Patient and Family I-PASS
Better Communication. Safer Care.

CONSUMERS ADVANCING PATIENT SAFETY
Safety Across the Board Signature Learning Series
May 2015 Webinar
Welcome

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Executive Director
Consumers Advancing Patient Safety
Introduction

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President
Consumers Advancing Patient Safety
Bringing I-PASS to the Bedside and the Unit Patient and Family Centered I-PASS

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Drs. Landrigan and Spector have
• Identified that they have no conflicts of interest to disclose
• Documented that this presentation will not involve discussion of unapproved or off-label, experimental or investigational use

Drs. Landrigan and Spector will
• Present copyrighted materials and have obtained permission from Boston Children’s Hospital and the I-PASS Study Group.

The I-PASS Handoff Study Curriculum includes materials adapted from TeamSTEPPS™, an evidence-based teamwork curriculum developed by the Department of Defense and the Agency for Healthcare Research and Quality. All materials are used with permission.
Objectives

I-PASS Handoff Study
• Provide important background information regarding patient safety and factors that contribute to medical errors
• Describe the development of the I-PASS Handoff Bundle
• Report the results of the I-PASS Handoff Study

Patient and Family Centered I-PASS
• Describe the development of the intervention bundle in Patient and Family Centered I-PASS
• Articulate the important contributions of a diverse group of experts
  – Patients and families
  – Health literacy experts
  – Communication specialists
• Background
• Pilot study
• Multi-site study
• Results
Patient Safety in the United States

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

Landrigan. NEJM 2010; 363: 2124-34.
Intern Sleep and Patient Safety Study

Randomized Controlled Trial of extended shifts (24-30h) vs. 16h limit

Landrigan. NEJM 2004; 351: 1838-1848
Shorter Shifts →
Increased Frequency of Handoffs

- 2008 IOM Report on Resident Duty Hours concluded that it was unsafe for residents to work more than 16 hours without sleep

- 2011 ACGME Duty Hour Standards restricted interns to 16 consecutive hours of work and requires programs to:
  - Ensure and monitor structured handoffs
  - Teach resident handoff skills and ensure competence
Communication Failures

Joint Commission. (2011). Sentinel Event Statistics Data - Root Causes by Event Type
Handoff Bundle Intervention
Boston Children’s Hospital

Communication and Handoff Skills Training + Standardization of Verbal Handoffs + Computerized Handoff Tool = Resident Handoff Bundle (RHB)

## Results: Medical Error and Preventable Adverse Events

Rates per 100 Admissions

<table>
<thead>
<tr>
<th></th>
<th>Pre-</th>
<th>Post-</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Errors</td>
<td>33.8</td>
<td>18.3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Preventable Adverse Events</td>
<td>3.3</td>
<td>1.5</td>
<td>0.04</td>
</tr>
</tbody>
</table>

From Pilot Study to Multi-site Intervention Project

**IIPE-PRIS Accelerating Safe Sign-outs**

- Multisite study at 9 Children’s Hospitals
- Implemented I-PASS handoff bundle for resident physician change of shift handoffs
- Supported by
  - Initiative for Innovation in Pediatric Education (IIPE)
  - Pediatric Research in Inpatient Settings (PRIS)
- Funded by $3 million grant from U.S. Dept of Health and Human Services (ARRA funding) September 2010
Handoff Bundle Intervention

I-PASS

Communication and handoff skills training
• Residents
• 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

= Handoff Bundle
3-hour Core Resident Workshop

2-Hour Session of Didactic and Interactive Exercises
- TeamSTEPPSTM training
  - Communication skills
  - Briefs, debriefs, huddles
- Learning styles exercise
- Handoff skills training
  - Verbal Mnemonic
  - Written Handoff Document

Followed by

1-Hour Handoff Simulation Exercise
- 3 Role Play Scenarios that will allow residents the opportunity to be
  - Giver
  - Receiver
  - Observer
- 1 Role Play Scenario
  - Developing a Shared Mental Model
# TeamSTEPPS Skills in Handoffs

<table>
<thead>
<tr>
<th>Cross Monitoring</th>
<th>Night team recognizes medication error during handoff and informs the day team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief</td>
<td>Night team goes over action list and divides tasks and new admits and plans for time to regroup</td>
</tr>
<tr>
<td>Debrief</td>
<td>In the morning, the night team and day team discuss what went well with the handoff and items the night team would have liked to know</td>
</tr>
<tr>
<td>Huddle</td>
<td>A patient is unstable, the day and night team examines the patient together and discusses plans for the night with the nurse</td>
</tr>
<tr>
<td>Check-Back</td>
<td>The intern obtains new information to add to the hand off from the senior resident, this information is repeated by the intern to confirm communication</td>
</tr>
</tbody>
</table>
**Standardized Structure for Communication**

**I-PASS Mnemonic**

**I** Illness Severity
Stable, “Watcher,” Unstable

**P** Patient Summary
Summary statement; events leading up to admission; hospital course; ongoing assessment; plan

**A** Action List
To do list; timeline and ownership

**S** Situation Awareness & Contingency Planning
Know what’s going on; plan for what might happen

**S** Synthesis by Receiver
Receiver summarizes what was heard; asks questions; restates key action/to do items

I-PASS Workshop Leader/Facilitator
Facilitate the 2-hour interactive didactic training

Handoff Simulation Small Group Facilitators
Facilitate the hour long handoff simulations with small groups of residents that occur at the end of the workshop

“Live” Handoff Faculty Observers
Observe live handoffs with residents after the RHB has been implemented and provide feedback on faculty observation forms

I-PASS Campaign
Marketing as well as “Just in Time” refreshers for the residents
I-PASS Campaign Materials

- Posters
- Pocket cards
- Study Logo
- Badge Clips
- “just in time” refresher training sessions
## Study Design

General inpatient units at 9 North American pediatric residency training programs

<table>
<thead>
<tr>
<th>Site Name</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>Feb</td>
<td>Mar</td>
</tr>
<tr>
<td>UCSF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stanford</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington University</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cincinnati</td>
<td></td>
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<td></td>
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<tr>
<td>Utah</td>
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<td></td>
<td></td>
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<tr>
<td>St. Christophers</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>National Capital Consortium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sick Kids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSU</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Yellow** = pre-intervention data collection
- **Green** = I-PASS bundle implementation
- **Blue** = post-intervention data collection
Results – Process Measures

% of Verbal Handoffs with Key Elements Present

* P < 0.001

N = 207 verbal handoff sessions, 2281 unique patient handoffs
Results – Process Measures

% of Written Handoffs with Key Data Elements

* P < 0.001

N = 432 written handoff documents, 5752 unique patient entries
### Results – 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>Near misses / non harmful medical errors</td>
<td>19.7</td>
</tr>
<tr>
<td>Non-preventable Adverse Events</td>
<td>3.0</td>
</tr>
</tbody>
</table>

- **30% reduction**
- **23% reduction**
## Results – Balancing Measures

### Resident Workflow

<table>
<thead>
<tr>
<th>Activity</th>
<th>% of Time per 24 hr Period Spent in Activity</th>
<th>Pre-Intervention N = 3510 hours</th>
<th>Post-Intervention N = 4618 hours</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Family Contact</td>
<td>11.8%</td>
<td>12.5%</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>Creating written or computerized handoff document</td>
<td>1.6%</td>
<td>1.3%</td>
<td>0.54</td>
<td></td>
</tr>
<tr>
<td>Other Computer Time</td>
<td>16.2%</td>
<td>16.5%</td>
<td>0.81</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean duration of verbal handoff per patient</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.4 min</td>
<td>2.5 min</td>
<td>0.55</td>
</tr>
</tbody>
</table>
Patient and Family Centered I-PASS

Aims

We aim to implement Patient and Family Centered I-PASS with an Intervention Bundle to:

• Reduce serious medical error
• Improve family centered rounds and daily communication
• Improve the shared understanding of care plans between providers and patients and families
• Improve the patient and provider experience
Communication on Family Centered Rounds

Pilot Data

- Pilot data from Boston Children’s Hospital
  - 45% discordance rate for understanding the plan of care between families and the medical team

Khan A. Physician-Parent miscommunication in the hospital at night. PAS Meeting Vancouver, Canada; May 3, 2014.
Curriculum Delivered to All Members of the Team

- Residents
- Medical students
- Faculty
- Nurses
- Patients and families

- Separate patient education materials for patients and families
  - Brochure for orientation
Patient and Family Centered I-PASS Intervention Bundle
Family Centeredness

• Evidence that family centeredness / family presence have positive impact

• Patients
  – Have less anxiety
  – Recover faster following tonsillectomy
  – Require less sedatives and analgesics

Roles of Team Members on FCR

Everyone has a role during FCRs

• Patients and Families
• Nurses
• Physicians
• Students
• Interpreters
• Other team members
  • Social workers, pharmacists, case managers, dieticians

https://www.asme.org/career-education/articles/team-building/teaching-teamwork-to-engineers
Orientation for Patients and Families

Intern or Nurse should
• Discuss benefits of FCR
• Introduce team members
• Describe format of rounds
• Identify roles of team members
• Elicit family preferences
Eliciting Family Preferences

• Preferences regarding
  – Participation on FCR?
  – Time of rounds
  – Bedside versus hallway
  – Language and interpreter use
  – Whole team versus core member inclusion
  – Which family members will participate
  – Role of the patient
Empowering and Activating Families

• Remind the family prior to FCR of their important role
• Facilitate conversation
  – Avoid presenting on their behalf
• Support and thank parents for active participation
  – Explain how this promotes a shared understanding
• Involve the patient when appropriate
  – School age children can also be involved
Non-Verbal Communication

Positioning on Family Centered Rounds

- Senior
- Intern
- Attending

- Physicians and Medical Students
- Nurse
- Patient and Family
- Interpreter
- Other Team Members
What is Best Taught on FCR?

• Clinical rationale for decisions that were made on admission
  – Provide an explanation for the family
• Physical exam skills
  – Reinforce parent observations
• Communication skills
  – Role-model patient centered communication techniques
• Anticipatory guidance
• Other things that would benefit the family and learners
Team Communication Throughout the Day

Mid-Shift Huddle
• Inter-professional team meeting typically late afternoon and on overnight rounds
  – Update on watchers
  – Concerns or problems
    • Changes in clinical status
    • Family concerns
    • Impediments to key action items
  – High level discussion of admissions and discharges
• Closing the loop with patients and families
Principles of Health Literacy

Verbal Communication
• Use plain “living-room” language
• Avoid medical jargon / medical terms
• Slow down
• Organize into 2-3 concepts
• Check for understanding

Written Communication
• Be at a 6th – 8th grade reading level
• Limit medical jargon
• Be in simple language
• Focus on 2-3 key concepts
• Focus on need to know information
Cultural Competency

Needs for the Team

• Better understanding of common cultures and health beliefs

• Standard approach to patients with English as a second language
  – Interpreter services or language lines
  – Translation services for written communication

• Proper communication techniques for each culture
Benefits of Involving Families in Patient and Family Centered I-PASS

• Optimize family centeredness
• Identify our blind spots
• Provide family perspective
  – Offers our curriculum proper grounding and practical solutions
Challenges of Involving Families in Patient and Family Centered I-PASS

Our group

• Works on our tight timelines
  – Family member volunteers may not be available or are able to give feedback in that short timeframe

Family members

• Are more diverse in their perspectives so consensus may not be able to be achieved
Questions and Discussion
Upcoming Events

Upcoming Topics:

Understanding the Data Behind the National Landscape of Safety: Have We Really Improved

Patient Activated Rapid Response

The Economics of Error Disclosure
Thank you for joining us today!

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