Family and Nurse Engagement on Rounds to Improve Safety: The Patient and Family Centered I-PASS Study

April 16, 2019
10:00 am – 11:00 am PDT
Moderator/Host

Barbara Abeling, PhD, RN
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Administrative Assistant
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Housekeeping Items

• All lines will be muted. Raise your hand if you wish to be unmuted.

• The presentation slides and recording will be available within 1-3 business days.

• 1 CE unit will be provided to CHPSO/HQI/CHA Members:
  – Complete the survey by April 24, 2019
  – CE certs will be emailed by April 30, 2019
How to ask a question
Speakers

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Children’s Hospital Los Angeles
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Disclosures

• Dr. Khan has:
  – Received grant funding from the Agency for Healthcare Research and Quality (AHRQ) and the Patient Centered Outcomes Research Institute (PCORI).

• Dr. Baird has:
  – Received grant funding from the Agency for Healthcare Research and Quality (AHRQ).

• Drs. Khan and Baird and Ms. Cray will:
  – Present copyrighted materials and have obtained permission from Boston Children’s Hospital and the I-PASS Study Group.
  – Not discuss unapproved or off-label, experimental or investigational use.
Overview

• Background: Patient Safety and Communication
• Patient and Family Centered I-PASS
  – Family and Inter-Professional Engagement
  – Health Literacy in the Inpatient Setting
  – Effective Implementation
• Patient and Family Centered I-PASS Findings
• Questions
“A wise family doctor once told me something that has stuck with me through the years. It went something like this: ‘Hospitals are not set up for patients. They are set up for doctors.’ As I struggled through years of care with my children, I saw firsthand how true this statement really was.”

-Mother of 2 children with cystic fibrosis
Patient Safety and Communication

Jennifer Baird, PhD, MPH, MSW, RN, CPN
Children’s Hospital Los Angeles
Patient Safety in the US

Ongoing Challenges

• Institute of Medicine, 1999
  – 44,000-98,000 deaths per year due to adverse events

• Office of the Inspector General, 2010
  – 180,000 deaths per year due to adverse events

• North Carolina Patient Safety Study, 2010
  – 2341 randomly selected admissions from 10 randomly selected hospitals statewide
Why Communication Matters

Root Causes of Sentinel Events

Communication
Assessment
Physical Environment
Information Management
Operative Care
Care Planning
Continuum of Care
Medication Use
Special Interventions
Anesthesia Care

Communication and Handoff Skills Training
- For Residents
- For Faculty
- Adult Learning Principles
- Multimodal Delivery

Mnemonic
- Simplified after pilot testing
- Emphasizes most essential elements of handoff

Redesigned Verbal Handoff Process
- Quiet, Private, Group Handoff

Printed Handoff Tool
- Integrated into every EMR
- Structured template if no EMR

Campaign and Culture Change
- Continual Reinforcement
- Faculty Engagement

I-PASS Handoff Bundle
### Primary Outcome

#### Medical Error Rates

<table>
<thead>
<tr>
<th></th>
<th>Number of errors (rate per 100 patient admissions)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre (n=5516 admissions)</td>
</tr>
<tr>
<td>Overall rate of medical errors</td>
<td>24.5</td>
</tr>
<tr>
<td>Preventable Adverse Events</td>
<td>4.7</td>
</tr>
<tr>
<td>Mean duration of verbal handoff per patient</td>
<td>2.4 min</td>
</tr>
</tbody>
</table>

*Significant Reduction in Medical Errors and Patient Harm, No Change in Workflow or Time for Handoffs*


- **23% reduction**
- **30% reduction**
- **No increase in time**
Communication Interventions

• Interventions to improve intra-professional communication have been shown to improve patient safety
• Communication interventions—including I-PASS—have not typically included families and other members of the inter-professional team
Patient Safety: Families as Vigilant Partners in Care

- Intimate knowledge of historical background
- Motivation for a good outcome
- Availability
- Proximity
  - Particularly in pediatrics

Schwappach DLB. *Med Care Res Rev.* 2010
Current State of Rounds

• “Family Proximate Rounds”
• Excess medical jargon
• Lack of family questions or attempts to ensure family understanding or engagement
The Patient and Family Centered I-PASS Program

Jennifer Baird, PhD, MPH, MSW, RN, CPN
Children’s Hospital Los Angeles
Rounds Report
A summary of what we talked about during rounds.

<table>
<thead>
<tr>
<th>Date:</th>
<th>Name:</th>
</tr>
</thead>
</table>

Read this page to help you remember what we talked about today during rounds. You can also write down the questions you have on the bottom of this page.

Why your child is in the hospital:

Things you wanted to talk about with the doctors and nurses today:

<table>
<thead>
<tr>
<th>Nurse Summary</th>
<th>Overall, how are your child is doing compared to yesterday</th>
<th>Circle one:</th>
<th>About the same as yesterday</th>
<th>Worsen than yesterday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Better than</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Today's updates</td>
<td>• What's new or changed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• What needs to happen before you're child is ready to leave the hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>What should be done today</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Action List

<table>
<thead>
<tr>
<th>Situation Awareness &amp; Continuity</th>
<th>• Things that might happen or change</th>
<th>• Things that you can help us look out for</th>
<th>• What we might need to do if something changes</th>
</tr>
</thead>
</table>

Please use this space below to write down any questions you have or things you would like to talk about with the doctors and nurses tomorrow.

Questions or things you would like to talk about tomorrow:
Patient and Family I-PASS Study Group

Team of Content Experts

- Educators
- Hospitalists
- Health services researchers
- Residency program leaders
- Content experts
  - Simulation
    - Development of videos and online content
  - Faculty development
  - Health literacy
    - Includes expertise from medical interpreters
- Nurse Advisory Council
- Family Advisory Council
I-PASS

An Organizing Framework

• I  Illness Severity
  – Introductions first
  – Getting better, getting worse, about the same

• P  Patient Summary
  – Problem oriented
  – Plain language
  – Ongoing assessment and plan

• A  Action List
  – To-do list

• S  Situation Awareness & Contingency Planning
  – Knowing what’s going on
  – Planning for what might happen

• S  Synthesis by Receiver
  – Check-back: receiver summarizes what was heard, asks questions, restates key action/to do items
Overview of the Intervention

- Training curriculum for families, nurses, and doctors
- Changes in communication during FCRs:

  **Families:**
  - A. Speak first on rounds
  - B. Ask questions
  - C. Synthesize / Teach Back

  **Staff:**
  - A. Formulate plans together with families
  - B. Speak in “plain language,” not medical jargon

- “Rounds Report,” structured real-time FCR takeaways for families
- Inter-professional (doctor-nurse) check-ins with each other
- Observations and real-time team feedback about FCR performance
- Campaign (e.g., logo, posters, brochures) to promote the program
Speaking with Families

Sharon Cray
St. Christopher’s Hospital for Children
Health Literacy Best Practices

1. Plain language
2. Effective written communication
3. Synthesis/Teach-Back
Use Everyday Language – Not Jargon
How might you say it differently?

<table>
<thead>
<tr>
<th>Jargon</th>
<th>Every Day Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acutely</td>
<td>All of a sudden or quickly</td>
</tr>
<tr>
<td>Edema</td>
<td>Swelling</td>
</tr>
<tr>
<td>Adversely Affect</td>
<td>Make Worse</td>
</tr>
<tr>
<td>Respiratory Distress</td>
<td>Trouble breathing</td>
</tr>
<tr>
<td>Abdominal Pain</td>
<td>Belly pain</td>
</tr>
<tr>
<td>Extremity</td>
<td>Leg, Arm, etc.</td>
</tr>
<tr>
<td>PRN</td>
<td>When you need it</td>
</tr>
<tr>
<td>Chest Film</td>
<td>Chest X-ray</td>
</tr>
</tbody>
</table>
Synthesis/“Teach-back”

• Patients say in their own words what they understood
  —“I want to be sure I explained everything clearly, so can you please explain it back to me so I can be sure I did?”
  —Do not ask:
    • “Do you understand?”
    • “Do you have any questions?”
  —Not just “repeat” back

• Opportunity for receiver to clarify information and have an active role on rounds
• Promotes a shared mental model
Challenges To Consider

Communicating with Families

• Family not at bedside
• Limited English proficiency
• Cultural and personal preferences
• Fostering adolescent patient involvement
• Addressing sensitive topics
Families and Inter-professional Engagement

Sharon Cray
St. Christopher’s Hospital for Children
Guiding Principles of Nurse Engagement

- Nurses are key members of the team on FCRs
- Nurse input is critical to development of a viable plan of care for patient and family
- Nurses should speak early and often on FCRs
Important Considerations for Nursing

• Early identification of nursing champions
  — Guide decision-making throughout the process
  — Representation from clinical nurses and nurse leaders

• Dissemination of education to nursing staff
  — Format and length
  — All shifts or just day shift?

• Adaptation of nursing and team workflows
  — How will nurses consistently get to FCR, given competing demands of morning schedule?
Roles of Nurses on FCR

- Coach patients and families
  - Orient and prepare them to FCR
- Advocate for patients and families
  - Address their concerns, if they are unable or uncomfortable participating in FCR
- Speak early to provide critical information
  - Overnight events and concerns
  - Objective data (VS)
- Speak often to share thoughts or concerns
- Ask questions to create a shared mental model
Family Engagement at All Levels

• Kickoff meeting in Boston
• I-PASS committees
• Development of
  — Intervention
  — Curriculum
  — Patient questionnaires
  — Rounds Report, family brochure, other patient materials
• Advising and participating in trainings
• Observation of rounds
• Consultation and feedback to all aspects of project work
• Scholarship
  — Manuscript preparation
  — National presentations
Family Advisory Council

- Each pilot site identified individuals to participate in the FAC
- Chaired by national patient advocates
  - Parents with background in patient engagement and patient safety
- FAC met monthly
- Parents reported back to quarterly “large group” calls
Characteristics of the FAC

• **Parent members**
  – Have a wealth of individual experiences with healthcare and their own children
  – Work with family advisory councils at their own children’s hospitals
  – Actively address issues of diversity
    • Language, culture, age, ethnicity, socioeconomic status
  – Give enormously of their voluntary efforts
Questions Posed to FAC

• Family perspective on matters such as:
  – Teaching on FCRs
  – Health literacy
  – Synthesis on FCRs
  – Adolescent patients
  – Limited English Proficiency
  – Interpreters
“I am so encouraged by the efforts of the I-PASS team to involve, engage and truly listen to the patients and their families. Down to every detail, [they have incorporated] many perspectives and experiences and tailored the project to make a real difference in the safe treatment of patients through family centered rounds and clear and compassionate communication.”
Lessons for Successful Collaboration with Families

• Include everyone
• Ensure diversity amongst family participants
• Be sensitive to family time availability
• Engage families broadly at all levels
  – Science, training, education, intervention development, testing, etc.
• Appreciate expertise of family members
  – Ask a lot of questions
  – Listen and act
• Build substantive, continuing partnerships
• Recognize there is always a diversity of opinions
Effective Implementation

Alisa Khan, MD, MPH
Boston Children’s Hospital
Patient and Family Centered I-PASS

Implementation Steps

1. Established Institutional Support
2. Assessed Local Environment
3. Considered Adaptation of Patient and Family Centered I-PASS
4. Determined Implementation Scope
5. Developed Communication Plan
6. Ensured Ongoing Data Collection and Improvement Cycles
7. Planned for Implementation
8. Identified mechanisms for broad-scale dissemination
Data Use to Inform Improvement

• Data collection, analysis, and feedback to team members was critical to implementation

• Performance measures selected:
  – Mapped back to aims of implementation
  – Addressed areas of critical vulnerability and challenges
  – Tracked performance longitudinally
  – Were actually collected!

• Logistics, accountability, and process were critical
Example Run Chart

Parent/family expressed concerns for the day at the start of rounds

Aggregate n =

<table>
<thead>
<tr>
<th>Wash-in period</th>
<th>Month</th>
<th>Post data collection</th>
<th>Beyond study</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>20</td>
<td>18</td>
<td>28</td>
</tr>
<tr>
<td>11</td>
<td>40</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>73</td>
<td>59</td>
<td>28</td>
<td>15</td>
</tr>
</tbody>
</table>
Outcome Metrics

- **Training Penetration**
  - Percent of residents/nurses/champions trained

- **FCR Process**
  - Percent of parents/families who express concerns for the day at the start of rounds
  - Percent of nurses present for majority of FCR discussion
  - Assessment of use of effective plain language during FCR

- **Rounds Report Tool**
  - Assessment of completion of Rounds Report

- **Clinician and Family Experience Surveys**
  - Communication with families on rounds
  - Family understanding of what was discussed on rounds
QI Observations

• Recruited faculty, nurses, parents to observe rounds and give targeted feedback to team
• Observations facilitated by QI tool
• QI Tool addressed 4 key domains of behaviors on rounds integral to Patient and Family I-PASS:
  1. Activation of family and members of interprofessional team
  2. Use of structured communication techniques & I-PASS format
  3. Health Literacy
  4. Teaching
# QI Observation Tool

## Core Items
1. Please choose your additional area(s) of interest for this week’s observations (select all that apply):
   - Activating and engaging the family and inter-professional team
   - Patient centered conversation and written information
   - Use of structured communication techniques
   - Teaching

<table>
<thead>
<tr>
<th>Element/Behavior</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Parent/family expressed concerns for the day at the start of rounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Nurse present for majority of discussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Rounds Report / written family communication tool completed or updated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Teaching occurred on rounds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I-PASS Mnemonic Element</th>
<th>Description</th>
<th>Behavior</th>
<th>Yes, completely</th>
<th>Yes, partially</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Illness Severity</td>
<td>Identification of patient as better, worse, or about the same</td>
<td>Parent/Patient states assessment of illness severity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Patient Summary</td>
<td>Assessment and plan for each patient problem</td>
<td>Patient summary completed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Action List</td>
<td>Summary of main action items for next 24 hrs.</td>
<td>Action items for next 24 hrs. discussed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Situation Awareness and Contingency Planning</td>
<td>Awareness of what is going on for patient and team, plan for what might happen</td>
<td>Contingency plans for next 24 hrs. specified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Synthesis by Receiver</td>
<td>Oral summary of discussion on rounds; restatement of key action items and contingency plans (ideally completed by patient/family)</td>
<td>Synthesis completed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10a. If “yes, completely” or “yes, partially,” who completed synthesis by receiver? (check all that apply) □ Patient □ Family □ Nurse □ Other: __________

10b. If “no,” did a team member verbally indicate that they would return for synthesis from family member later? □ Yes □ No
Patient and Family Centered I-PASS Findings

Alisa Khan, MD, MPH
Boston Children’s Hospital
Methods

• Multicenter prospective pre-post study
• Inpatient pediatric units at 7 North American hospitals
• Staggered implementation and data collection from 2014-2017
• At each participating hospital:
  – 3 months baseline data collection
  – 9 month intervention period with iterative cycles of improvement
  – 3 months of post-intervention data collection matched by time of year
• Nurses and families engaged in every aspect of study
Primary Outcome

• Medical error/AE rates
• 2-step safety surveillance methodology, including:
  — Family safety reporting
• Error: mistake in care delivery process
• Adverse Event (AE): injury or harm due to medical care
  — Preventable: caused by medical error
  — Non-preventable: not caused by medical error
A Novel Parent Error-Reporting Methodology

• Partnered with parent advisors to develop the tool

• Oriented parents to error types/examples
  • Medications
  • Miscommunications
  • Diagnosis
  • Delays
  • Complications
  • Equipment

• Asked about:
  — Adverse events/harms
  — Errors of omission, commission, non-harmful errors
  — Other issues

• Conducted parent safety interviews weekly and at discharge

## Secondary Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Modality</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family experience</td>
<td>Discharge survey</td>
<td>How well did you understand what was being said on rounds?</td>
</tr>
<tr>
<td>Rounds processes</td>
<td>Direct observation</td>
<td>Did family-centered rounds occur for this patient?</td>
</tr>
</tbody>
</table>
## Medical Error Rates

<table>
<thead>
<tr>
<th>Per 1000 patient-days</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Errors</td>
<td>41.2</td>
<td>35.8</td>
<td>.21</td>
</tr>
<tr>
<td>Harmful errors/Preventable AEs</td>
<td>20.7</td>
<td>12.9</td>
<td>.01</td>
</tr>
<tr>
<td>Nonharmful errors/Near misses</td>
<td>20.0</td>
<td>22.0</td>
<td>.5</td>
</tr>
</tbody>
</table>
# AE Rates

<table>
<thead>
<tr>
<th>Per 1000 patient-days</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEs</td>
<td>34.0</td>
<td>18.5</td>
<td>.002</td>
</tr>
<tr>
<td>Preventable AEs/Harmful errors</td>
<td>20.7</td>
<td>12.9</td>
<td>.01</td>
</tr>
<tr>
<td>Nonpreventable AEs</td>
<td>12.6</td>
<td>5.2</td>
<td>.003</td>
</tr>
</tbody>
</table>
Aspects of Family Experience that Improved

- Understood what was said on rounds
- Understood written updates provided
- Shared understanding of medical plan with nurses
- Nurses addressed family concerns
- Nurses made family feel an important part of healthcare team

<table>
<thead>
<tr>
<th></th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

*p < .05
Communication Process Scores

- Family engagement
- Nurse engagement
- Family centered rounds occurred
- Family received written updates
- Teaching occurred on rounds
- Optimal pace of rounds

n=206 rounds encounters pre-intervention; n=278 post-intervention
Conclusions: Patient & Family Centered I-PASS Study

Implementation of a communication intervention emphasizing family-centeredness, standardized communication, inter-professional collaboration, and health literacy was associated with:

- 38% reduction in harmful medical errors
- Improvements in aspects of family experience and hospital communication processes
- No change in rounds duration or teaching on rounds

Khan et al. BMJ. 2018
Next Steps: Dissemination & Implementation
Final Take Home Points

• Engage patients, families, and interprofessional team members early and empower them as partners in intervention development
• Use health literacy principles in communications to create a shared mental model
• Develop an implementation strategy to overcome challenges and achieve success!
“We have to make it easier for families to be a true part of their children’s care. When patients and families are true members of the medical team, care is more informed, more targeted, and more safe for everyone.”

-Mother of 2 children with cystic fibrosis
Patient and Family Centered I-PASS Study Group

Patient and Family Centered I-PASS Study Leadership:

*Study PI:* Christopher P. Landrigan MD, MPH

*Project Leader:* Alisa Khan MD, MPH

Patient and Family Centered I-PASS Coordinating Council:


Patient and Family Centered I-PASS Scientific Oversight Committee:

Alisa Khan MD, MPH (Co-Chair), Christopher P. Landrigan MD, MPH (Co-Chair/PI), Daniel C. West MD (Co-Chair), Dorene Balmer PhD, Maitreya Coffey MD, Sarah Collins RN, PhD, Katherine Litterer, Rita Pickler RN, PhD, Theodore C. Sectish MD, Nancy D. Spector MD, Amy J. Starmer MD, MPH

Patient and Family Centered I-PASS Family Advisory Council:

Dale A. Micalizzi (Co-Chair), Helen Haskell (Co-Chair), Brenda Allair, Michele Ashland, Eileen Christensen, Amanda Choudhary, Sharon Cray, Devesh Dahale, Roben Harris, Elizabeth Kruvand BSc, Katherine Litterer, Sally Coghlan McDonald, Chelsea Welch, Peggy Markle, Cindy Warnick, Mary Pozsgai

Patient and Family Centered I-PASS Data Coordinating Center:

Anuj K. Dalal MD, Stuart Lipsitz PhD, Matthew Wien BS, Catherine Yoon MS, Katherine Zigmont BSN, RN

PRIS Executive Council:

Rajendu Srivastava MD, MPH (Chair), Jay Berry MD, MPH, Patrick Conway MD, MSc, Ron Keren MD, MPH, Christopher P. Landrigan MD, MPH, Sanjay Mahant MD, MSc, Samir S. Shah MD, MSCE, Karen M. Wilson MD, MPH, Theoklis Zaoutis MD, MSCE

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How to ask a question
## Upcoming HQI-CHPSO Webinars

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 30</td>
<td>10:00 am – 11:00 am PDT</td>
<td><a href="#">California Bridge: Treatment of Opioid Use in Acute Care</a></td>
</tr>
</tbody>
</table>
### Upcoming CHPSO Safe Tables

**CHPSO Members Only**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 24</td>
<td>10:00 am – 11:00 am PDT</td>
<td><a href="#">ED Boarding of Psychiatric Patients</a></td>
</tr>
<tr>
<td>May 5</td>
<td>10:00 am – 11:00 am PDT</td>
<td><a href="#">Limitations of Bar Code Medication Administration</a></td>
</tr>
<tr>
<td>May 22</td>
<td>10:00 am – 11:00 am PDT</td>
<td><a href="#">Patient Identification</a></td>
</tr>
</tbody>
</table>
HQI’s 2019 Conference

October 14 - 15, 2019
Sacramento
Follow-up Email

• Please complete our survey
  – Share potential topics for future meetings
• CE Information
• Slides
• Recording
Thank You!

• Follow @CHPSO and @HQInstitute on Twitter!