Our Presenters

- Amy Starmer, MD, MPH
  - Boston Children’s Hospital
- Nan Henderson, DNP
  - St. Jude Children’s Research Hospital
- Maggie Halladay, BSN, CCRN, SRNA
  - Duke University Nurse Anesthesia Program
- Katie Steider, MPH, CPH
  - Division of Public Health, Communicable Disease Branch, North Carolina Department of Health and Human Services
Today’s Agenda

• IPASS Handoff
• Anesthesia (OR to PACU)
• Interfacility Handoff
Polling Question 1

Does your organization promote a standardized handoff tool?

1. Yes
2. No
3. Don't Know
Polling Question 2

Which type of handoff would you like discussed at our upcoming Safe Tables in March?

1. ED to inpatient
2. OR to post-anesthesia
3. Acute care to outside facility
4. Shift to shift
5. Inpatient to ancillary unit
Adapting the I-PASS Handoff Program Across a Variety of Clinical Settings

Amy J. Starmer, MD, MPH
Nan Henderson, DNP
Disclosures

- Dr. Starmer has
  - Received grant funding from the US Department of Health and Human Services, Agency for Healthcare Research and Quality (AHRQ), and Patient Centered Outcomes Research Institute.
  - Received consulting fees for helping various institutions implement I-PASS.
  - Co-founded, serves as a board member, holds equity interest, and serves as a consultant for the I-PASS Institute, a company which aims to assist institutions in the implementation of the I-PASS Handoff Program.
  - Documented that this presentation will not involve discussion of unapproved or off-label, experimental or investigational use.

- St. Jude Children’s Hospital is a client of the I-PASS Institute

- We will
  - Present copyrighted materials and has obtained permission from Boston Children’s Hospital and the I-PASS Study Group.
Objectives

- Review the development and implementation of the I-PASS Handoff Program for end of shift handoffs and its associated impact on medical errors and patient safety.
- Describe representative examples where the I-PASS framework has been successfully adapted for other provider and handoff types.
  - Focus on Nursing I-PASS adaptation.
Communication Failures

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 September 2010
Intervention:
I-PASS Handoff Bundle Components

- I-PASS Mnemonic
- Introductory Workshop
- TeamSTEPPS Training
- Simulation Exercises
- Faculty Development
- Structured Observation & Feedback
- I-PASS Printed Handoff Document
- I-PASS Campaign
### Standardized Structure for Communication: The I-PASS Mnemonic

<table>
<thead>
<tr>
<th>I</th>
<th>Illness Severity</th>
<th>• Stable, “watcher,” unstable</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Patient Summary</td>
<td>• Summary statement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Events leading up to admission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hospital course</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ongoing assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Plan</td>
</tr>
<tr>
<td>A</td>
<td>Action List</td>
<td>• To do list</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Timeline and ownership</td>
</tr>
<tr>
<td>S</td>
<td>Situation</td>
<td>• Know what’s going on</td>
</tr>
<tr>
<td></td>
<td>Awareness and</td>
<td>• Plan for what might happen</td>
</tr>
<tr>
<td></td>
<td>Contingency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Synthesis by</td>
<td>• Receiver summarizes what was heard</td>
</tr>
<tr>
<td></td>
<td>Receiver</td>
<td>• Asks questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Restates key action/to do items</td>
</tr>
</tbody>
</table>

“In 10,740 patient admissions, the medical-error rate decreased by 23% from the preintervention period to the postintervention period (24.5 vs. 18.8 per 100 admissions, P<0.001), and the rate of preventable adverse events decreased by 30% (4.7 vs. 3.3 events per 100 admissions, P<0.001). Across sites, significant increases were observed in the inclusion of all prespecified key elements in written documents and oral communication during handoff ... There were no significant changes from the preintervention period to the postintervention period in the duration of oral handoffs (2.4 and 2.5 minutes per patient, respectively; P = 0.55) or in resident workflow, including patient–family contact and computer time.”
Disseminating and Adapting I-PASS: Ongoing Work and Future Directions
I-PASS Website and MedEdPORTAL

www.ipasshandoffstudy.com
I-PASS Curricular Downloads

3,496 US Curricular Downloads
864 International Downloads
I-PASS Curricular Downloads By Provider Type And Clinical Setting

Providers

- Physician: 48%
- Registered Nurse: 15%
- Physician Assistant: 5%
- Medical Student: 9%
- Nurse Practitioner: 8%
- Other: 6%
- Pharmacist: 3%
- Unspecified: 6%

Clinical Settings

- Internal Medicine: 17%
- Pediatrics: 17%
- Emergency Medicine: 9%
- Orthopedics: 4%
- Surgery: 8%
- Other: 9%
- Obstetrics Gynecology: 6%
- Neurology: 3%
- Intensive Care: 10%
- Obstetrics Gynecology: 6%
- Unspecified: 5%
Adapting For Other Providers

I-PASS Mentored Implementation

- I-PASS Study Group partnered with the Society for Hospital Medicine: Mentored Implementation approach
- Selection of 32 institutions across North America
- Adaptation of all curricular materials
  - Materials for adult providers
  - Implementation guide specifying key milestones
  - Focus on more independent and flexible learning (e.g. “flipped classroom” approach)
- Mentorship team and QI collaborative
Mentored Implementation Results

Adherence to All 5 I-PASS Mnemonic Elements (% Usually or Always)

Handoff-Related Adverse Event Rate (Mean Patients per Rotation Experiencing Any Harm)
Nursing I-PASS Implementation

- Increased inclusion of:
  - Illness severity assessment (37% vs 67%)
  - Patient summary (81% vs 95%)
  - To do list (35% vs 100%)
  - Opportunity for receiving nurse to ask questions (34% vs 73%).
- Overall, 13/21 (62%) of verbal handoff data elements were more likely to be present following implementation.
- Decrease in interruption frequency (67% vs 40% of handoffs with interruptions).
- No change in the median handoff duration (18.8 min vs 19.9 min, p=0.48) or other workflow activities.
RN to RN Care Handoff Improvements at St. Jude Children’s Research Hospital

Nan Henderson, DNP
Director of Patient Safety
St. Jude Children’s Research Hospital
St. Jude Children’s Research Hospital

High Risk Patient Population
- Pediatric oncology and survivors (~2/3)
- Non-oncology (~1/3)
  - Sickle cell disease
  - Pediatric/adolescent HIV

Patient Volume and Care Model
- Licensed for 80 beds
  - ~6000 outpatient visits/month
  - ~7800 active patients/year
- Once patients accepted essentially all care provided by St. Jude during active treatment
Why I-PASS?

• Clearly best practice with substantial evidence base

• Creates a shared mental model between giver and receiver to communicate right information

• Designed specifically for handoffs

• Adaptable to different handoff types
RN to RN: Our Choice to Start

Information from many sources pointed to handoffs and transitions of care as an opportunity for improvement:
- No standard structure or format for all areas (they did their own thing)
- Serious Safety Events indicated opportunity
- Patient safety culture survey results
  - Safety culture survey results for “Handoffs and Transitions” dimension
  - Open-responses indicate opportunity
  - Focus group feedback

Started with a Plan
Global Goal: To reduce preventable harm
Proximate Goal: To sustain adherence to I-PASS structure for RN bedside handoff
Worked with every Unit to flow their work._ Example of Handoff flow chart

Typical information:
- Name?
- Diagnosis?
- Reason for admission?
- Isolation?
- Type therapy?
- Access/lines?
- Labs?

Typical information:
- Room number?
- Isolation?
- Vitals?
- Who is transporting?
- Can patient consent?

- No Difference
- Nurse “A” only
- Nurse “B” only
- Slight Difference

What we have learned along the way…

• Listen, Listen, Listen
  – If they have input; they will have buy in
• The form/health record tool is not the handoff!
  – We constantly reiterated the importance of structured verbal communication
  – Tools clearly important but not the only focus
  – Aligning tools and implementation efforts
ANY QUESTIONS?

Amy.starmer@childrens.harvard.edu
Nan.Henderson@STJUDE.ORG
Development, Implementation, and Evaluation of a Site Specific Post-Anesthesia Care Unit Patient Handoff Tool

Maggie Halladay, BSN, CCRN, SRNA
Class of 2018
Duke University Nurse Anesthesia Program
Clinical Problem

- Clinical problem: Non-standardized transfer of care report provided by anesthesia providers to PACU RNs immediately following surgery in the PACU
- Current PACU handoff: unstructured, incomplete, inconsistent
- Significance: treatment delay, medication errors, sentinel events
- Joint Commission requirement: standardized process for handoffs

Overall Goal

- Increase patient safety by standardizing the post anesthesia care unit (PACU) handover process at Duke Raleigh Hospital

Primary Objective:
- Implement a standardized PACU handoff tool to optimize patient information transfer between anesthesia providers and PACU nurses
# PACU Handoff Tool

<table>
<thead>
<tr>
<th>Patient</th>
<th>Procedure</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Identification (Nameband check)</td>
<td>Intubation conditions (grade of view, airway, quality of bag mask ventilation, bite block?)</td>
<td>Analgesia Plan - During Case, Postop Orders</td>
</tr>
<tr>
<td>Time In</td>
<td>Lines/catheters (IVs, a-lines, CVSs, foley chest tubes, surgical drains, VP shunt)</td>
<td>Antiemetics Administered</td>
</tr>
<tr>
<td>Allergies</td>
<td>Fluid Management</td>
<td>Medications due during PACU (antibiotics, etc.)</td>
</tr>
<tr>
<td>Surgical Procedure and Reason for Surgery</td>
<td></td>
<td>Other Intra-Op Medications (steroids, antihypertensives)</td>
</tr>
<tr>
<td>Type of Anesthesia (GA, TIVA, regional)</td>
<td></td>
<td><img src="image" alt="Do you have any questions or concerns?" /></td>
</tr>
<tr>
<td>Surgical or anesthetic complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMH and ASA Scoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preoperative Cognitive Function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preoperative Activity Level (METs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limb Restriction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preop Vitals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positioning of Patient (if other than supine)</td>
<td>Fluids=</td>
<td>&quot;Do you have any questions or concerns?&quot;</td>
</tr>
<tr>
<td></td>
<td>EBL=</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UO=</td>
<td></td>
</tr>
</tbody>
</table>
Anesthesia Handoff Note

Patient Name: @NAME@
Age: @AGE@
Surgical Procedure: @ANPROCEDURE@
Pre-op diagnosis: @ORPREDX@
Surgeon: Dr. @ATTEND@
Anesthesia Care Providers: @ANSTAFF@
Ht/Wt: @WEIGHT@
Allergy: @ALLERGY@
Isolation Status: @DUHSISO@
Past Medical History: @HXPMH@
Past Surgical History: @HXPSH@
Medications: @MED@

Labs:

<table>
<thead>
<tr>
<th>@LABRCNTIP(Na:3,K:3,CL:3,CO2:3,BUN:3,CREATININE:3,GLUCOSE:3,CALCIUM:3,MG:3)@</th>
<th>@LABRCNTIP(ALT:3,AST:3,ALKPHOS:3,TBILI:3,ALB:3)@</th>
</tr>
</thead>
<tbody>
<tr>
<td>@LABRCNTIP(POCGLU:3)@</td>
<td>@LABRCNTIP(APTT:3,PROTIME:3,inr:3)@</td>
</tr>
</tbody>
</table>

Baseline Cognitive, Motor, &/or Sensory Deficits: {Blank multiple:19197:: "Yes", "Yes- dementia", "Yes- RLE weakness", "Yes- LLE weakness", "No"}
Percentage of Items Transferred in PACU 1

- Patient ID
- Allergies
- Surgical Procedure
- Reason for Surgery
- Type of Anesthesia
- Surgical or Anesthetic complications
- Past medical history
- Preoperative cognitive function
- Preoperative activity level
- Limb restriction
- Preoperative vital signs

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Pre-implementation  3 Weeks Post-implementation  3 Months Post-implementation
Percentage of Items Transferred in PACU 1

- Intubation conditions
- Lines/Catheters
- Fluids
- EBL
- UOP
- Analgesia during case
- Antiemetics
- Medications due in PACU (antibiotics, etc.)
- Other medications (steroids, antihypertensives, etc.)
- Do you have any questions or concerns?

Pre-implementation | 3 Weeks Post-implementation | 3 Months Post-implementation
PACU Handoff Duration

Time (mm:ss)

0:00
0:30
1:00
1:30
2:00
2:31
3:01
3:31
4:01

PACU 1

PACU 2

Pre-implementation
3 Weeks Post-implementation
3 Months Post-implementation
Distractions interrupted the handoff.

I had a chance to ask questions.

I received anticipatory guidance.

Handoff start and end were clear.

I received information about potential problems.

I received information about with whom to follow-up.

The anesthesia provider report was satisfactory.

PACU Nurse Satisfaction Survey

Pre-implementation  3 Weeks Post-implementation  3 Months Post-implementation

Percent of Strongly Agree & Agree Responses

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Conclusion

- Electronic PACU handoff checklist
  - Increased the information transferred
  - Increased the PACU nurse satisfaction with the PACU handoff process for 2 out of the 8 satisfaction survey items
  - Decreased the verbal report duration in PACU 1

- Sustainable practice improvement as evidenced by the three months post-implementation data

- Resistant adopters addressed via
  - One-on-one re-education sessions
  - In person education sessions
Use of an interfacility transfer form to prevent MDROs across the continuum of care

Katie Steider, HAI Epidemiologist
Overview

• Communication between healthcare facilities

• Multidrug-resistant organisms (MDROs)

• NC DPH Interfacility Transfer Form pilot
Polling Question

1. Does your facility currently use a standard interfacility transfer form during patient transfer and discharge?
   A. Yes
   B. No
   C. Don’t know
Polling Question

2. If your facility currently uses a standard interfacility transfer form, does it include information about infection or colonization with multi-drug resistant organisms?
   A. Yes
   B. No
   C. Don’t know
Communication between Healthcare Facilities

- Useful
  - Patient status/needs
  - Care plan

- Required by CMS
  - Reform of Requirements for Long-Term Care Facilities
  - (proposed) Revisions to Requirements for Discharge Planning for Hospitals, Critical Access Hospitals, and Home Health Agencies
Multidrug-resistant Organisms (MDROs)

- Resistant to several kinds of drugs
- Intra- and inter-facility spread
- Vulnerable patients at risk for infection
- Infections are difficult to treat and can be associated with high mortality rates
- Examples: CRE, ESBL
Benefits of Interfacility Communication
Re: MDROs

• Protects patients/residents

• Contains healthcare costs

• Prevents the spread of MDROs
Part of a Coordinated Approach to MDRO Prevention

Facilities work together to protect patients.

Common Approach (Not enough)
- Patients can be transferred back and forth from facilities for treatment without all the communication and necessary infection control actions in place.

Independent Efforts (Still not enough)
- Some facilities work independently to enhance infection control but are not often alerted to antibiotic-resistant or C. difficile germs coming from other facilities or outbreaks in the area.
- Lack of shared information from other facilities means that necessary infection control actions are not always taken and germs are spread to other patients.

Coordinated Approach (Needed)
- Public health departments track and alert health care facilities to antibiotic-resistant or C. difficile germs coming from other facilities and outbreaks in the area.
- Facilities and public health authorities share information and implement shared infection control actions to stop spread of germs from facility to facility.
Coordinated Approaches Prevent MDROs

More patients get infections when facilities do not work together. (Example: 5 years after CRE enters 10 facilities in an area sharing patients)

**Common Approach (status quo):**
- 2,000 patients will get CRE.
- CRE will impact 12% of patients.

**Independent Efforts:**
- 1,500 patients will get CRE.
- CRE will impact 8% of patients.

**Coordinated Approach:**
- 400 patients will get CRE.
- CRE will impact 2% of patients.

SOURCE: CDC Vital Signs, August 2015.
NC DPH Interfacility Transfer Form

• Developed with input from examples from CDC, state health departments, quality improvement organizations, regulatory agencies

• Fillable PDF that autofills in duplicate

• Instructions for use
### Sections

- Transferring facility info
- Transfer info
- Pt. demographics and VS
- Current isolation precautions
- Organisms/infections
- Current/recent sx.
- Sensory status and ADLs
- Current devices/recent procedures
- Current meds
- Vaccination/test hx.
- Personal items
- Contact information
Highlight – Current Isolation/PPE, MDROs

<table>
<thead>
<tr>
<th>Multi-drug resistant organisms (MDROs)</th>
<th>Current infection</th>
<th>Hx/Colonized</th>
<th>Pending result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methicillin-resistant Staphylococcus aureus (MRSA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vancomycin-resistant Enterococci (VRE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acinetobacter not susceptible to carbapenems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterobacteriaceae resistant to carbapenems (i.e. CRE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extended-spectrum beta-lactamase producer (ESBL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clostridium difficile (C. diff)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other: (e.g. Group A Streptococcus (GAS), lice, scabies, disseminated shingles, norovirus, flu, TB, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NC DPH Interfacility Transfer Form

Benefits

• Standardized format for interfacility communication of patient MDRO status during transfer

• Information needed/desired during transfer all in one place

• Complies with Reform of Requirements for Long-term Care Facilities (CMS)
NC DPH Interfacility Transfer Form Pilot

- IP notices increase in ESBL cases since Oct. 2016; notifies LHD
- LHD requests assistance from SHARPPS Program
- Site visits to facilities

- Pilot meeting with facilities

- Follow up site visits
- Pilot meeting with facilities

- Interfacility transfer form pilot
- Infection prevention and MDRO training
MDRO Outbreak in LTCFs

Month - Year

Number of cases

ESBL
CRE
MDRO Outbreak in LTCFs

The chart shows the number of cases of MDRO outbreaks in LTCFs from October 2016 to November 2017. The cases are categorized by month and year. The legend indicates that ESBL is represented by a solid blue bar and CRE by a hatched blue bar. The number of cases ranges from 0 to 8.
Pilot Activities

• Preparation
  • Facility recruitment
  • Stakeholder meetings

• Pilot

• Focus groups
  • Management
  • Front-line staff
Pilot Toolkit – an Important Resource

• Tools
  • Letter of Introduction
  • Implementation Plan
  • Suggested Implementation Strategies
  • Project Charter
  • Pre-implementation Questions
  • Training Checklists and Sign-in Sheet
  • Fax Cover Sheet

• References
  • List of Participating Partners
  • Submission Schedule
  • Interfacility Transfer Form Instructions
MDRO Outbreak in LTCFs

Interfacility transfer from pilot

Number of cases

Month - Year

Oct-16  Nov-16  Dec-16  Jan-17  Feb-17  Mar-17  Apr-17  May-17  Jun-17  Jul-17  Aug-17  Sep-17  Oct-17  Nov-17

ESBL

CRE

0  1  2  3  4  5  6  7  8
Focus Group Feedback - Benefits

• Identified patients:
  • With history of MDRO colonization or infection
  • On isolation precautions and appropriate PPE

• Initiated isolation precautions in ambulance and ED

• Patient placement based on isolation status

• Identified patient needs/baseline status

• Assisted in completing other transfer paperwork

• Created awareness that certain information should be communicated during transfer/discharge
Questions and Discussion

Interfacility transfer form available from the NC SHARPPS Program webpage: 

Please email nchai@dhhs.nc.gov with questions or for more information.

Contact

Katie Steider, MPH, CPH 
katie.steider@dhhs.nc.gov 
919-546-1712
References

• Joint Commission Sentinel Event Alert Issue 58, https://www.jointcommission.org/sentinel_event_alert_58_inadequate_handoff_communications/

LiveSlides  web content

To view

Download the add-in.
liveslides.com/download

Start the presentation.
## Save The Date!

<table>
<thead>
<tr>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
</table>
| **Safe Table: Handoffs & Transitions of Care**  
*Tuesday, 3/20/18, 10a-1:30p*  
*O’Berry Neuro-Medical Treatment Center, Goldsboro, NC*  
[Register](#) | **Webinar: Member Spotlight on National Patient Safety Awareness Week Activities**  
*Thursday, 4/5/18, 2-3p*  
[Register](#)  
[Seeking presenters](#) | **Safe Table: Patient-Staff Violence**  
*Seeking Host Site!*  
Disruptive patient behavior is increasingly common but not always reported. Have you experienced physical violence (hitting, biting, scratching) or verbal violence (insults, threats, cursing) from a patient? Join us as we discuss patient-staff violence and present suggestions to promote safety and support staff members. | **1-Day Workshop: RCA²: Foundations & Implementation**  
*Thursday, 6/14/18*  
*NCHA, Cary, NC*  
[Register](#) |
| Handoff communications occur frequently, are often crucial to safe patient transitions, and remain a challenge throughout the continuum of care. Let’s talk about it! | 1-Day Workshop: Caring for Behavioral Health Patients in Non-Behavioral Health Settings: A Primer for Professionals (Clinical & Non-Clinical)  
*Wednesday, 4/11/18*  
*NCHA, Cary, NC*  
[Register](#) | An interactive workshop on common behavioral health presentations, communication techniques, physical safety considerations, and unique NC challenges. | Jessica Behrhorst, System Director of Quality & Patient Safety at Oshner Health System, will review the foundational tools used in RCA² and share her implementation experience. |
| **Safe Table: Handoffs & Transitions of Care**  
*Thursday, 3/29/18 10a-1:30p*  
*Nash Health Care, Rocky Mount, NC*  
[Register](#) | | | |
| Handoff communications occur frequently, are often crucial to safe patient transitions, and remain a challenge throughout the continuum of care. Let’s talk about it! | | | |