpatient clinic</td>
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<td>▪ Perform audit of a panel of patients using standardized, disease-specific, and evidence based criteria</td>
<td>▪ Define common QI tools (K)</td>
<td>▪ Residents will complete an audit of their outpatient clinical panel</td>
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<td>▪ Reflect on audit compared with local or national benchmarks and explore possible explanations for deficiencies</td>
<td>▪ Define metrics and national benchmarks for primary care medicine (K)</td>
<td>▪ Interns participate in an QI project in their ambulatory clinic settings</td>
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<td>▪ Identify areas in resident’s own practice and local system that can be changed to improve affect of the processes and outcomes of care</td>
<td>▪ Identify within their own practice areas for improvement (S)</td>
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<tr>
<td>▪ Engage in a quality improvement intervention</td>
<td>▪ Demonstrate improvement in their own practice for a single benchmark (S)</td>
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<td><strong>Systems-Based Practice</strong></td>
<td>▪ Define root cause analysis (K)</td>
<td>CURRENTLY</td>
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<tr>
<td>▪ Recognizes system error and advocates for system improvement</td>
<td>▪ Participate in a root cause analysis (P)</td>
<td>▪ M&amp;M Conference</td>
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<td>▪ Recognize health system forces that increase the risk for error including barriers to optimal patient care</td>
<td>▪ Differentiate between adverse event, near miss event, patient harm, and medical error (K)</td>
<td>▪ Interns participate in an QI project in their ambulatory clinic settings</td>
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<td><strong>Identify, reflect on, and learn from critical incidents such as near misses, and preventable medical errors</strong></td>
<td>▪ Utilize a fishbone or process map to deepen understanding of a problem (S)</td>
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<td>▪ Dialogue with care team members to identify risk for and prevention of medical error</td>
<td>▪ Explain how QI efforts can affect organizational culture (K)</td>
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<tr>
<td>▪ Demonstrate ability to understand and engage in a system-level quality improvement intervention**</td>
<td>▪ Describe the importance of effective communication in teamwork (K)</td>
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<td>▪ Partner with other healthcare professionals to identify, propose improvement opportunities within the system</td>
<td>▪ Describe the role of teams in the improvement of patient care (K)</td>
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<td></td>
<td>▪ Participate in an institutional level QI initiative (P)</td>
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<td></td>
<td>▪ Reflect on their role and learning in an institutional QI initiative (S)</td>
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**additional requirements from ACGME that are newer**

DOM M and M Steering Committee. Revised on 7-1-2013
Educational Strategies

1. Residents’ Ambulatory Care Audit:
   - Use of clinical outcomes to assess resident’s performance as a reflection of educational success\(^1\)
   - Milestones that can be met with this activity: all fall under the **PBLI competency**
     - Appreciate responsibility to assess and improve care collectively for a panel of patients
     - Perform audit of a panel of patients using standardized, disease-specific, and evidence based criteria
     - Reflect on audit compared with local or national benchmarks and explore possible explanations for deficiencies
     - Identify areas in resident’s own practice and local system that can be changed to improve affect of the processes and outcomes of care
   - Implementation
     i. Residents’ continuity panel is assessed for 1 chronic disease metric and 1 preventive medicine measure
     ii. Each clinic is required to track these metrics for each resident and report them biannually to clinic director
     iii. Results of audit are shared with each resident and in cases where the resident is not meeting national guidelines for the measure, the resident creates a plan to improve their performance (Performance Improvement Plan, PIP)
     iv. Karen Chacko is tracking this for each resident and it already included in the QI/PBLI section of each resident’s file
   - Considerations for this model:
     i. Each clinic identifies a different metric based on their need
     ii. Unclear if there is dedicated teaching for this with specific learning objectives which may be addressed next year

2. M&M Conference
   - Milestones that can be met with this activity: all fall under **SBP Competency**
     - Recognize health system forces that increase the risk for error including barriers to optimal patient care
     - Identify, reflect on, and learn from critical incidents such as near misses, and preventable medical errors
     - Dialogue with care team members to identify risk for and prevention of medical error
   - Cognitive/Systems based
   - Implementation:
     i. Each month at UCH, M&M Task Force Sub-Committee identifies a case of patient harm or an adverse event or near miss
     ii. The patient case will be presented at monthly Department of Medicine M&M
     iii. Faculty member will facilitate conference and will conduct a modified root cause analysis (using cognitive/systems based fishbone). Relevant subspecialty teams and non-physicians will be invited to attend.
     iv. Systems issues will be identified and group will propose systems-based solutions.
     v. Each individual will complete the M&M PSQI Log (see attached example). This would also be included in each resident’s file as a way to demonstrate achievement of objectives. (Pierluissi, Fischer, Campbell, & Landefeld, 2003)
vi. Proposed interventions and solutions gleaned from the conference will be directed towards appropriate clinical committee for execution or implementation.

− Considerations:
  i. Partnership with subspecialists and interprofessional colleagues was wholly successful
  ii. Facilitated discussion of PS and QI concepts was excellent, and led by “faculty” experts
  iii. Submission of Reflection form for each residents will need to be emphasized; submission this past year did not accurately reflect attendance.

3. Participation in institutional level QI
− Milestones that can be met with this activity: all fall under both PBLI and SBP Competencies.
  ▪ Engage in a quality improvement intervention
  ▪ Demonstrate ability to understand and engage in a system-level quality improvement intervention
  ▪ Partner with other healthcare professionals to identify, propose improvement opportunities within the system
− Current formats:
  ▪ Inpatient setting
    − Residents would be front line in the implementation of hospital wide QI initiatives
      − UCH: PCP communication at the time of discharge
        ▪ Residents would be measured in the timeliness of discharge summaries and in routing feature
      − VA: currently faculty driven, will plan to explore with VA Quality Chief for AY14
      − DH: Rapid Improvement events occurring intermittently; residents are typically not involved but this could be a potential option in the future (may be incorporated into longitudinal student clerkships, which may include a QI component.
  ▪ Outpatient setting
    − Each ambulatory setting undertook a different approach for providing interns with a meaningful quality improvement experience
      − DH(ES, WS, Webb) ➔ site-specific; including review of submitted PSNs, participation in QI committee work
      − UCH (UMA, UML) ➔ site-specific; interns chose a project that interested them
      − VA ➔ PACT; currently interns are participating in a single project
      − PSL ➔ interns are participating in ongoing QI projects
− Implementation
  i. Provided didactic QI teaching to interns at the beginning of the AY (same curriculum, repeated 5 times).
  ii. Project and mentor assignment at each site differed based on clinic availability. This presented a very complex system, which ultimately was deemed suboptimal.
  iii. 1 half day every other block was dedicated to the clinic’s QI initiative and moving the project forward. Each team at every clinic will meet with the QI faculty mentor (to be designated at the start of the project)
− Considerations
i. Residents should feel engaged in the projects that they are participating in
ii. Outpatient setting still likely presents the best opportunity for longitudinal QI experience, but is fraught with challenges.
iii. Allocation of time and resources varied across sites, making a consistent experience regardless of site challenging
iv. Lack of faculty time and support at each site turned out to be a huge hurdle.
v. Need for faculty development with regards to QI was huge.

**Evaluation**

**Learner Assessment**

- **Knowledge**
  - The QI Knowledge Assessment Test (QIKAT, a validated tool) and Patient Safety Culture Survey administered to residents prior to QI curriculum deliver as part of the WES

- **Attitude**
  - Can be measured as part of the WES
  - Can be incorporated into reflective/thought portions of the M&M conferences (#2 above)

- **Skills**
  - Can be measured as part of #1 and #2

- **Processes**

**Program Evaluation**

The program will be considered successful if:

- All residents in the IMRP will achieve milestones as described above thereby meeting ACGME required competencies
- All residents will engage in meaningful QI in an authentic experience as reflected by their feedback in surveys (as part of the learner assessment)
- QI initiatives in which residents participated in result in measurable improvement in patient care metrics that are relevant to the clinical setting
References


