Faculty Advisor Call
February 7, 2011

*Please type your name(s) and the university/organization you represent in the chat box!*

Example: Lisa, University of Chicago
Objective: Meet other Faculty Advisors, share ideas, tools, and resources, and learn updates from the IHI Open School team
IHI Open School Chapter at University of Chicago

Quality and Safety Track:
A Pilot Program to Develop Student Leaders in Quality Improvement and Safety

Faculty: Julie Oyler MD, Lisa Vinci MD, Vineet Arora, MD, Laura Botwinick

Students: Steven Eilers, MS2, Greg Kauffmann, MS2, Melissa Mott, MS2, Gabe Schaefer, MS2, Andrew Schram MS2, Jeff Kunkel

University of Chicago Pritzker School of Medicine
IHI Open School Faculty Advisor Call
February 7, 2011
Outline of Our Journey

2004-
- Early Beginnings & Guiding Principles

2006-
- Teaching Quality to Residents: Quality Assessment & Improvement Curriculum (QAIC)

2008-
- Spreading to Faculty & Other Clinical Departments: Quality Scholars Program

2009-
- Creating Student Leaders & Lessons Learned
Teaching Quality & Safety at University of Chicago

STRENGTHS

• Structure of UME and GME under one roof
• Located on an undergraduate campus with graduate programs in health administration
• Culture of scholarship in medical education
• Funding for innovation

CHALLENGES

• Limited faculty expertise
• Lack of allied health professional schools (i.e. pharmacy, nursing, etc.)
• Small faculty
• Focus on biological sciences
• Clinical quality infrastructure developing
Early Beginnings

2004-2006

• IHI Health Professions Collaborative
• Networked with other faculty who teach QI / safety
• Attended IHI meetings
  – Learned basics of QI/Safety
  – Learned of the importance of interprofessional learning

Vineet Arora, MD MAPP
Caitlin Schaninger, MS4
Mary Johnson, MSW at
the IHI Forum
# QAIC: IM Resident Curriculum (2006-present)

<table>
<thead>
<tr>
<th>Residency Year</th>
<th>Ambulatory Block Summer/Fall (1 month*)</th>
<th>Ambulatory Block Winter/Spring (1 month*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-2</td>
<td>Block 1&lt;br&gt;Quality Assessment&lt;br&gt;Complete data collection for ABIM PIM</td>
<td>Block 2&lt;br&gt;QI Project&lt;br&gt;Develop and implement a small QI project with group of 10 residents</td>
</tr>
<tr>
<td>PGY-3</td>
<td>Block 3&lt;br&gt;Sustainability and Spread&lt;br&gt;Measure project sustainability, complete PIM</td>
<td>Block 4&lt;br&gt;Quality Summary&lt;br&gt;Pay for Performance and Hospital Quality Measures</td>
</tr>
</tbody>
</table>

* Each block consists of four 90 minutes lecture/time slots
Evaluation

Effect of a quality improvement curriculum on resident knowledge and skills in improvement

Lisa M Vinci,¹ Julie Oyler,¹ Julie K Johnson,² Vineet M Arora¹

INNOVATIONS IN MEDICAL EDUCATION

Teaching Internal Medicine Residents to Sustain Their Improvement Through the Quality Assessment and Improvement Curriculum

Julie Oyler, MD¹, Lisa Vinci, MD¹, Julie K. Johnson, MSPH PhD², and Vineet M. Arora, MD, MAPP¹
Pritzker Initiative: Big Break for Teaching QI/Safety in Medical School

• Launched 2005
  – Created an opportunity for innovation via “blue sky” approach
  – Implemented Aug 2009

• Scholarship & Discovery
  – Research
    • Basic, Clinical, Social Sciences
  – Global Health
  – Community Health
  – Medical Education
  – AND…Quality & Safety Track

“For medical education to flourish from one generation to the next, it has to reconfigure itself in response to changing scientific, social, and economic circumstances.”

- Abraham Flexner

Jordan Cohen, MD, former President, AAMC at launch of Pritzker Initiative
Cornerstone of QST (started Aug 2009)

- Mentored Projects
  - Mentors with QI/safety interests identified
  - Students encouraged to seek them out
  - Start a mentored QI project during their 1st year & finish prior to graduation
- Funding for summer work
- Dissemination at a local, regional or national conference
Quality and Safety Coursework

• Core Content for all students
  – 4 lectures for all 1st yr students on quality and safety basics inserted in curriculum
  – Ongoing integration into 2nd Year Clinical Skills

• QST elective for advanced training
  – Spring quarter for up to 10 students
  – Weekly, 2 hour class
  – Theoretical project using CMS hospitalcompare.org data
  – Introduction to hospital quality leaders
  – Hands on work with QI/safety frameworks
  – Problem solving for health systems
QST Elective Curriculum

Model for Improvement

3 Key Questions for Improvement

What changes can we make that will result in an improvement?

IDEAS

What are we trying to accomplish?

AIM

How will we know that a change is an improvement?

MEASURES

Test Ideas & Changes in Cycles for Learning & Improvement

Plan

Do

Study

Act

Do

Plan

Study

Act
Improving Antibiotic Administration in Pneumonia Patients

Steve Eilers, Melissa Mott, Greg Kauffman, Gabe Schaefer, Andrew Schram
The University of Chicago Medical Center has an 84% rate of timely antibiotic administration compared to a 94% national average for all hospitals in the United States.

- Hospital Compare
Pneumonia Project: Current Process

1. Patient arrives in ER
2. Patient finds triage
3. Nurse obtains vitals, a brief history, chief complaint
4. Does patient present symptoms of pneumonia?
   - yes: Patient seen by resident, more history exam, tentative diagnosis and plan
   - no: Patient returns to the waiting room
5. Nurse rechecks vitals, gets more info
6. Yes, sent back for evaluation
7. Patient seen by resident, more history exam, tentative diagnosis and plan
8. Nurse rechecks vitals, gets more info
9. Yes, sent back for evaluation
10. Work up ordered
11. Does Doctor suspect pneumonia?
   - yes: Doctor decide to give antibiotics?
   - no: Does ER suspect pneumonia?
12. Doctor decide to give antibiotics?
   - yes: Doctor writes order for antibiotics
   - no: Does ER stock antibiotics?
13. Does ER stock antibiotics?
   - yes: Antibiotics to beside
   - no: Order antibiotics from pharmacy
14. Patient with pneumonia receives antibiotics
Pneumonia Project: Fishbone Analysis

Pt does not receive abx within 6 hours

**Equipment**
- Abx – ER, pharmacy, delivery
- Protocols – Cat P form, Abx protocols
- ER beds not available

**Process**
- Time stamps
- Cat P form availability

**People**
- RN – cat p, training, awareness, buy in
- MD – buy in, sing Abx order, disagree or too busy
- Patient – refusal

**Environment**
- Chaotic – triage nurse does multiple tasks
- Long waits in ER
- Emphasis on stabilizing and triage vs diagnosis
- MD buy in – want evidence based info
- Pt population – may not trust MD, hospital

**Management**
- Dr. Mulliken
- Dr. Howes
- Dean of BSD
- Hospital Quality Leadership
## Pneumonia Project: Proposed Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Type</th>
<th>How to Measure</th>
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<tbody>
<tr>
<td>Time to Antibiotics</td>
<td>Process</td>
<td>Chart Review</td>
</tr>
<tr>
<td>% of Pneumonia Patients Identified as Category P</td>
<td>Process</td>
<td>Chart Review</td>
</tr>
<tr>
<td>Time from Antibiotic Order to Administration</td>
<td>Process</td>
<td>Chart Review / Time Stamps</td>
</tr>
<tr>
<td>Effectiveness of Timely Antibiotics</td>
<td>Outcome</td>
<td>Chart Review Patient Survey</td>
</tr>
<tr>
<td>Training Hours for Category P</td>
<td>Structure</td>
<td>Review of Training Programs</td>
</tr>
</tbody>
</table>
Pneumonia Project: SWOT Analysis

**Strengths**
- Strong Emergency Section leadership
  - Strong team
- Experienced nurses
- Supportive hospital administration

**Opportunities**
- Focus on quality metrics in the news
- Publically available comparison data

**Weaknesses**
- Lack of MD buy-in
- Limited financial resources
- Inadequate nurse training

**Threats**
- Lack of outcomes data supporting pneumonia metrics
- Challenge of pneumonia diagnosis
# Pneumonia Project: Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Feasibility</th>
<th>Impact</th>
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<tbody>
<tr>
<td><strong>Antibiotics</strong></td>
<td></td>
<td></td>
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<tr>
<td>• Increase available stock</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>• Improve transport time from pharmacy</td>
<td></td>
<td></td>
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<tr>
<td><strong>Category P Screening</strong></td>
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<td></td>
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<tr>
<td>• Include inclusion criteria on Category P form</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>• Develop checklist for triage nurses</td>
<td></td>
<td></td>
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<tr>
<td>• Implement additional training for Category P</td>
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<tr>
<td><strong>MD Buy-in</strong></td>
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<td></td>
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<tr>
<td>• Post data on team achievement</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>• Pay-for-performance incentive</td>
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</table>
% MS1 comfortable in QI methodology

- Making changes in a system
- Using small cycles of change
- Implementing a PDSA cycle

All MS1s (n=78)
Pre elective (n=5)
Post elective (n=5)

Vinci L, Oyler J, Johnson J, Arora V, “Effect of a Quality Improvement Curriculum on Resident Knowledge and Skills in Improvement”, Quality and Safety in Health Care, May 2010
What do students have to do to complete QST track?

- MS1 Spring elective
- Enrollment in IHI OpenSchool
- Participation in mentoring sessions MS2
- Completion of mentored project MS2-MS4
- 4th year elective – Pay for Performance
- Attend QI related mtg
- AHRQ Morbidity and Mortality cases
Developing Quality/Safety Leaders

- 1 student selected for a special leadership opportunity by IHI
- 4 of the 5 received funding to work on Quality/Safety projects during MS1 summer
- Student presentations at national IHI meeting December 2010 (2 students)
- 2 student summer project presented at Midwest SGIM (1 award)
- 2 students presented at Midwest Society for Hospital Medicine
- 1st place award, Illinois American College of Physicians
- Honorable Mention, University of Chicago Quality Fair
How Does QST Relate to IHI Open School Chapter?

• IHI Open School Chapter brought together initial group of interested student & faculty to develop & implement QST
  – Open School online modules are part of QST
• QST students provide a natural source of leadership for Open School Chapter
• BUT our Open School Chapter is larger than just QST students…
Focus of IHI Open School Chapter

• Working to create interprofessional chapter
  – Partnered with GPHAP (Graduate Program in Health Administration), led by Laura Botwinick, former IHI Fellow

• Student leaders established interprofessional leadership plan
  – Co-led by 2nd year medical and health admin student
  – Senior advisor role for 4th year medical students

• Starting to plan for interprofessional learning opportunities & social events
  – Next event – lunchtime session for medical students and health administration students Feb 23rd
How to get more information about the QST track?

http://pritzker.uchicago.edu/md/curriculum/QST.shtml
How do I get more information about the QST track?

- **University of Chicago Quality Website:**
  - For power point slides or links to articles:
    - [http://medqi.bsd.uchicago.edu/curriculum.html](http://medqi.bsd.uchicago.edu/curriculum.html)
  - For Quality and Safety Track questions
    - Email [joyler@medicine.bsd.uchicago.edu](mailto:joyler@medicine.bsd.uchicago.edu)
Acknowledgements

Additional QST Faculty
- Andy Davis, MD, MPH, Lou Portugal, MD, & Tom Best, MS

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- Holly Humphrey, MD, Halina Brukner, MD & Jim Woodruff, MD
- Scholarship & Discovery Staff

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- Julie Johnson, PhD, University of New South Wales
- Greg Ogrinc, MD, Dartmouth
- Eric Holmboe, ABIM

- Funding from the Graduate Medical Education Committee
- Funding from the University of Chicago, Department of Medicine
- Current & former IHI Open School students
  - Marcus Dahlstrom MS3
  - Caitlin Schaninger, MD’10
  - Scott Seiden, MD ’08
Why Teach Medical Students Quality/Safety?

• IOM 2001 “Crossing Quality Chasm” Recommendation
  – Restructure clinical education consistent with principles of the 21\textsuperscript{st} century health system across the continuum of undergraduate, graduate, and continuing education.

• AAMC 2001– Medical School Objectives Project
  – “The ultimate goal is that all medical school graduates have a working knowledge of how quality is a factor, overt or covert, in every clinical decision, and every system and process which a physicians will be in involved.”

Institute of Medicine, \textit{Crossing the Quality Chasm: A New Health System for the 21\textsuperscript{st} Century}, 2001
Chapter Network

287 Chapters
Upcoming Events

- **Mar 17:** *Southeast Regional Event* (Columbia, SC)
  - For more information, email ______

- **Mar 20-22:** Improving Care in the *Office Practice & Community* (Dallas, TX)
  - Student, faculty, resident, and dean scholarships are available
  - For more information, visit www.ihi.or > Programs > Conferences & Seminars

- **Apr 5-8:** *International Forum* (Amsterdam, The Netherlands)
  - Full-time student scholarship are available
  - For more information, visit www.ihi.or > Programs > Conferences & Seminars

- **NEW! Call Series:** *Improvement Skills to Empower Frontline Nurses*
  - First of three calls is Feb 9th
  - For more information, visit Home > Programs > Audio & Web Programs

- **IHI’s free audio program,** *WIHI*:
  - Feb 11 call will feature *New York Times* columnist, Pauline Chen, MD
  - Home > Programs > Audio & Web Programs
Thank you for joining the Faculty Advisor call!

How would you rate the usefulness of this call?

Not useful

Somewhat useful

Very useful