Supervising Medical Student QI Activities at Vanderbilt:

**A New Option for MOC Credit**

ABMS Conference 2017
Tuesday, September 26
Chicago, Illinois
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After participating in this session, you should be able to describe and discuss the plan for providing MOC credit for faculty sponsors who supervise medical student QI projects at Vanderbilt University SOM including, but not limited to:

✓ Description of student QI course
✓ Expectations for students
✓ Expectations for faculty sponsors
✓ Using data in students’ projects to meet documentation requirements for faculty sponsors’ MOC credit
# Student QI Course – Curriculum 2.0

![Curriculum 2.0 Diagram](image)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
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<th>January</th>
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<tbody>
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<td>Human Blueprint &amp; Architecture</td>
<td>Microbiome &amp; Immunity</td>
<td>Homeostasis</td>
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<td>Endocrine, Digestion &amp; Reproduction</td>
<td>Brain, Behavior &amp; Movement</td>
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<td>Physical Diagnosis (PD)</td>
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<td>Behavioral Health</td>
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<tr>
<td>Year 2</td>
<td>June</td>
<td>July</td>
<td>August</td>
<td>September</td>
<td>October</td>
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<td>December</td>
<td>January</td>
<td>February</td>
<td>March</td>
</tr>
<tr>
<td>Year 3</td>
<td>Fixed Step 1 Period</td>
<td>Research Immersion</td>
<td>Break</td>
<td>Break</td>
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<tr>
<td>Year 4</td>
<td>Concurrency</td>
<td>Active Rotation</td>
<td>Active Rotation</td>
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<tr>
<td>Advanced Clinical Experience 1</td>
<td>Advanced Clinical Experience 2</td>
<td>Advanced Clinical Experience 3</td>
<td>Advanced Clinical Experience 4</td>
<td>Advanced Clinical Experience 5</td>
<td>Advanced Clinical Experience 6</td>
<td>Advanced Clinical Experience 7</td>
<td>Advanced Clinical Experience 8</td>
<td>Advanced Clinical Experience 9</td>
<td>Advanced Clinical Experience 10</td>
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</table>

* Immersion Phase (Years 3 and 4): 15 blocks required over 33 months, including research immersion of at least 3 months.
Student QI course: Foundations of Health Care Delivery
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Foundations of Health Care Delivery
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Foundations of Health Care Delivery

FHD Immersion Courses: Curriculum 2.0
11 units over 4 Blocks

- **Advanced Communication** (2 units)
  - Health literacy
  - Cultural competence
  - Giving bad news
  - Disclosing errors
  - End of life discussions
  - Technology in communication
  - Professional accountability

- **Interprofessional Education** (2 units)
  - Professional culture
  - Scopes of practice
  - Effective team building
  - Interprofessional care plans
  - Team communication
  - Conflict resolution

- **Quality Improvement & Patient Safety** (4 units)
  - IHI model for improvement
  - Clinical microsystem analysis
  - Building a QI team
  - Student-led PDSA cycles
  - Sustaining clinical change

- **Health Systems** (3 units)
  - Payment models
  - Advanced advocacy
  - Population Health
Student QI course 1: Microsystem Analysis and Identification of a QIPS Problem

Unit goals:
• Understand the need for quality improvement and patient safety in health care to be conducted in a thoughtful, organized and structured framework.
• Recognize the Institute for Healthcare Improvement (IHI) Model for Improvement as a means to systematically enact change.
• Understand the different tools utilized for measuring changes related to quality improvement and patient safety.

Unit objectives:
• Describe the steps of the IHI Model for Improvement including the 3 primary questions and the Plan-Do-Study-Act (PDSA) cycle.
• Identify a clinical problem related to quality of care / patient safety in your clinical site that you believe could be quickly improved within 2 months using a PDSA cycle and the IHI Model for Improvement.
• Identify a faculty sponsor and team needed to develop and carry out the PDSA cycle for your clinical problem.
• Create an AIM statement and fishbone diagram for your clinical problem.
• Collect baseline data that will be needed to demonstrate the effect of your PDSA cycle.
Student QI course 2: Initiating and Testing Change

✓ Unit goals:
  • Understand the importance of collecting baseline data prior to initiating change in a clinical environment.
  • Understand the cultural barriers to enacting change in a clinical environment.
  • Discuss strategies to motivate health care providers to enact change.
  • Discuss the advantages of using small-scale PDSA cycles prior to wider implementation of QI/PS projects.

✓ Unit objectives:
  • Collect baseline data that will be needed to demonstrate the effect of your QI project.
  • Design and carry out a small-scale Plan-Do-Study-Act (PDSA) cycle with post-intervention data.
  • Describe the most significant barrier to change for your QI project.
  • Describe your strategy for overcoming this barrier to change or minimizing its impact.
  • Describe one modification/improvement you made to your project after learning from your first PDSA cycle.
Student QI course 3: Assessing & Sustaining Change

✓ Unit goals:
  • Continue data collection for your QI project and assess the effect(s) of the tested change(s).
  • Summarize the findings from your QI project and reflect on ways to implement, sustain and spread the changes you tested.
  • Understand the life cycle of an improvement project and factors to consider when spreading change to other clinical settings.
  • Recognize the need for repeated PDSA cycles to fully implement an improvement project and review approaches to broadening the scale and scope of test cycles.
  • Understand the methods and value of using run charts to enhance understanding of whether the tested changes are leading to improvement.

✓ Unit objectives:
  • Describe the four phases of a quality improvement project.
  • Identify characteristics of ideas that spread naturally and list the components of IHI’s Framework for Spread.
  • Continue to collect post-intervention data for your QI project and compare your findings to baseline through creation of a run chart.
  • Create and present a poster describing the methods and findings of your QI project.
Student QI course: Student deliverables

- Project proposal including aim statement & proposed metric
- Process analysis tools (any two of: Pareto analysis, fishbone diagram, process mapping, driver diagram, stakeholder analysis, 5 Whys)
- Description of 1 or 2 PDSA cycles
- Before and after data in form of run chart
- Poster
- FHD QIPS Project Report
Improving Rates of Asthma Action Plan in School-Age Patients at the Vanderbilt PACC

Schultz, RCC, Patterson, BL, Roberts, MB
1. Vanderbilt University Medical Center 2. Vanderbilt University Hospital, Department of Pediatrics

BACKGROUND
• In the state of Tennessee, it is required that every child has an Asthma Action Plan (AAP).
• AAPs are administered by the child’s pediatrician.
• They are then filled out and signed by parents before the child’s school can carry and appropriately administer the child’s medication while at school.
• Low rates of administration of both of the above tasks have been observed, likely due to multiple factors.

AIM STATEMENT
To improve the rates of administration of the Asthma Action Plan in school-age children (5-18 years old) with asthma from 60 to 65% by November 2016.

MEASURES
• The unit of measurement was defined as the percentage of school-age children, ages 5-18 years old, requiring an Asthma Action Plan (AAP), that complete this form in time data.
• A random number generator was used to review the clinic days per week. The EMR was then examined for the number of patients requiring an AAP in ACL, and the number of patients with the corresponding documents learned into the chart.
• Baseline data will be compared to post-change data to monitor the effect of the change.

SETTING
General Pediatrics Acute Care Clinic at Monroe Carell Jr. Children’s Hospital

INTERVENTION(S)
1. The first test of change was to streamline the process of administering AAPs such that the front desk is solely responsible for giving the proper forms to patients and handing the AAP as “ordered” in the EMR. This change resulted in a 2.3% increase in the proportion of required AAPs being completed.
2. The second test of change was a process change. The senior resident in clinic each month will draft a form for the Asthma Action Plan in the EMR (Starpanel) for all patients on the schedule that day that require an AAP per the Outpatient Whiteboard. This change is meant to serve as a second reminder to complete the AAP for residents seeing patients in clinic that day.
3. The final test of change was to add educational and reminder posters throughout the clinic and in the physician workrooms to cover an identified gap in knowledge about the need to complete AAPs in clinic year.

RESULTS
• Increased percentage of AAPs completed from 69% baseline, to 77% during PQSA cycle 2, to 96% during PQSA cycle 3.
• Implementation barriers included resident time and staff compliance.

CONCLUSIONS AND LESSONS LEARNED
• The AIM statement was met, with achievement of a 15% increase in the rates of administration of the Asthma Action Plan.
• The Pediatric Acute Care CICD working presents several important challenges: busy clinic pace, multiple providers, Vanderbilt-specific EMR, and multiple levels of provider responsibility. Specific barriers included resident buy-in less in the second test on changes resident turnover, attending participation.
• Limitations to this study include:
• A process change using Vanderbilt-specific EMR which is set to transition to EPIC
• Does not address resident turn-over
• PQSA cycle 3 requires Asthma data collection.

FUTURE WORK
• Tied responsibility (e.g. senior resident drafts AAP, junior resident signs out notes to senior resident).
• EMR is automatically generates drafts for AAPs.
• Hand-copy “backup” handed to parents at start of visit as an additional reminder for completion.
## Student QI course: Outcomes

From January 2015 to January 2017, 84 faculty physicians sponsored 132 students resulting in 110 completed QI projects.

<table>
<thead>
<tr>
<th>QI Focus</th>
<th>Number of projects</th>
<th>Setting</th>
<th>Number of projects</th>
<th>Aim Statement</th>
<th>Number of projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Improvement</td>
<td>52 (37%)</td>
<td>Student-run Clinic</td>
<td>25 (23%)</td>
<td>Project met aim</td>
<td>42 (38%)</td>
</tr>
<tr>
<td>Patient Safety</td>
<td>36 (26%)</td>
<td>Adult Medicine</td>
<td>24 (21%)</td>
<td>Project did not meet aim but there was improvement.</td>
<td>34 (31%)</td>
</tr>
<tr>
<td>Education</td>
<td>20 (14%)</td>
<td>Children’s Hospital</td>
<td>14 (13%)</td>
<td>Project did not meet aim</td>
<td>34 (31%)</td>
</tr>
<tr>
<td>Cost/Resource Utilization</td>
<td>15 (10%)</td>
<td>Emergency Medicine</td>
<td>11 (10%)</td>
<td>Total</td>
<td>110 (100%)</td>
</tr>
<tr>
<td>Patient Satisfaction</td>
<td>13 (9%)</td>
<td>Orthopedics</td>
<td>8 (7%)</td>
<td></td>
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<tr>
<td>Employee Safety</td>
<td>5 (4%)</td>
<td>Cancer</td>
<td>8 (7%)</td>
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<tr>
<td>Total</td>
<td>141 (100%)</td>
<td>Otolaryngology</td>
<td>4 (4%)</td>
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<tr>
<td>Women’s Health</td>
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<td>2 (2%)</td>
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<tr>
<td>Other</td>
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<td></td>
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<td>Total</td>
<td>110 (100%)</td>
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Expectations for faculty sponsors

✓ Sponsors should be clinicians or clinical leaders who can provide the student with access to a clinical environment where small test(s) of change can be conducted.

✓ Sponsors will guide the student in selecting a small test of change that aligns with priority institutional goals and ongoing quality/safety efforts and can be completed over a 3-month period (approximately 48 hrs or 4 hrs/wk).

✓ Sponsors are expected to be available to the student to address questions and potential barriers.

✓ Sponsors do not grade the student but are welcome to provide feedback to the block directors and coordinator.

✓ Sponsors are encouraged to inform the appropriate medical director/chair of each QI project.

✓ Sponsors may be asked to fill out a survey on the experience of being a sponsor to aid in course development.
Expectations for faculty sponsors
## Aligning required data

<table>
<thead>
<tr>
<th>MOC Portfolio Program - MOCAM</th>
<th>Student QI Course – VStar Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data for project leader and team members</td>
<td>1. Data for student and mentor</td>
</tr>
<tr>
<td>2. Project measure table</td>
<td>2. Approved project proposal</td>
</tr>
<tr>
<td>3. Description of project intervention</td>
<td>3. Approved project proposal</td>
</tr>
<tr>
<td>4. Data collection schedule</td>
<td>4. Approved project proposal</td>
</tr>
<tr>
<td>5. Progress report – improvement cycles</td>
<td>5. Meetings with sponsor and course faculty</td>
</tr>
<tr>
<td>7. Physician attestation</td>
<td>7. Sponsor attestation - MOCAM</td>
</tr>
<tr>
<td>❑ Signed and approved copy of FHD QIPS Project Report</td>
<td>❑ I mentored the student(s) involved in the project in the IHI Model for Improvement methodology and project related issues.</td>
</tr>
<tr>
<td>❑ I reviewed and reflected on data for this QI effort and discussed it with the student whom I sponsored at least 3 times (at baseline, after the 1st PDSA cycle, and after the 2nd PDSA cycle).</td>
<td>❑ I implemented the project intervention(s) and strategies in my practice.</td>
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