CLINICAL LEARNING EXPERIENCES THAT PREPARE RESIDENTS FOR PRACTICE, THE FUTURE OF HEALTH CARE AND CLER
The presenters have nothing to disclose
THE TEAM

- Priya Garg, MD- Pediatric Residency Director
- Snehal Shah, MD- Pediatric Hospitalist Medicine Fellow
- Jamie Fey, MD- Chief Resident
- Kelly Wills, MD- Chief Resident
- Judi Cullinane, RN, MSN- Professional Development Director
- Megan Cardoso, MD- Inpatient Medical Director
Who Is In the Room?

- Hospital Leadership Role Related to QI/PS
- QI/PS Educational Director for Trainees
- Program Director
- Chief Resident
- Other
Agenda

- Discuss the current state of QI and PS in residency education
- Discuss clinically relevant experiences related to QI and PS
- Share an interprofessional patient safety curriculum (IPSC) and the tools
- Participate in a simulated IPSC session
- Discuss the use of discharge summaries as a tool for integrating QI into the clinical learning environment
Background

- ACGME’s Next Accreditation System (NAS) requires training programs to connect resident-physician education to improved patient care outcomes
- ACGME’s CLER program asks institutions to demonstrate how they engage trainees in quality and safety
- Practicing physicians need to demonstrate competence in QI methods to fulfill MOC requirements
Have We Reached QI Competence?

- 45 residency programs participated
- Residents reported self efficacy related to QI and perceived effectiveness of QI program through a 22 question survey
- 33% strongly disagreed or disagreed that their QI training prepared them to sufficiently perform QI
- 28% did not feel confident in applying QI methods after graduation
QI Competence

Table 5. American Board of Pediatrics Required Core Components of a Quality Improvement Project

- Clearly defined problem statement that links to 1 or more of the Institute of Medicine dimensions of quality care.
- Specific aim statement (measurable, time bound).
- Balanced set of clearly defined measures (process, outcome, and balancing).
- A data collection plan that accounts for data integrity and includes a sound sampling strategy.
- Project interventions that have been thoughtfully chosen on the basis of an in-depth understanding of the problem and the potential barriers to change.
- Data for each measure displayed in run or statistical process control charts and a plan for how the data will be used to drive improvement.
- A plan for sharing the results with both the clinicians engaged in the project and the key stakeholders in the institution.

Adapted from the American Board of Pediatrics Quality Improvement Maintenance of Certification application. 26
<table>
<thead>
<tr>
<th>Milestones Related to QI/PS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organize and prioritize responsibility to provide patient care that is safe, effective and efficient</td>
</tr>
<tr>
<td>Provide transfer of care that ensures seamless transitions</td>
</tr>
<tr>
<td>Coordinate patient care within the health care system relevant to their clinical specialty</td>
</tr>
<tr>
<td>Advocate for quality patient care and optimal patient care systems</td>
</tr>
<tr>
<td>Work in inter-professional teams to enhance patient safety and health care quality</td>
</tr>
<tr>
<td>Systematically analyze practice using QI methods with the goal of practice improvement</td>
</tr>
</tbody>
</table>
What Are the Barriers?

- Lack of Faculty Expertise
- Lack of Facilities
- Lack of Financial Support
- Lack of QI Experience at the Institution
- Lack of Interest by the Residents
- Lack of Prioritization by Hospital or Residency
- Lack of QI Activities within the Institution

Barriers to QI Education

Quality Improvement Educational Practices in Pediatric Residency Programs: Survey of Pediatric Program Directors
Keith J. Martin, MD, MS; Mark B. Craig, MD; James M. Moses, MD, MPH

Academic Pediatrics 2014; 14:23-28
How do we make quality and safety into engaging clinically relevant experiences?

How do we help faculty and learners identify quality improvement opportunities around them?

How do we help learners develop key skills needed to practice today?

How do we utilize the limited faculty with expertise?
Our Curriculum

Interprofessional Patient Safety Curriculum

Workplace Based QI and PS

Department Wide QI Project
Exercise 1 - What Do You Think Are Important Skills Related to Quality and Safety for the Graduating Pediatrician?
Floating Hospital for Children
QI and PS Curricular Objectives

- Understand the IOM Principles
- Identify and begin to develop a framework to analyze systems errors
- Work collaboratively in an interprofessional team
- Identify transitions of care as a vulnerability for patients
- Understand key tools utilized in quality improvement
- Participate in a department wide quality improvement project
Inter-professional Patient Safety Curriculum
Effective quality improvement (QI) education should improve patient care, but many curricula do not include clinical measures.

Boonyasai et al did a systematic review in 2008 and noted curricula with positive clinical outcomes included those with QI tools and coaching on QI methods; access to clinical performance data and implementing interventions via small tests of change were frequently associated with beneficial clinical outcomes.
IPSC Logistics

- Intern & nursing requirement
- Runs over 12 weeks (Interns from 3 designated blocks)
- 3 interns and 2-3 nurses are placed in a team that works together over the 12 weeks
- Mostly asynchronous with 2-3 meetings with faculty mentors over 12 weeks
- Final presentation to department every quarter
IPSC Objectives

- Recognize patient safety events and practice reporting them in the adverse event reporting system

- Analyze patient safety events using a 3 meeting RCA Model that uses proximate causes, root causes and contributing factors to identify action items

- Choose and action items and create problem and aim statements for future QI initiatives

- Share findings with peers and faculty during an interdisciplinary Systems Improvement Conference
Let’s Practice!
Introducing the IOM Principles
The Institute of Medicine (IOM) Goals of Quality Care Worksheet is an exercise that helps health professionals identify whether goals of care were met or not met in a safety event by using the six competencies identified by the IOM (2001).

Team members write down their reasons on whether the delivery of care was met or not met after reviewing a case.

Upon completion, compare responses and reach a consensus for the rationales for each.
## IOM Worksheet

<table>
<thead>
<tr>
<th>Was the care:</th>
<th>Yes</th>
<th>No</th>
<th>Why or why not?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Timely?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Efficient?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient-centered?</td>
<td></td>
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</tr>
</tbody>
</table>
Analyzing A Safety Event
5 Why’s

- Helps identify root causes of a patient safety event.

- Trying to get to the most basic causal factor that if corrected will prevent recurrence.

- One of the simplest tools; easy to complete without statistical analysis.
How to Complete the 5 Whys

- Step 1: Create a timeline of everything that happened and identify all the places where something happened that SHOULD NOT have happened.
- Step 2: Ask "Why did that happen?" and write down answer.
- Step 3: If the answer you just provided doesn’t identify the root cause of the problem that you wrote down in Step 1, ask Why again and write that answer down.
- Step 4: Loop back to step 3 until the team is in agreement that the problem’s root cause is identified.
Bubbling Up to Why

1. **Ask why?**
   Proximate Cause

2. **Stop sign denotes a deviation**

3. **Ask why?**

4. **Ask why?**

5. **Ask why?**
   Until there are no further answers as to why

Place the information of the event into a timeline and at each “stop sign” or deviation point implement the “5 Why” questioning. Begin with the proximate cause (nearest to the deviation).

Place the answers to the “whys” within the bubbles moving up until the root cause has been identified.

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Floating Hospital for Children
at Tufts Medical Center
Event Timeline
(Sequence of Events)

12/13 Baby Premie admitted to NICU at 28 2/7 weeks

1/29 Discharged at 35 wks, did not receive Synagis

2/1 Baby to follow up with PCP, did not receive Synagis

2/15 Baby to f/u for 2 wk visit, did not receive Synagis

2/20 Baby found to not have received Synagis at one month visit and baby received Synagis
Proximate and Distal Root Causes

12/13
Baby Premie admitted to NICU at 28 2/7 weeks

No standardized vaccination policy in NICU

No prompt to bring it up

Not discussed on rounds

Not ordered to be given

1/29 Discharged at 35 wks, did not receive Synagis

Not recognized that baby needed Synagis

No place in d/c summary or Soarian or Blue book

2/1
Baby to follow up with PCP, did not receive Synagis

2/20
Baby found to not have received Synagis at one month visit and baby received Synagis

No designated place to record the vaccine

2/15 Baby to f/u for 2 wk visit, did not receive Synagis

No designated place to record the vaccine
Aim & Measurement

✤ **Aim Statement:**
- To have zero incidences of missed Synagis administration prior to discharge in the NICU during the 2015-2016 RSV season by adding this to admission order sheet.

✤ **Measures:**
- Process measurement: chart review looking at admission orders; medication administration; discharge paperwork
- Outcome measurement: measure these things over a 2 year period (over a longer period of time to measure a hard outcome)
## Participation Evaluation (n=7)

### Selection of Survey Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-Course Survey</th>
<th>Post-Course Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making errors in healthcare is inevitable</td>
<td>Agree 50%</td>
<td>Disagree 50%</td>
</tr>
<tr>
<td>The culture of health care makes it easy to deal constructively with errors</td>
<td>Agree 0%</td>
<td>Disagree 100%</td>
</tr>
<tr>
<td>Submitting error reports does little to reduce future errors</td>
<td>Agree 0%</td>
<td>Disagree 100%</td>
</tr>
<tr>
<td>After an error occurs, an effective strategy is to work harder to be more careful</td>
<td>Agree 0%</td>
<td>Disagree 100%</td>
</tr>
</tbody>
</table>

| Analysis of a case to find the causes of an error                       | Comfortable 66.70% | Uncomfortable 33.30% | Comfortable 100% | Uncomfortable 0% |
| Supporting and advising a peer who must decide to respond to an error   | Comfortable 75% | Uncomfortable 25% | Comfortable 100% | Uncomfortable 0% |
| Disclosing an error to management or faculty                            | Comfortable 60% | Uncomfortable 40% | Comfortable 100% | Uncomfortable 0% |

Table 1: Representative Sample of Questions from Pre-Post Survey Questionnaire
Table 2: Course Evaluation

- Content Met Learning Needs: 4.5
- Content Consistent with Course Objectives: 4.5
- Teaching Methods were Appropriate: 4.5
- Slide Program was Appropriate: 5
- Practice Session Helped me learn RCA process: 4
Learning Objectives Met?

- Recognize patient safety events and practice reporting: 71% Fully, 29% Partially, 0% Not at All
- Analyze a patient safety event using RCA model: 71% Fully, 29% Partially, 0% Not at All
- Choose an action item and create problem and aim statements: 71% Fully, 29% Partially, 0% Not at All
Integrating 5 Why’s Into Bedside Care

On Rounds:

✧ I was called by the PCP yesterday and told that the patient we discharged did not receive Synagis-Why?

✧ Our patient received their prn morphine dose 4 hours after we ordered it-Why?

✧ Little Johnny had 2 lab draws when we only needed one CBC-Why?

In the office…..
The Discharge Summary

- Most people identify handoffs as the key vulnerability in resident transitions of care.
- When thinking about vulnerabilities, the transition from hospital to home is an important one to consider.
- Discharge summaries are a key method of communication and most are completed by residents.
- This provides an opportunity to integrate QI and PS into the clinical learning environment.
Survey of Residents at One Academic Medical Center
203 responses (63% response rate)

- 80% of residents reported discharge summaries as extremely important
- 24% of residents said that >50% of discharge summaries they prepared were for patients they did not know well
- 75% of residents said that >25% of discharge summaries they prepared were for patients they did not know well.
Discharge summary preparation for patients not known well

Not statistically significant across training years
Content Analysis: Discharge Summary Quality

Emergent themes – ways to improve discharge summary quality:

- More time for preparation
- Improved knowledge of patient
- Improved format/ability to auto-fill fields
- Begin early: update relevant information daily, earlier transitional care planning
- Training in writing discharge summaries
Discharge Summary Curriculum Interest

- PGY-1
- PGY-2
- PGY-3
- PGY-4
Interest in Discharge Summary Curriculum-Pediatrics
Have You Received Training?
Are Our Resident Discharge Summaries Up to Par?
Discharge Summary Exercise

✦ At each table there are discharge summaries written by residents at our institution

✦ In pairs, review ONE discharge summary provide 3-5 points of feedback you would give to the resident regarding the discharge summary

✦ Then spend 5 minutes discussing with the table major points of concerns
What Are the Key Components in A Discharge Summary

### TABLE 2 Clinical elements reported as essential for receipt within two days of hospital discharge by physician group

<table>
<thead>
<tr>
<th>Clinical Element</th>
<th>Primary Care Providers (PCPs) (n=201) n (%) reported essential</th>
<th>Hospitalsists (n=71) n (%) reported essential</th>
<th>PCPs compared with Hospitalsists p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge diagnoses</td>
<td>197 (98.0)</td>
<td>71 (100.0)</td>
<td>0.23</td>
</tr>
<tr>
<td>Discharge medications</td>
<td>194 (96.5)</td>
<td>70 (98.6)</td>
<td>0.37</td>
</tr>
<tr>
<td>Admission diagnosis*</td>
<td>180 (90.9)</td>
<td>43 (61.4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Dates of admission and discharge</td>
<td>180 (90.9)</td>
<td>63 (89.0)</td>
<td>1.00</td>
</tr>
<tr>
<td>Immunizations given this admission</td>
<td>166 (82.6)</td>
<td>54 (76.1)</td>
<td>0.23</td>
</tr>
<tr>
<td>Follow-up appointments</td>
<td>163 (81.9)</td>
<td>61 (87.1)</td>
<td>0.31</td>
</tr>
<tr>
<td>Brief hospital course</td>
<td>157 (79.3)</td>
<td>57 (80.5)</td>
<td>0.86</td>
</tr>
<tr>
<td>Pending lab or test results*</td>
<td>157 (78.9)</td>
<td>67 (94.4)</td>
<td>0.003</td>
</tr>
<tr>
<td>Chief complaint*</td>
<td>145 (73.2)</td>
<td>25 (35.7)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Lab and test results*</td>
<td>146 (73.9)</td>
<td>34 (48.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Suggested management plan</td>
<td>145 (72.9)</td>
<td>49 (69.0)</td>
<td>0.54</td>
</tr>
<tr>
<td>Procedures</td>
<td>142 (71.7)</td>
<td>46 (65.7)</td>
<td>0.35</td>
</tr>
<tr>
<td>Condition at discharge, including functional or cognitive status if relevant</td>
<td>132 (66.7)</td>
<td>53 (74.6)</td>
<td>0.21</td>
</tr>
<tr>
<td>Attending physician's name and phone number*</td>
<td>118 (59.6)</td>
<td>53 (74.6)</td>
<td>0.02</td>
</tr>
<tr>
<td>Restrictions on activity</td>
<td>115 (58.1)</td>
<td>44 (62.0)</td>
<td>0.57</td>
</tr>
<tr>
<td>Discharge destination*</td>
<td>106 (52.8)</td>
<td>50 (72.5)</td>
<td>0.03</td>
</tr>
<tr>
<td>Diet, if other than age-appropriate</td>
<td>105 (53.0)</td>
<td>45 (63.4)</td>
<td>0.13</td>
</tr>
<tr>
<td>Consultants' names and phone number*</td>
<td>105 (52.8)</td>
<td>27 (38.0)</td>
<td>0.03</td>
</tr>
<tr>
<td>Physical exam findings upon discharge</td>
<td>90 (45.9)</td>
<td>31 (43.7)</td>
<td>0.24</td>
</tr>
<tr>
<td>Explanation of changes to preadmission medications</td>
<td>67 (33.5)</td>
<td>26 (37.1)</td>
<td>0.24</td>
</tr>
</tbody>
</table>

* Indicates statistically significant differences between the groups, having applied the Benjamin-Hochberg procedure with a false discovery rate of 0.18 to adjust for multiple testing.
# Discharge Summary Rubric

## Discharge Summary Evaluation Rubric

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE OF ADMISSION/DISCHARGE*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REASON FOR ADMISSION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DISCHARGE DIAGNOSIS*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DISCHARGING PHYSICIAN AND CONTACT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSULTING PHYSICIAN AND CONTACT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOLLOW-UP APPOINTMENTS*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOME CARE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PENDING LABS/TESTS*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER MEDICAL CONDITIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRIEF HOSPITAL COURSE*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROCEEDURES, TESTS AND RESULTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMMUNIZATIONS GIVEN*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DISCHARGE WEIGHT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALLERGIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DISCHARGE MEDICATIONS*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATIENT/FAMILY PREFERENCES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONDITION AT DISCHARGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATIENT COUNSELING AND EDUCATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIGNATURE OF PATIENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIGNATURE OF ATTENDING</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Elements taken from the pediatric hospitalist discharge summary template

Seven essential discussion elements for the discharge summary from Pediatric Discharge Content: A Medicate Assessment of Physician Preferences and Experiences

## Quality Evaluation

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCHARGE DIAGNOSIS*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical dx listed, NOT cc</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>DISCHARGE MEDICATIONS</td>
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<td></td>
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</tr>
<tr>
<td>Names of medications</td>
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<td></td>
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</tr>
<tr>
<td>Dosage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route of administration</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Frequency of dosage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End date (if applicable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication changes during stay indicated</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>FOLLOW-UP APPOINTMENTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date/time of appointment</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Provider type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time to labs indicated following discharge</td>
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<td></td>
</tr>
<tr>
<td>BRIEF HOSPITAL COURSE</td>
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<td></td>
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</tr>
<tr>
<td>Brief summary of presentation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital course broken down by problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PICU/Floor notes NOT separated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actionable details presented in plan for PCC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PENDING CARE/TESTS</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Type lab/test pending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date lab/test performed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discharge Summary Rubric

- Pull out the discharge summary rubric
- Use the rubric to evaluate the discharge summary you have previously given feedback on
- Did the feedback change?
Our Data-Quality

- Problem diagnosis: 35% included, 65% omitted
- Problem outcome: 24% included, 76% omitted
- Physical exam (at admit): 4% included, 96% omitted
- Physical exam (at discharge): 7% included, 93% omitted
- Acronyms: 99% included, 1% omitted
What’s Important To You?
Please complete the evaluation.

To continue the conversation…

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