**Case Studies of TeamSTEPPS Implementation from Across the Country**

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**Steps to Reduce Catheter Associated Urinary Tract Infection (CAUTI) Rates “TeamSTEPPS”**

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June 2015

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**S - Situation**

- CAUTIs increase morbidity, mortality, length of stay and hospital cost (CMS, 2013)
- CAUTIs account for 75% of hospital acquired urinary tract infections (CDC, 2012)
- CAUTIs can impact financial reimbursement if deemed preventable (CMS, 2013)

**CAUTI Index**: ICU patients who developed a Hospital Associated indwelling urinary catheter infection / indwelling urinary catheter days in ICU(s) x 1000
B - Background

• The Southside Hospital ICU was charged to reduce CAUTIs by implementing evidence based best practices

• TeamSTEPPS is the “primary language” for a culture of patient safety at NSLIJHS

• Specific TeamSTEPPS tools were used to introduce and sustain these new practices

A - Assessment

• Current practice

• Clinical Practice Guidelines and discrepancies in practice.

• Team performance, culture of unit and barriers to change.

• ICU staff use of TEAMSTEPPs

R - Recommendations

• Provide education to staff on changes in clinical practices

• Choose specific TeamSTEPPs tools to embed and sustain new clinical practices

• Re-educate staff on the TeamSTEPPS tools would be use for CAUTI reduction

SBAR

Indwelling Catheter Rounds

Situation: Date catheter was inserted ___
How many Catheter Days # ___

Background: Why did the patient require an indwelling catheter?

Assessment: Does the Patient’s current status require the use of an indwelling catheter?

Recommendation: Can the catheter be removed? If not, why? What are next steps?
Two Challenge Rule

Situation Monitoring/Check Back
CAUTI Champions, Leadership, Educators ensure processes are followed

Briefs to create a Shared Mental Model
Feedback from CAUTI Champions

Debriefs
What is going well or needs to be revised

Handoff
Foley status discussed

Feedback

CAUTI RATES

In 2014 68% Decrease in CAUTIs

Feedback

CAUTI Index: ICU patients who developed a Hospital Associated indwelling urinary catheter infection / Indwelling urinary catheter days in ICU(s) x 1000
And in 2015

1 CAUTI

Thank you

to

Lynn Fricke
and the
NSLIJHS IFN TEAM

And

All of you for your attention!

Please Come Visit us at our Poster

References

• AHRQTeamSTEPPS@aha.org

Innovations in Psychiatric Triage Report: Making it matter and doing it fast with SBAR.

Denise Canchola, DNP, PMHNP, BC
Center for Health Care Services
San Antonio, Texas
SITUATION: Too many and too few

INSIDE: Chart is moved from silo to silo and progress charted on the face sheet.
OUTSIDE: Phone calls from patients are too many and emergencies are the priority.

BACKGROUND: Old CMHC & Traditional Social Work Model of Outreach

BACKGROUND: Complex Medication Regimens FOR Complex Diagnoses
BACKGROUND
Meds vs. Therapy and Devaluation of the Person

BACKGROUND: Past Reliance on Dangerous Controlled Drugs FOR Fast Results

BACKGROUND: New and Better Medications New and Better Psychotherapies.

ASSESSMENT

• Our old CMHC is just accepting that new psychiatric meds really do work a lot better.

• Our Social Workers are accustomed to substituting their observations for medical assessments to save time.

• Our Nurses languished and had become glorified message takers and not the legal and legitimate conduit for medical decision making.
RECOMMENDATIONS

- **Empower Nurses** to make assessments and give recommendations to the medical team and condense face-time with patients. **DOING**
- Help the Nurses to **empower the front desk and phone attendants** to also make assessments and give recommendations to the nurses to better prioritize appointments and calls. **DOING**
- Close the gap between Nursing/Medical and our Social Works by Creating Perceived Value. **WORK IN PROGRESS**
UTSW scored average on the AHRQ Culture of Safety Survey, given twice over a three year period, where the only interventions were siloed QI projects.

UTSW was preparing for a move into it one of the newest Hospitals in the country, Clements University Hospital.

- New Rapid Response Team of Critical Care trained Nurses had just started.

- Group of Experienced Critical Care Nurses that often functioned as a code team and in a variety of different urgent situations

- Mission: To Train the newly formed RRT in TeamSTEPPS.

- Vision: To empower this group of APRN's with new skills in:
  - Leadership
  - Communication
  - Situational Awareness
  - Mutual Support

- Obtain meaningful data for the C-suite on a future Broad Culture of Safety Roll out by trialing a TeamSTEPPS intervention in a high visibility group.

- Improve capability of the RRT team to function as an inter-professional team

- Support the transition from the old St Paul UH to the New Clements UH.
**Project Overview**

- **COHORT:** 19 Critical Care RN’s who function as the RRT for UTSW
- **INTERVENTION:** One day (8hr) AHRQ TeamSTEPPS Immersive Learning experience.—2 Separate Dates
- **METHODS:** Brainstorming, Multi-media based group discussion of content, Team building exercises (Lego, Academy Awards), Standardized Patients Hybrid Simulation, High Fidelity Simulation.

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**Agenda**

- **AM SESSION:**
  - Baseline High Fidelity Simulation:
    - 2 codes for baseline with video capture,
    - 3 different Lego Drills (ISIS Lego Drill from U of Washington)
    - TS— 4 module multi-media Instruction
- **PM SESSION:**
  - RRT High Fidelity Simulation.
  - Final 2 codes with video capture
  - Wrap up exercise
  - ISIS TS post assessment survey

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**METRICS**

- **Soft Metrics:**
  - U Washington TeamSTEPPS Center Inter-professional Team Simulation surveys, based on the AHRQ TeamSTEPPS curriculum
  - Pre-assessment survey,
  - Post-assessment survey.

- **Hard Metrics:**
  - ISIS TeamSTEPPS Performance Assessment Tool (PACT)
  - 5 Independent Blinded Video Reviews of each Simulation by TS Master Instructors

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**Typical Scenario...**

**NEURO**—Pt with witnessed GMS in Status Epilepticus on Hospital Lobby Floor.

**Setting:** hospital lobby

**Context:** 20 year old female with intractable temporal lobe epilepsy patient who has a generalized tonic clonic seizure, witnessed, who fell to the hospital lobby floor.

**Manikin:**
- female dressed attire, purse with leptra bottle, Wig, soap foam, on floor after seizure occurred, Voice: vomiting sound
- bloody laps in side of mouth (bit down tongue)
- wet clothing (urinated on herself)
- Pupils: dilated
- Skin/Head: warm to touch
- IV manikin arm for IV placement,
- Vomit from mouth

**VS:** HR:111, BP:139/75, RR:27, SP02:90%

**Equipment:**
- AED/transport monitor, bag mask, oxygen n/c, BMV IV angiocaths, NF bag, tubing

**Media:** 12-Lead EKG normal, D-Stick: low 50,
**Typical Scenario...**

- **Therapeutic Intervention:**
  - BMV with 100% Oxygen, prepare for intubation for Anesthesia
  - IV placement
  - Ativan Administration
  - Calling primary team for help, acquiring ABG, respiratory therapy, and anesthesia for help, ventilating with bag-mask, oral airway
  - LLD position for vomiting

- **TeamSTEPPS teachable moments we hope to see:**
  - SBAR to Code Team/Paramedic
  - Global awareness: pt still in status, needs ct head scan, benzo, ice
  - CCC for all the drugs
  - CO for keppra in bag
  - Shared Mental Model

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**Attitude Survey**

**Hard Metrics—Blinded Video Review**

**RRT Performance Pre and Post Team STEPPS Training**

- **Team Structure**: 50% pre, 52% post
- **Leadership**: 83% pre, 83% post
- **Interdisciplinary Monitoring**: 48% pre, 54% post
- **Medical Support**: 82% pre, 52% post
- **Communication**: 82% pre, 82% post

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Department of Anesthesiology & Pain Management
Carilion Roanoke Memorial Hospital (CRMH)

- Level 1 Trauma Center and tertiary, academic medical center in southwest Virginia
- 2381 patients FY2014 (90% blunt trauma); 50% of patients have moderate to severe injuries
- Emergency Medicine, General and Neurosurgery Residencies
- Trauma specific nursing orientation and continuing education mandated by state
- Trauma resuscitation setting high-risk with dynamic teams, opportunities for improvement

CRMH Trauma Service TeamSTEPPS (TS) Program The Good-Bad-&-The Ugly

<table>
<thead>
<tr>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource training center</td>
<td>Master Training</td>
<td>Performance Observation Tool developed &amp; validated</td>
<td>Curriculum development</td>
<td>RN Trauma Crash Course</td>
<td>General Surgery Resident TS training</td>
<td>RN Trauma Crash Course continues</td>
</tr>
<tr>
<td>Program sustained</td>
<td>Type I study</td>
<td>Type II study</td>
<td>Program sustained</td>
<td>Type I study</td>
<td>Type II study</td>
<td>Type II study</td>
</tr>
<tr>
<td>Attendance of 7 Trauma Surgeons</td>
<td>General Surgery Resident TS Training ceased</td>
<td>RN Trauma Crash Course continues</td>
<td>ACT NOW Rapid Response Program Study</td>
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</tr>
<tr>
<td>Rookie Trauma Section Chief, New Chair of Surgery, &amp; Director of General Surgery Residency</td>
<td>Cessation study</td>
<td>Trained 15 new Master Trainers</td>
<td>Surgery Resident TS Training resumes, expanded to include Emergency Medicine Residency</td>
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<tr>
<td>Advanced Trauma Nursing Academy Study</td>
<td>Program sustained</td>
<td>Over 400 providers trained since program inception</td>
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</table>

Acknowledgements
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Charlotte Hubbard MSN, RN
Jeannette Capella MD
Sonya Ranson Echols PhD

Carilion Roanoke Memorial Hospital (CRMH)
Program Elements

- Multidisciplinary Approach
- Used the evidence-based SMARTER model for simulation training

CRMH Trauma TeamSTEPPS Training Model

Program Components
- Clinical curriculum
- TeamSTEPPS @ curriculum
- Roles and Responsibilities
- Faculty Training
- Good, Bad & Ugly video debriefing
- Simulation-Based Team Training with immediate Debrief

Pre-Training Measurement
- Knowledge
- Confidence
- Skills
- Patient outcomes

Post-Training Measurement
- Knowledge
- Confidence
- Skill
- Patient outcomes

Evaluating Program Outcomes

Level IV – Results
- Trauma Registry Clinical Metrics
- ED dwell time, efficiency measures
- Time to Focused Abdominal Sonography for Trauma (FAST), Computer Tomography (CT), etc.

Level III – Behavior
- Team Performance Observation Tool (TTPOT)
- Leadership, Situation Monitoring, Mutual Support, Communication, Overall Score

Level II – Learning
- Knowledge – Test
- Skill – Event Based Approach Training Assessment
- Attitudes – Confidence Survey

Level I – Reactions
- Program Evaluations

Kirkpatrick

- (Organizational results)
- (Transfer to the job)
- (Think, Do, Feel)
- (Like it and Useful)

Level 1 Outcome Exemplar: Summary of Program Evaluations


Program resumed June 2013
Level 2 Outcome Exemplar: Trauma Crash Course

- 135 RNs participated in the studies

KNOWLEDGE
- Statistically significant increase in knowledge scores (*p* < .0000)

CONFIDENCE
- Confidence in clinical & teamwork skills increased significantly in all areas pre to post intervention (*p* < .05)
- Nurses stated course objectives were met (100%) and would recommend the Trauma Crash Course to a colleague (100%)

Course in 7th year with >200 RNs trained

Level 3 & 4 Outcome Exemplar:

When Resident Teamwork Training Ceases Impact on Trauma Team Performance and Outcomes

<table>
<thead>
<tr>
<th>Trauma Team Performance Observation Tool (TTPOT)</th>
<th>Trauma Registry Clinical Measures</th>
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<tbody>
<tr>
<td>Period</td>
<td>N</td>
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<tr>
<td>Pre-training 2009</td>
<td>30</td>
</tr>
<tr>
<td>Post-training 2010</td>
<td>40</td>
</tr>
<tr>
<td>1-year Post 2011</td>
<td>52</td>
</tr>
<tr>
<td>Cessation 2013</td>
<td>43</td>
</tr>
<tr>
<td><em>Post-training ≠ Pre-training, post-training ≠ 1-year post-training</em></td>
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A two year cessation of resident TeamSTEPPS training is associated with a deterioration of trauma team performance and trauma bay patient care efficiency parameters, increasing overall ED dwell time placing patient outcomes at risk.

Lessons Learned

- Single department TS implementation works
- Using TS materials as designed works
- Expect the Good-Bad-&-Ugly
- Adopt a program evaluation model early
- Train multiprofessional faculty
- Simulation “Dry-runs” have multi-purpose benefit
- Debrief in the clinical setting adds value
- Use of TS language in clinical practice builds cultural adoption

Health Science Communication Skills

Class Adopts TeamSTEPPS Tools

Ronnie McKinnon RN, JD, CPHRM, CPSO, CPPS
Director, Graduate Program in Healthcare Quality and Patient Safety
Stony Brook University
School of Health Technology and Management
TeamSTEPPS Annual Conference
Denver, Colorado
June 17, 2015
Stony Brook's 1,040-acre campus on Long Island's North Shore encompasses not only the main academic areas of the University, but also Stony Brook Medicine, which includes the five health sciences schools: School of Health Technology and Management, Schools of Medicine, Dental Medicine, Nursing and Social Welfare, Stony Brook University Hospital, Stony Brook Children's Hospital, the Long Island State Veterans Home, and our major healthcare centers, programs and clinics.

<table>
<thead>
<tr>
<th>Clinical</th>
<th>Non-Clinical</th>
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<tbody>
<tr>
<td>Anesthesia Technology</td>
<td>Community Health Education</td>
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<tr>
<td>Medical Dosimetry</td>
<td>Environmental Health and Safety</td>
</tr>
<tr>
<td>Nuclear Medicine Technology</td>
<td>Healthcare Informatics</td>
</tr>
<tr>
<td>Radiology Technology</td>
<td>Healthcare Management</td>
</tr>
</tbody>
</table>

SITUATION
300 Health Science Major Undergraduates were briefed on, adopted & debriefed TeamSTEPPS Tools presentation in their Communications Course (HAN 333) as Interdisciplinary Teams

**Clinical**
- Anesthesia Technology
- Medical Dosimetry
- Nuclear Medicine Technology
- Radiology Technology

**Non-Clinical**
- Community Health Education
- Environmental Health and Safety
- Healthcare Informatics
- Healthcare Management
- Healthcare Quality
- Public Health
- Disability Studies

BACKGROUND
**Communication Skills**
- Course Goals:
  1) Effective Communication skills
  2) Effective group presentation skills
  3) Skills needed to work effectively as members of a TEAM

**TeamSTEPPS Tools ALIGNED with Course Goals:**
- 1) Brief, Huddle, Debrief
- 2) Cross Monitoring
- 3) CUS, 2 Challenge Rule*

* The assertion/advocacy tools were included to cover conflict management communication skills required by the communication skills curriculum

**“GROUP PROJECT & PRESENTATION”**

**“We’re Totally on the Same Page”**

**BACKGROUND**

**“GROUP PROJECT & PRESENTATION”**

**“We’re Totally on the Same Page”**
Please CUS
BUT only when appropriate

I am Concerned! I am Uncomfortable! This is a Safety Issue Or Safe Communication Issue

About What? WHY? HOW?

2 Challenge Rule
Landing on the Hudson audio*: repeated request from tower for emergency responder readiness.

Tone and Emphasis of speech

https://www.youtube.com/watch?v=d-GoGNvRzKA

Joint Commission Sentinel Events

ASSESSMENT
TeamSTEPPS tools offer effective methods to teach communication and team building skills to Undergraduate Health Science Majors in their Interdisciplinary Communication Skills Class

Debrief conducted:

- “Knowledge alone is not enough unless clearly communicated”
- “Use of real life scenarios helped make the Communication and Teamwork point”
- TeamSTEPPS Presentation was a “Great way to sum up our communications class”
- “CUS and 2 Challenge tools are awesome”
- “Wish I had this CUS conflict management tool during group project”
- “We can use the tools in class and in our healthcare careers”
- “This was a perfect lecture to have in the curriculum in our communications course”
- “Good Communication and TeamSTEPPS should be part of all health care training and I am glad to be introduced to it as an Undergrad”
- “I see how these TeamSTEPPS tools can make others accept me as an important member of the Team”
- “Now that I have learned about the TeamSTEPPS tools, I will talk about them during future job interviews”

*Students asked "how to" include the TeamSTEPPS Training on their resumes!

Recommendations*

- Customize the TeamSTEPPS materials and include current and RELEVANT videos, audio, humor!
- Shorten length of presentation, add student interaction
- Consider limiting tools--start with CUS and 2 Challenge Rule—they were quickly learned/adopted
- Schedule TeamSTEPPS presentation at beginning of Semester: “This Lecture should be early in semester so we could use the CUS tool for our team members who did not participate.” “I wish I had learned this earlier because the tools are interesting and I can see how they would work both in this Communications class and group project work and when we graduate and work in some aspect of healthcare.”

* Recommendations from Faculty Huddle after 2 sessions, and based on student Debrief
**Rapid Fire: A TeamSTEPPS Story from Minnesota**

Using TeamSTEPPS in Community Based Mass-Disaster Simulations

Building Resilience for Medical Response Teams

**Situation**

Rochester, MN, members of community groups, are collaborating to create a simulated disaster event. The purpose is to build knowledge and resilience for individuals, families, agencies, and healthcare providers when resources may be limited.

In Fall of 2015, Bounce Day 5 will occur at the Gamshaven Scout Camp. Nearly 300 individuals are anticipated to participate in the event simulating the highly contagious HADAD (zombie disease) and the resulting mass medical and social implications. We have limited time to train a diverse group of individuals to respond to the wave of victims that will be soon spilling into Gamshaven. The camp will be converted to a refugee camp and medical field operation.
Background

In 2010, a small group came together with a vision about building capacity and resilience within communities and individuals to respond to disasters. On an academic level, there was interest in understanding if simulation was effective in teaching resilience to community members. Participants included boy scouts, medical students, healthcare workers, community members, nursing students, local theater students, army reservists and many logistical volunteers. The event was held at the local boy scout camp.

Each year the event has increased participant numbers. The first 2 years, natural disaster scenarios were used. In 2013 the CDC template scenario for a Zombie Apocalypse was used. TeamSTEPPS was formally introduced in 2013 as a tool for training the diverse group of humanitarian aide workers who will respond to the disaster scenario.

Recommendations

In 2015 we have added bi-monthly “Soup and Sim” sessions for learners (which is everyone). These 2-4 hour sessions focus on TeamSTEPPS skill building, basic emergency medical response, psychological safety, adaptability, and bring together diverse individuals.

There is increased interest from Public Health Services, County Civil Services, Social Services and local Service Organizations to become involved in Bounce Day.

TeamSTEPPS will continue to be the framework for collaboration and effective simulation. Tools from AHRQ such as the YouTube videos will be incorporated into the teaching program.

Assessment:

TeamSTEPPS provides a framework that can be used by event participants to form a common platform for action and experience. Participants increase their understanding for TeamSTEPPS each year they are involved. Evaluations for effectiveness can be done.

-Walter Franz M.D.

The main outcomes of our event were adaptive leadership, communication, teamwork, interdisciplinary and intergenerational collaboration, mutual support and situational awareness. We strive to provide and train about psychological safety to the event.

- Robin Molella M.D. & Kathy Zavaleta

Lessons Learned: TeamSTEPPS for Community Based Simulation

-Initial feedback from learners was the need for increased structure in the simulation. Roles needed to be better defined, with expectations communicated (not unlike real work teams).

- The focus of mutual support was aligned with psychological safety and needed to be explicit in the planning and running for the event.

- Buddies, briefs and debriefs are critical to simulation success. TeamSTEPPS curriculum is a good match for teaching these skills.

- Behind the scenes, there has been academic monitoring of the medical students who participate. The goal is to provide evidence showing that community based simulation events are valuable in creating in adaptability and resilience for real disaster responses.

- TeamSTEPPS is easily adaptable as a framework for community-based simulation with intergenerational participants, from a wide variety of backgrounds and educational preparations.
More about Bounce:

- Digital tools – enhance communication, support collaboration & enable users to generate and share content
- Longitudinal Health – Virtual care team approach

Virtually Engaging Patients with TeamSTEPPS Techniques

Situation

- Digital tools – enhance communication, support collaboration & enable users to generate and share content
- Longitudinal Health – Virtual care team approach

S: Engaging Patients

- 80% of patients discharged from the emergency department don’t understand their home care instructions
- In the exam room, 37% of the physician’s time is spent on patient education
  - Patients failed to report 68% of problems
  - Physicians report 54% of patients missed their most important health problem
S: Caregivers of Young Children

- 47.8% made dosing errors after standard medication counseling and 38% did not adhere to all instructions
- With pictogram dosing error rate fell to 5.4% & only 9.3% did not adhere to all instructions

B: Social Communications

Customized to the learning and language needs of the individual patient

- Patient is part of the team
- Advocate for patient
- Engage patient
- Closed-loop communications
- Handoff

Analysis/Recommendation

- Boston University Virtual Discharge Advocate
- Encourages patients to be active participants in their care (teamwork, structure)
  - Education & aftercare plan (brief)
  - Helpful with low literacy (advocacy and assertion)
  - Assesses competency and understanding (checkback, situational awareness)
- 51 min vs. 81 min for live DA (debrief)
- Preferred by 74% of patients
A & R: Survivorship

- Addiction Recovery Social networking platform
  Secure access to aftercare plan 24/7 (brief)
  - Case managers
    - Track across transitions (handoff)
    - Filter activity to assess risk of relapse (situational awareness)
    - Prioritize outreach activities (call out, huddle, feedback)
  - 67% reduction in readmission rates for those out of treatment for more than 270 days

A & R: Research

- Boston Children’s Hospital Hypoglycemia Diabetics
  - Social media to augment traditional surveillance methods
  - Expand knowledge of complications from bi-directional conversations among participants
  - Learn about experiences that may not be severe enough for emergency treatment
  - Impact on behaviors

Thank You!

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Work Flow Disruptions

• Previous research has shown that workflow disruptions during surgery can increase the likelihood of errors that threaten patient safety (Wiegmann, El Bardissi, Dearani, Daly, Sundt, 2007; Catchpole, Giddings, Wilkinson, Hirst, Dale, de Leval, 2007.)

• Work flow disruption – work system factors that cause deviations from optimal functioning or efficiency (Arora, S., Sevdalis, N., 2010; Harders, Malagoni, Weight, Sidhu, 2006)

• Majority are often teamwork related. (Wiegmann, El Bardissi, Dearani, Daly, Sundt, 2007; Christian, Gustafsson, Roth, Sherdian, Gandhi, Dwyer, Zovar, Diekema, 2006; El Bardissi, Wiegmann, Hendrickson, Wadhera, Sundt, 2008).

Where the Data Came From

• Work Flow Disruption Study within CVOR
• Medical University of South Carolina
• Five trained Human Factors Observers
• 15 surgical cases
• Focused on three disciplines: Anesthesia, Perfusion, Circulating
• Real time observations (146 hrs)
• Final count = 887 observations flow disruptions

• TeamSTEPPS
• Five naive coders
• Inefficiencies primary focus but good practices were also coded if identified in database
• Final count = 768 observations flow disruptions

Question:

Can workflow disruptions be categorized using TeamSTEPPS 2.0’s key principles?
Limitations

- Work Flow Disruptions data
  - Wasn’t collected with Team Training in mind
  - Didn’t collect all the Good practices

Summary

Results support previous research that teamwork and communication are a major source of work flow disruptions.

Current study suggests that many of these teamwork issues involve Situation Monitoring and Communication.
Recommendation

We need to teach to the issues at hand.

Why wait to be better?