Reducing Obstetric Harm

Sue Leavitt Gullo, RN, BSN, MS
Director at the Institute for Healthcare Improvement (IHI)

September 6, 2013
How to Speak Boston
Hallmarks of Hub-speak

- Leaving off the “r” at the ends of words, as in “Pahk the cah in Hahvahd Yahd.”
- Words with “or,” such as corn and color, sound like “cawn” and “coluh.”
- Words with “ar,” such as square and party, sound like “skweuh” and “pahty.”
- An intrusive “r.” When an “r” finds its way into a word that really ends in a vowel, such as “bananer” instead of banana.
- One-syllable words with a short “a” sound followed by the letters m, n or ng become two-syllable words such as “k-i-ae-n” instead of can.
- Leaving off “ng” sounds at the end of words — thinkin’, talkin’, doin’.
So I pahked the cah in Havahd Yahd and we take the T to the noth end for suppah. I had some chowdah and a beeah. After that we go get these wicked big ice cream cones with jimmies, then we went to the sawx game. It was Pissah! When I finally get back to the cah I find out some cop gave me a freekin' pahkin ticket! But anyways...

I ♥️ Boston
Objectives

- Describe the timeline of perinatal safety efforts over the past thirteen years.
- Reflectively think about your perinatal culture and identify 3 things that you would not change, and 3 that you would.
- Discuss every patient, every time and what level of a reliable design strategy your unit may be in its current state.
- Describe one project plan that you will bring back and use quality improvement techniques to move forward at a faster pace than any prior work.
Sentinel Event Alert, Issue 30: Preventing infant death and injury during delivery
July 21, 2004

While a healthy and safe birth for the mother and infant is the goal for all labor and delivery units—regardless of the level of services available—in some instances, what should be a joyous, celebratory event turns to tragedy when the newborn dies. The rate of perinatal mortality in the U.S. has steadily declined to a rate of 6.9 deaths per 1,000 live births in 2001. Nevertheless, since 1996, a total of 47 cases of perinatal death or permanent disability have been reported to the Joint Commission for review under the Sentinel Event Policy. Cases considered reviewable under the Sentinel Event Policy are "any perinatal death or major permanent loss of function unrelated to a congenital condition in an infant having a birth weight greater than..."
On November 22, 2000, our baby boy Luke was taken from us . . . abruptly and tragically due to medical error.

A 38-Year-Old Woman With Fetal Loss and Hysterectomy

Benjamin P. Sachs, MB, BS, Discussant

DR DELBANCO: Mrs W is a married, self-employed, healthy woman living in a community several hours from Boston. She has private health insurance. At age 38, she was admitted to the hospital for elective delivery of her first child, but the admission ended tragically with fetal loss, hysterectomy, and a prolonged hospitalization.

The pregnancy, her first, was wanted and uneventful. When seen initially by her obstetrician, Mrs W’s blood pressure was 112/80 mm Hg. She showed no sign of labor at term. At 40 weeks of pregnancy, her blood pressure was 126/78 to start pushing. Thirty minutes later the fetal heart rate was 115/min, with late decelerations. It quickly dropped to 90/min for 3 minutes, followed by further slowing for about 11 minutes. A low-forceps delivery (+2 station, right occiput anterior with caput and molding) was attempted at 6:20 AM and failed. She was rapidly transferred to the operating room; the fetal heart rate was in the 130s. An emergency cesarean delivery was performed. When the abdominal cavity was entered, the uterus was found to have ruptured in the lower segment and the placenta was in the abdomen. A stillborn male fetus, weighing 10 lb, was delivered at 6:45 AM; the fetal weight was determined after extensive efforts.
“38 year old woman admitted to the hospital for elective delivery of her first child, but the admission ended tragically with fetal loss, hysterectomy, and a prolonged hospitalization.”
“Although the complication that occurred is rare, unfortunately the types of failures in communication and teamwork are not.”
Provider Perspective

“In medicine, it is a challenge to be the one to criticize or evaluate a colleague when you perceive that mistakes are being made, or when you disagree with management.”
6 System Failures Identified

1. Communication was poor
2. Mutual performance cross monitoring
3. Inadequate conflict resolution
4. Poor situational awareness
5. Physician workload was too high and there was no contingency plan in place to deal with the overload
6. Physician on call displayed “vigilance fatigue”
On November 22, 2000, our baby boy Luke was taken from us... abruptly and tragically due to medical error. Through the painstaking heartache and our Faith that he is in the hands of God, we have vowed to make a difference in the lives of disadvantaged children everywhere... in his name.

Born from the Love we have for our Son, our mission is to provide opportunities for these children by funding programs that enhance and protect their lives by creating Hope for their future.

Please join us in our vision to keep Luke’s light shining down upon the many Children who are so desperately in need.

"Every child begins the world again."

Henry David Thoreau

Luke Vincent Powers Foundation
Funding infinite opportunities for children in need
PO Box 575, West Barnstable MA 02668-0575

Web Design Powered By CharityAdvantage.

The human factor: the critical importance of effective teamwork and communication in providing safe care

M Leonard, S Graham, D Bonacum

Effective communication and teamwork is essential for the delivery of high quality, safe patient care. Communication failures are an extremely common cause of inadvertent patient harm. The complexity of medical care, coupled with the inherent limitations of human performance, make it critically important that clinicians have standardised communication tools, create an environment in which individuals can speak up and express concerns, and share common “critical language” to alert team members to unsafe situations. All too frequently, effective communication is situation or personality dependent. Other

The development and implementation of crew resource management (CRM) in aviation over the last 25 years offers valuable lessons for medical care. Realising that 70% of commercial flight accidents stemmed from communication failures among crew members, CRM sought to standardise communication and teamwork. Currently, CRM is required globally in aviation training, and direct observational studies by Robert Helmreich’s group have correlated actual flight crew performance with attitudes toward teamwork and safety. In 2000, we undertook the adoption of relevant behaviours and skills into high risk medical environments. Twelve clinical teams underwent a three day training pro-
## Development of a Learning Community

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<td><strong>Phase I</strong></td>
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<td><strong>Launce Phase II</strong></td>
<td><strong>End Phase II</strong></td>
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<td><strong>Ascension Healthcare starts their effort with IHI - eight teams</strong></td>
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<td><strong>Focus:</strong></td>
<td><strong>Final Deliverables</strong></td>
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<td><strong>Premier holds Advisor Live call over 2,300 call in</strong></td>
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<td><strong>Reliability and Bundle concept</strong></td>
<td><strong>Beginnings of a Change Concept</strong></td>
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<td><strong>IHI launches Perinatal IMPACT community</strong></td>
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<td><strong>Simulation drills</strong></td>
<td><strong>Package for OB</strong></td>
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<td><strong>50 teams join community</strong></td>
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<td><strong>Seton Healthcare takes the lead</strong></td>
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<td><strong>IHI Web and Action 180 teams learn bundle implementation</strong></td>
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### Phase I
- High Reliability Team Training
- Primary focus is bundle compliance for the augmentation and induction bundles
- Managing first stage of labor
- Common language and communication skills

### Phase II
- High Reliability Teams
- Focus on bundle compliance for the augmentation and induction bundles; introduction of a second stage of labor bundle
- Managing second stage of labor
- Teamwork and communication
- Measuring harm reduction

Community size increases to 26 teams

White Paper/ various articles about the project
Training Champs Pump up Perinatal Safety

Nurse-Physician Communication During Labor and Birth: Implications for Patient Safety

Kathleen Rice Simpson, Dotti C. James, and G. Eric Knox

Objective: To describe communication between nurses and physicians during labor within the context of the nurse-managed labor model in community hospitals and its relationship to teamwork and patient safety.

Design: Multicenter qualitative study involving focus groups and in-depth interviews.

Setting: Labor and birth units in 4 Midwestern community hospitals.

Participants: 54 labor nurses and 38 obstetricians.

Methods: Focus groups and in-depth interviews were conducted using open-ended questions. Data were analyzed using inductive coding methods.

Keywords: Electronic fetal monitoring—Interdisciplinary communication—Interdisciplinary teamwork—Intrapartum care—Labor and birth—Nurse-managed labor—Oxytocin—Patient safety

Accepted: January 2006

Communication failures are the leading cause of preventable patient injuries and death (Joint Commission on Accreditation of Healthcare Organizations [JCAHO], 2005) and medical malpractice claims (ECRI, 2005). When breakdowns in communication occur, mothers and babies are at risk for harm. Standardized, structured communication has
Improving Patient Safety With Team Coordination: Challenges and Strategies of Implementation
Karen T. Harris, Catharine M. Treanor, and Mary L. Salisbury

The health care environment presents significant risk of errors leading to patient injury and harm. One method to promote patient safety involves improving team coordination. The MedTeams® training program, a nationally funded research project, provided the framework for team training in several labor and delivery units in the United States. Many challenges were confronted when team training was implemented. Based on these experiences, specific strategies to ensure the success of team training are discussed. JOGNN, 35, 557-566; 2006. DOI: 10.1111/j.1552-6909.2006.00073.x

Keywords: Communication—Coordination—

Moving Teamwork Innovation From Other Industries Into Health Care

The aviation industry has long been a leader in safety and accident prevention (Miller, 2003; Spencer, 2000). A safety training approach known as crew resource management (CRM) resulted in a decrease in fatal crashes, a reduction in safety-related task errors, and an improvement in performance (Gayman, Gentner, & Canaras, 1996; Grubb, Simon, & Zeller.
Tensions and Teamwork in Nursing and Midwifery Relationships

Holly Powell Kennedy and Audrey Lyndon

ABSTRACT

Objective: To explore the practice of midwifery within a busy urban tertiary hospital birth setting and to present findings on the relationships between nurses and midwives in providing maternity care.

Design/Method: A focused ethnography on midwifery practice conducted over 2 years (2004-2005) in a teaching hospital serving a primarily Medicaid-eligible population in Northern California. Data were collected through participant observations and in-depth interviews with midwives (N = 11) and nurses (N = 14). Practices and relationships among the midwives and nurses were examined in an ethnographic framework through thematic analysis.

Findings: Two themes described the nature of nursing-midwifery relationships: tension and teamwork. Tension existed in philosophic approaches to care, definitions of safe practice, communication, and respect. Teamwork existed when the midwives and nurses worked in partnership with the woman to develop a plan of care. Changes were brought about to improve the midwife-nurse relationship during the conduct of the study.

Conclusions: Midwives and nurses experienced day-to-day challenges in providing optimal care for childbearing women. The power of effective teamwork was profound, as was the tension when communication broke down. Failure to include nurses resulted in impaired translation of evidence into practice. All stakeholders in birth practices and policy development must be involved in future research in order to develop effective maternity care models.

JOGNN, 37, 426-435; 2008. DOI: 10.1111/j.1552-6906.2008.00255.x

Accepted April 2008
Perinatal Safety: From Concept to Nursing Practice

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Holly Powell Kennedy, CNM, PhD, FACNM, FAAN [Helen Varney Professor of Midwifery]
Yale School of Nursing, 100 Church Street South, PO Box 9740, New Haven, CT 06536-0740,
holly.kennedy@yale.edu, 203-737-1302

Abstract

Communication and teamwork problems are leading causes of documented preventable adverse outcomes in perinatal care. An essential component of perinatal safety is the organizational culture in which clinicians work. Clinicians’ individual and collective authority to question the plan of care and take action to change the direction of a clinical situation in the patient’s best interest can
**Results:** A statistically significant and persistent improvement of 37% in perinatal morbidity was observed between the pre- and postintervention for the hospital exposed to the simulation program. There were no statistically significant differences in the didactic-only or the control hospitals. Baseline perceptions of culture of safety were high at all three hospitals, and there were no significant changes.

**Conclusions:** A comprehensive interdisciplinary team training program using in-situ simulation can improve perinatal safety in the hospital setting. This is the first evidence providing a clear association between simulation training and improved patient outcomes. Didactics alone were not effective in improving perinatal outcomes.
Communication Strategies for Patient Handoffs

**ABSTRACT:** Handoff communication, which includes up-to-date information regarding patient care, treatment and service, condition, and any recent or anticipated changes, should be interactive to allow for discussion between those who give and receive patient information. It requires a process for verification of the received information, including read-back or other methods, as appropriate.

Patient handoffs are a necessary component of current medical care. Accurate communication of information about a patient from one member of the health care team to another is a critical element of patient care and safety; it is also one of the least studied and taught elements of daily patient care. One of the leading causes of medical errors is a breakdown in communication. This breakdown may occur between clinicians at any level of the health care system. Communication failures also have been found to be a leading cause of preventable error in studies of closed malpractice claims (1, 2). In the era of collaborative care, effective clinician-to-clinician communication is important for optimizing patient outcomes and increasing compliance to the implementation of a standardized approach for handoff communication. A process for guiding the handoff process should include the following:

- Interactive communications
- Limited interruptions
- A process for verification
- An opportunity to review any relevant historical data

Properly executed handoffs are interactive and include the opportunity for questions and answers. A handoff may occur during the transfer of care in any of several circumstances, including from one on-call physician
General Session #3

Tuesday, June 18, 8 – 9:15 a.m.

Working Together to Improve the Health of Women and Newborns

Audrey Lyndon, PhD, RNC, FAAN, Association of Women’s Health, Obstetric and Neonatal Nurses
Holly Powell Kennedy, CNM, PhD, FACNM, FAAN, American College of Nurse Midwives
Daniel O’Keeffe, MD, Society of Maternal Fetal Medicine

A panel composed of leaders from AWHONN’s collaborative partners will discuss their work surrounding communication among caregivers and its impact on patient safety. The panel will include representatives from organizations who have been actively involved in the research study Crucial Conversations Among Caregivers During Labor and Delivery. This study represents continued positive movement toward increased collaboration among the professional organizations involved in the care of women and newborns.
<table>
<thead>
<tr>
<th></th>
<th>2010 (N=802)</th>
<th>2011 (N=1243)</th>
<th>2012 (N=901)</th>
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<td>Leadership</td>
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<td>Human Factors</td>
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<td>Leadership</td>
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<td>Communication</td>
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<td>Assessment</td>
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<td>Physical Environment</td>
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<td>Information Management</td>
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<td>Physical Environment</td>
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<td>Operative Care</td>
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<td>Operative Care</td>
<td>Continuum of Care</td>
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<td>Care Planning</td>
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<td>Continuum of Care</td>
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<td>Continuum of Care</td>
<td>Medication Use</td>
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<td>Medication Use</td>
<td>86</td>
<td>Medication Use</td>
<td>Care Planning</td>
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</tbody>
</table>

The majority of events have multiple root causes (Please refer to subcategories listed on slides 5-7).
Root Cause Information for Perinatal Events Reviewed by The Joint Commission

(Full-term infant 2500g or > and absence of obvious congenital abnormality; resulting in death or permanent loss of function)

<table>
<thead>
<tr>
<th>Event Category</th>
<th>Count</th>
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<tbody>
<tr>
<td>Human Factors</td>
<td>176</td>
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<tr>
<td>Communication</td>
<td>162</td>
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<tr>
<td>Assessment</td>
<td>158</td>
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<tr>
<td>Leadership</td>
<td>141</td>
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<td>Information Management</td>
<td>51</td>
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<td>Physical Environment</td>
<td>42</td>
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<td>Care Planning</td>
<td>27</td>
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<td>Medication Use</td>
<td>20</td>
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<td>Continuum of Care</td>
<td>19</td>
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<tr>
<td>Patient Education</td>
<td>8</td>
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The majority of events have multiple root causes.

The reporting of most sentinel events to The Joint Commission is voluntary and represents only a small proportion of actual events. Therefore, these root cause data are not an epidemiologic data set and no conclusions should be drawn about the actual relative frequency of root causes or trends in root causes over time.
Current Maternal Event Data

Root Cause Information for Maternal Events Reviewed by The Joint Commission

(Resulting in death or permanent loss of function)

<table>
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<tr>
<th>2004 through 2012 (N=107)</th>
<th>The majority of events have multiple root causes</th>
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<tr>
<td>Human Factors</td>
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<td>Anesthesia Care</td>
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The reporting of most sentinel events to The Joint Commission is voluntary and represents only a small proportion of actual events. Therefore, these root cause data are not an epidemiologic data set and no conclusions should be drawn about the actual relative frequency of root causes or trends in root causes over time.
What teamwork or communication framework have you worked on?

- TeamSTEPPS
- CRM (Crew Resource Management)
- SBAR
- Situational Monitoring
- Walk Rounds
- Bedside Rounds
- Others?
Mindful Practice

It is not enough to do your best…

you must know what to do

and then do your best

W. Edwards Deming
If you want to reduce obstetric adverse events………

Start by KEEPING NORMAL NORMAL NORMAL!
Perinatal Community:
Reducing Harm,
Improving Care,
Supporting Healing

Basic Primary Drivers since 2006

Perinatal Leadership

Reliable Design / Reduce Variation

Effective Peer Teamwork

Respectful Patient Partnership

Reduce OB Adverse Events

Reduce harm to 5 or less per 100 live births
Zero incidence of elective deliveries prior to confirmation of fetal maturity
Augmentation Bundle(s)
Composite or Compliance greater than 90%
Improve organizational culture of safety survey scores in Perinatal units by 25%
100% of participating teams will have documentation of Patient & Family Centered Care

Perinatal Community: Reducing Harm, Improving Care, Supporting Healing

Basic Primary Drivers since 2006
Perinatal Community:
Reducing Harm, Improving Care, Supporting Healing

Key Outcome and Process Measures*

Perinatal Leadership

- Manage for Quality
- Change the Work Environment
- Enhance the Patient/Family Relationship

Reliable Processes

- Understand & Manage Variation
- Eliminate Waste

Effective Peer Teamwork

- Reduce Variation
- Improve Work Flow
- Change the Work Environment

Respectful Patient Partnership

- Design for Partnership
- Invest in Improvement

* See Perinatal Community Measurement Strategy
Perinatal Community:
Reducing Harm, Improving Care, Supporting Healing

- Manage for Quality
- Change the Work Environment
- Enhance the Patient and Family Relationship

Key Outcome And Process Measures*

Perinatal Leadership
- Understand & Manage Variation
- Eliminate Waste

Reliable Processes
- Standardization
- Exploit Variation
- Develop Contingency Plans
- Eliminate Things Not Used
- Eliminate Multiple Entry
- Use Sampling
- Match Amount to Need
- Reduce Setup Time

Effective Peer Teamwork
- Reduce Variation
- Improve Work Flow
- Change the Work Environment

Respectful Patient Partnership
- Design for Partnership
- Invest in Improvement

* See Perinatal Community Measurement Strategy
Perinatal Community:
Reducing Harm, Improving Care, Supporting Healing

- **Perinatal Leadership**
  - Manage for Quality
  - Change the Work Environment
  - Enhance the Patient and Family Relationship

- **Reliable Processes**
  - Understand and Manage Variation
  - Eliminate Waste

- **Effective Peer Teamwork**
  - Reduce Variation
  - Improve Work Flow
  - Change the Work Environment

- **Respectful Patient Partnership**
  - Design for Partnership
  - Invest in Improvement

- **Key Outcome and Process Measures**
  - Standardization: Communication & Team Response
    - Handoffs
    - Improve Predictions
    - Use Automation
    - Use a Coordinator
    - Bottlenecks
  - Natural & Logical Consequences
  - Access to Information
  - Develop & Provide Effective Training

* See Perinatal Community Measurement Strategy

Institute for Healthcare Improvement
<table>
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<tr>
<th>Change Category</th>
<th>Change Concepts</th>
<th>Key Change Ideas or Descriptions</th>
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</table>
| Reduce Variation        | Standardization: Communication         | • Utilize techniques for effective team communication i.e. SBAR; Appropriate Assertion  
• Develop a common understanding and definition of labor and train all workforce to such.  
• Develop a common language and interpretation of EFM and train all workforce to such.  
• Develop a process for routine Huddles and explore other methods to support team communication such as briefings, debriefings  
• Establish and standardize Team Response Protocols i.e. Code Crimson, Obstetric Hemorrhage, Crash Cesarean Delivery, Shoulder Dystocia.  
• Explore adaptation of checklists as a method to reduce miscommunication and reliance on memory i.e. surgical checklist for c/s |
| Improve Work Flow       | Handoffs                                | • Minimize number of handoffs.  
• Establish criteria for handoffs across all disciplines i.e. identify four key pieces of information  
• Establish multidisciplinary rounds on all patients at beginning and end of day.  
• Implement and use read back technique for critical information. |
| Improve Predictions     |                                        | • Use data over time to better predict noteworthy variation patterns, trends and shifts. Use information to better predict for staffing, supplies, budgets. |
| Use Automation          |                                        | • Automate standard of care and process changes i.e. incorporate components of bundle in EMR  
• Use automated constraints and affordances to support mistake proofing and reliability of process and documentation, i.e. cannot advance until documentation accurate, pop-up windows. |
| Use a Coordinator       |                                        | • Consider using a coordinator to manage flow and criteria for critical processes, i.e. clinical triage of admission for induction of labor. |
| Bottlenecks             |                                        | • Remove bottle necks or improve crazy-making processes by using generic improvement methods such as process map, flow chart and group decision-making tools. |
| Change the Work Environment | Emphasize Natural & Logical Consequences | • Support processes of accountability for own behavior verses traditional reward and punishment i.e. start meetings on time, individual responsible for obtaining update |
| Access Information      |                                        | • Conduct meetings with a multidisciplinary focus to hear and discuss same information |
| Develop and Provide Effective Training |                                        | • Design Simulations for learning & testing changes before implementing in patient care environment.  
• Use effective adult learning principles and methods to design learning opportunities i.e. monthly or weekly strip reviews on the unit to evaluate learning and application.  
• Incorporate critical learning and processes into orientation, i.e. Just Culture, common language  
• Implement Cross-training  
• Use well developed and affordable National educational materials i.e. TeamSTEPPS
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• Use effective adult learning principles and methods to design learning opportunities i.e. monthly or weekly strip reviews on the unit to evaluate learning and application  
• Incorporate critical learning and processes into orientation, i.e. Just Culture, common language  
• Implement Cross-training  
• Use well developed and affordable National educational materials i.e. TeamSTEPPS |
Perinatal Community:
Reducing Harm, Improving Care, Supporting Healing

- **Perinatal Leadership**
  - Manage for Quality
  - Change the Work Environment
  - Enhance the Patient and Family Relationship

- **Reliable Processes**
  - Understand & Manage Variation
  - Eliminate Waste

- **Effective Peer Teamwork**
  - Reduce Variation
  - Improve Work Flow
  - Change the Work Environment

- **Respectful Patient Partnership**

- **Design for Partnership**
  - Care Delivery
  - Environment
  - Transparent Communication

- **Invest in Improvement**
  - Engage Patients
  - Develop and Provide Training

---

Key Outcome And Process Measures*

* See Perinatal Community Measurement Strategy
“The First Law of Improvement”

“Every system is perfectly designed to achieve exactly the results it gets.”

Paul Batalden

Our results should not surprise us!
Quality Improvement & The Know-Do Gap

What we know

Evidence-Based Knowledge

Translation to Practice

What we do

Yesterday | Today | Tomorrow
QA and QI are complementary

1. Aims: what are the “gaps” in performance and outcomes
2. Measures: tools to measure and feedback processes and outcomes
3. Changes: frontline methods and activities to close the “gap”

Evidence
- Guidelines, protocols, SOPs
- Training Competencies
- Policy

Regulation
- Standards
- Professional oversight
- Accreditation
- Performance review

IMPROVED OUTCOMES
Steps for Process Improvement

- Standardize
- Measure
- Measure against a goal
- Brainstorm for innovative ways to improve
- Test your ideas to see if they improve

Failing to see improvement is not a failure. You have just discovered what not to do!
The Sequence of Improvement

Developing a change

Test under various conditions

Theory and Prediction

Make part of routine operations

Testing a change

Act

Plan

Study

Do

PROCCESS
Reasons for the Reliability Gap In Healthcare

- Current Improvement methods in healthcare are highly dependent on vigilance and hard work.

- The focus on benchmarked outcomes tends to exaggerate the reliability within healthcare hence giving both clinicians and leadership a false sense of security.

- Often excessive clinical autonomy creates and allows wide performance margins.

- The use of deliberate designs to achieve reliability goals seldom occurs.
Key Points from the Framework for Reliable Design

- **Process** reliability is linked to outcomes by science.
- Initial focus needs to be on reliability of **process** not outcomes.
- Reliability occurs by **design** not by accident.
- **Process** is the action point of all improvement methodologies.
Process + Structure = Outcome

1919-2000

Avedis Donabedian, M.D., M.P.H.
Design Levels for Reliability

- **Level 1**: Intent, vigilance and hard work

- **Level 2**: Design informed by reliability science and research in human factors

- **Level 3**: Design of integrated systems and high reliability organizations
Level 1: Intent, Vigilance and Hard Work

- Common equipment (and other structural standardization)
- Standard orders sheets
- Personal check lists
- Feedback of information on compliance
- Awareness and training
## Preventing Errors... The Role of Complexity

### Probability of Performing Perfectly

### Probability of Success, Each Element

<table>
<thead>
<tr>
<th>No. Elements</th>
<th>0.95</th>
<th>0.990</th>
<th>0.999</th>
<th>0.9999</th>
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<td>50</td>
<td>0.08</td>
<td>0.61</td>
<td>0.95</td>
<td>0.995</td>
</tr>
<tr>
<td>100</td>
<td>0.006</td>
<td>0.37</td>
<td>0.90</td>
<td>0.99</td>
</tr>
</tbody>
</table>
### What Impacts Our Performance?

- Fatigue
- Lack of sleep
- Illness
- Drugs or alcohol
- Boredom
- Frustration
- Fear
- Stress
- Shift work
- Reliance on memory
- Distractions
- Reliance on vigilance
- Noise
- Heat
- Clutter
- Motion
- Lighting
- Too many handoffs
- Unnatural workflow
- Procedures or devices designed in an accident prone fashion
Moving to Level 2 Performance

**Level 2: Design informed by reliability science and research in human factors**

**Design Concepts**

- Standardization of processes
- Building decision aids and reminders into the system
- Taking advantage of existing habits and patterns
- Making the desired action the default (based on evidence)
- Creating redundancy
- Scheduling using proper operations theory
Level 3: High Reliability Organizations

**Sophisticated design of human interactions and working relationships**

**Weick’s Attributes**

1. Preoccupation with failure (Prevent)
2. Sensitivity to operations (Prevent)
3. Reluctance to simplify interpretations (Identify)
4. Deference to expertise (Identify/Mitigate)
5. Commitment to resilience (Mitigate)

Steps for Process Improvement

- Standardize
- **Measure**
- Measure against a goal
- Brainstorm for innovative ways to improve
- Test your ideas to see if they improve

*Failing to see improvement is not a failure. You have just discovered what not to do!*
Measurement is Central to the Team’s Ability to Improve

- The purpose of measurement in QI work is for learning, not judgment!

- All measures have limitations, but the limitations do not negate their value for learning.

- You need a balanced set of measures reported daily, weekly or monthly to determine if the process has improved, stayed the same or become worse.

- These measures should be linked to the team’s Aim.

- Measures should be used to guide improvement and test changes.

- Measures should be integrated into the team’s daily routine.

- Data should be plotted over time on annotate graphs.

- Focus on the Vital Few!
<table>
<thead>
<tr>
<th>IHI Perinatal Care Community Measurement Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Measures</strong></td>
</tr>
<tr>
<td>Annual / Bi-annual Structure Assessments</td>
</tr>
<tr>
<td><strong>Oxytocin Deep Dive</strong></td>
</tr>
<tr>
<td>Perinatal Harm*</td>
</tr>
<tr>
<td>Patient and Family Centered Care (Structure/Narrative)</td>
</tr>
<tr>
<td>Elective Delivery prior to 39 weeks Rate (Initial) / Time Between (Rare Event) (TJC PC-01)</td>
</tr>
<tr>
<td>Cesarean Rate for low-risk first birth women (TJC PC-02)</td>
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<tr>
<td>Neonate Transfer to Higher Level of Care: Elective Delivery</td>
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<tr>
<td><strong>Culture of Safety Survey</strong></td>
</tr>
<tr>
<td>Elective Induction Bundle Compliance (Oxytocin)</td>
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<tr>
<td><strong>Initial Weekly or Monthly Process Measures</strong></td>
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<tr>
<td><strong>Optional Measures</strong></td>
</tr>
<tr>
<td>Augmentation Bundle Composite / Compliance* (Oxytocin)</td>
</tr>
<tr>
<td><strong>Advanced Indicated Induction Bundle Composite / Compliance</strong></td>
</tr>
</tbody>
</table>

* These assessments or measures have associated tools. These tools are located in the same file folder as this document on the extranet. This document also contains electronic links to the tool documents (also see appendix).
Does your data look like this?

Induction Bundle - Gest Age≥39wks

- Induction Bundle
- Gest Age≥39wks
In August, 4 infants were electively delivered prior to 39 weeks gestation and were transferred to NICU/SCN.

In August, 4 infants were electively separated from their Mom’s and developed breast-feeding issues, had a longer LOS, had hyperbilirubinemia, etc…….
What data is visible on your unit?

What story does your data tell?

Education and training
Summary

- Safety is everyone’s responsibility
- **Leadership** at every level plays an important role in creating an infrastructure and environment to support safety - in collaboration with frontline staff.
- Perinatal teams must have **knowledge** of **improvement** and have skills to apply it at the **process** level.
- Perinatal teams are in a unique role at the sharp end to stop errors, in **collaboration** with **patients** and **families**.
Experience of Care

Per Capita Cost

The IHI Triple Aim

Health of a Population
Neonatal Advantage Bundle - 1st Hour

- NRP - vigorous infant at term (37 weeks or greater)
- Delayed cord clamping
- Identification of risk of Infection/Sepsis
- Skin to Skin
- Initiation of Breastfeeding
- Delayed Bath

DRAFT......stay tuned for the resources and supporting documents to be posted to www.ihi.org
Goal: A Prepared and Activated Mom throughout Pregnancy

**Measures:**
- GA Reliability
- PC-01 Elective Delivery
- PC-03 Antenatal Steroids
- PC-02 Cesarean Section

<table>
<thead>
<tr>
<th>0-20 weeks</th>
<th>20-39 weeks</th>
<th>39-41 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Appropriate determination of gestational age – by 12-15 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Dialogue about risk with patients</td>
<td>• Initiate childbirth classes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Office standard practice regarding spontaneous labor, induction, cesarean</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Stakeholder alignment</td>
<td>• Common language for term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Normal is spontaneous labor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reliable criteria for antepartum testing</td>
</tr>
</tbody>
</table>
Pregnancy Intake
- Accurate Due date determined
- Review complete medical and behavioral history
- Review risk factors for preterm labor
- Determine candidacy for prophylactic interventions, if at risk for PTL

**ACOG Number 130 “Prediction and Prevention of Preterm Birth: 2012**
Goal: Identifying Misuse, Overuse, and Underuse for Nulliparous Patient

Measures:
- PC-02 Cesarean Section
- Vacuum bundle
- IHI Bundles

Evaluate and admit

First stage labor
- Standard definition of labor: Based on recommendations from NICHD First Cesarean
- Standard definitions of progression and FHR interpretation

Second stage labor
- Reliable use of AWHONN 2nd Stage Management
- Vacuum Bundle
- Standard definitions and care practices (time guidelines, etc)

Birth
Goal: Identifying Misuse, Overuse, and Underuse for Nulliparous Patient at and After Birth

Measures:
- PC-02 Cesarean Section
- PC-05 Exclusive Breast Milk
- Neonatal Advantage Bundle
- Neonatal Advantage Bundle
- Informed and ready receiving unit
- 3rd Stage Reliable Care
- Late Preterm Infant Toolkit
- Demonstration Project with AWHONN
- Reliable care through discharge and 6 weeks post-partum
NEW: Focus on Reliable Care through Discharge and 6 Weeks Post-Partum

This includes:

• Breastfeeding support
• Collaboration with pediatrics
• Home visits
  • Postpartum visits
  • Health assessment
  • Inter-conception planning
  • Monitoring for post-partum depression
Engaging Improvement Methods

1. Standardize what is standardizable, no more.
2. Generate light, not heat, with data (use data sensibly and use it for learning not judgment)
3. Make the right thing easy to try. End paralysis by analysis
4. Make the right thing easy to do.
Margaret Mead

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever does”