



HARDWIRING TEAMSTEPS INTO TRAUMA RESUSCITATIONS: OPTIMIZING TAR HEEL TRAUMA CARE

AHA Team Training Monthly Webinar
October 10, 2018

RULES OF ENGAGEMENT

Audio for the webinar can be accessed through your computer or through the phone

- **Please note:** Today's presentation will include several videos. The audio of the videos will be played through the computer speakers. If you are dialed into the audio conference, please choose the drop down arrow located beside the speaker icon at the top of the webinar platform and select mute conference audio only.

A Q&A session will be held at the end of the presentation. Written questions are encouraged throughout the presentation and will be answered during the Q&A session

- To submit a question, type it into the Chat Area and send it at any time during the presentation

UPCOMING TEAM TRAINING EVENTS

“Gaming in TeamSTEPPS: Where to Begin?”

November 9, 2018 | Orlando, FL | \$400 registration fee

Learn how TeamSTEPPS tools can be applied to a group of activities to develop and implement team strategies that will achieve the successful transfer of knowledge. This specialty course is designed around active participation and is meant to provide TeamSTEPPS facilitators with alternative ways to deliver in-person TeamSTEPPS training and education.

[Click Here to Register](#)

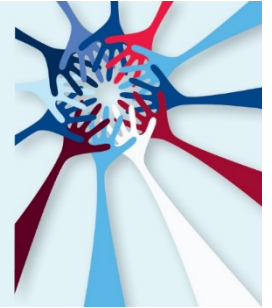


UPCOMING TEAM TRAINING EVENTS



2019 AHA Team Training National Conference

June 12-14 🇺🇸 San Antonio aha.org/teamtraining



Grab your cowboy boots and block your calendar - AHA Team Training is heading to San Antonio next June for our annual conference! We'll be sharing more conference information over the coming months, but first get ready to answer our Call for Proposals. Registration will open in January 2019.

UPCOMING TEAM TRAINING EVENTS

We have spots available in our [Master Training Courses](#):

- November 8-9 in Durham, NC with Duke University
- December 6-7 in New Orleans, LA with Tulane University

Two more [free webinars](#) in 2018:

- November 14: “Improving TeamSTEPPS in Medical Education: A Student-Veteran Inspired Initiative to Improve Behaviors and Understand Barriers” with Rick Land and Tom Kuriakose, medical students at Rutgers University Robert Wood Johnson Medical School
- December 11: “Taking Steps to Sustain a Just Culture” with Lynn Fricke, MPS, RN and Ronnie McKinnon RN, JD, CPHRM, CPSO, CPPS, Adjunct Professor Health Law, Loyola Law School, Beazley Institute for Health Law and Policy

CONTACT INFORMATION

Web: www.aha.org/teamtraining

Email: TeamTraining@aha.org

Phone: 312-422-2609

TODAY'S PRESENTERS



Daryhl Johnson II, MD MPH FACS
Adult Trauma Medical Director
UNC School of Medicine



Elizabeth Schroeder, RN BSN TCRN CEN
Emergency Preparedness Coordinator
UNC Hospitals



Alberto Bonifacio RN BSN MHA CEN
Trauma Program Manager
UNC Hospitals

Monday Afternoon, September 2016



trauma

NOUN

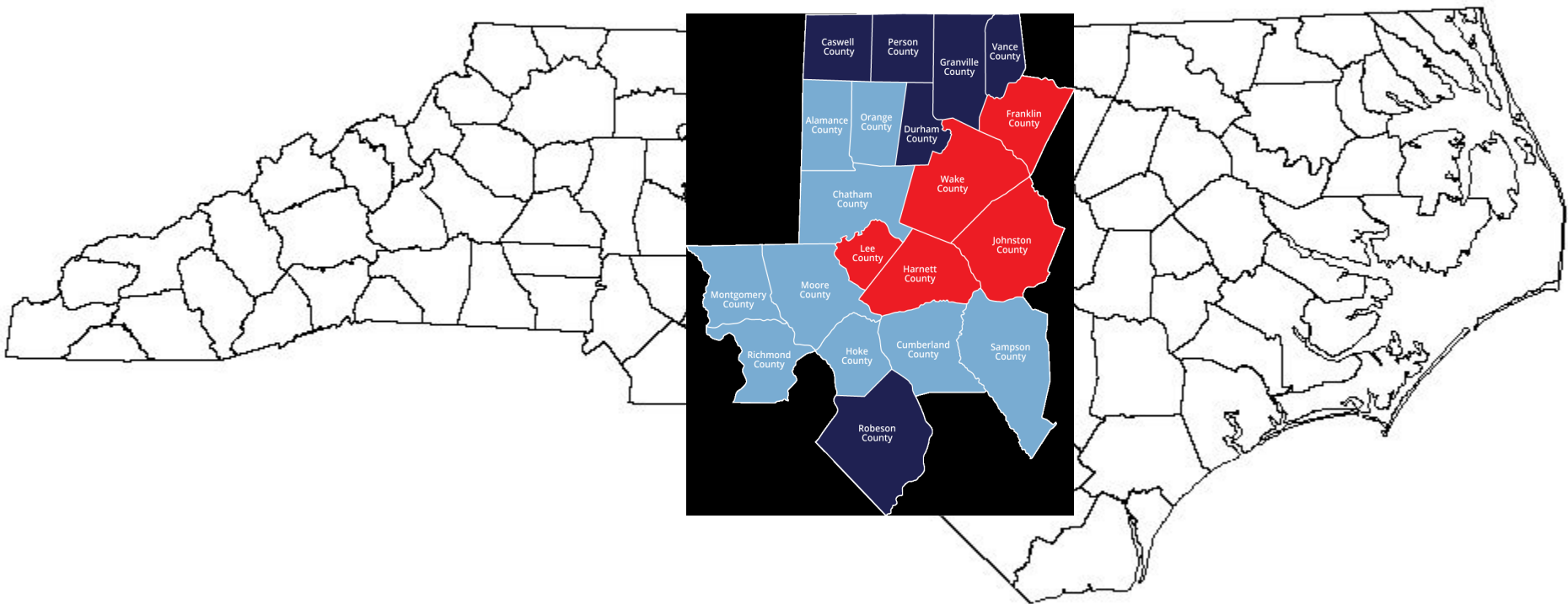
Injury to human tissues and organs resulting from the transfer of energy from the environment

Objectives

1. Discuss how [TeamSTEPPS](#) and [Kotter's Model](#) was effectively applied to conduct a multi-disciplinary, large-scale quality improvement project to improve trauma resuscitations.
2. Describe how [simulation](#) can be used to hardwire TeamSTEPPS into processes by model new processes, probe for systems gaps, and educate teams in teamwork, communication, and leadership.
3. Explore how our methodology can be used to improve performance of other crisis teams and conduct research in [situational awareness](#).

Optimizing Tar Heel Trauma Care

BACKGROUND



Caswell County

Person County

Granville County

Vance County

Alamance County

Orange County

Durham County

Franklin County

Chatham County

Wake County

Johnston County

Lee County

Harnett County

Montgomery County

Moore County

Richmond County

Hoke County

Cumberland County

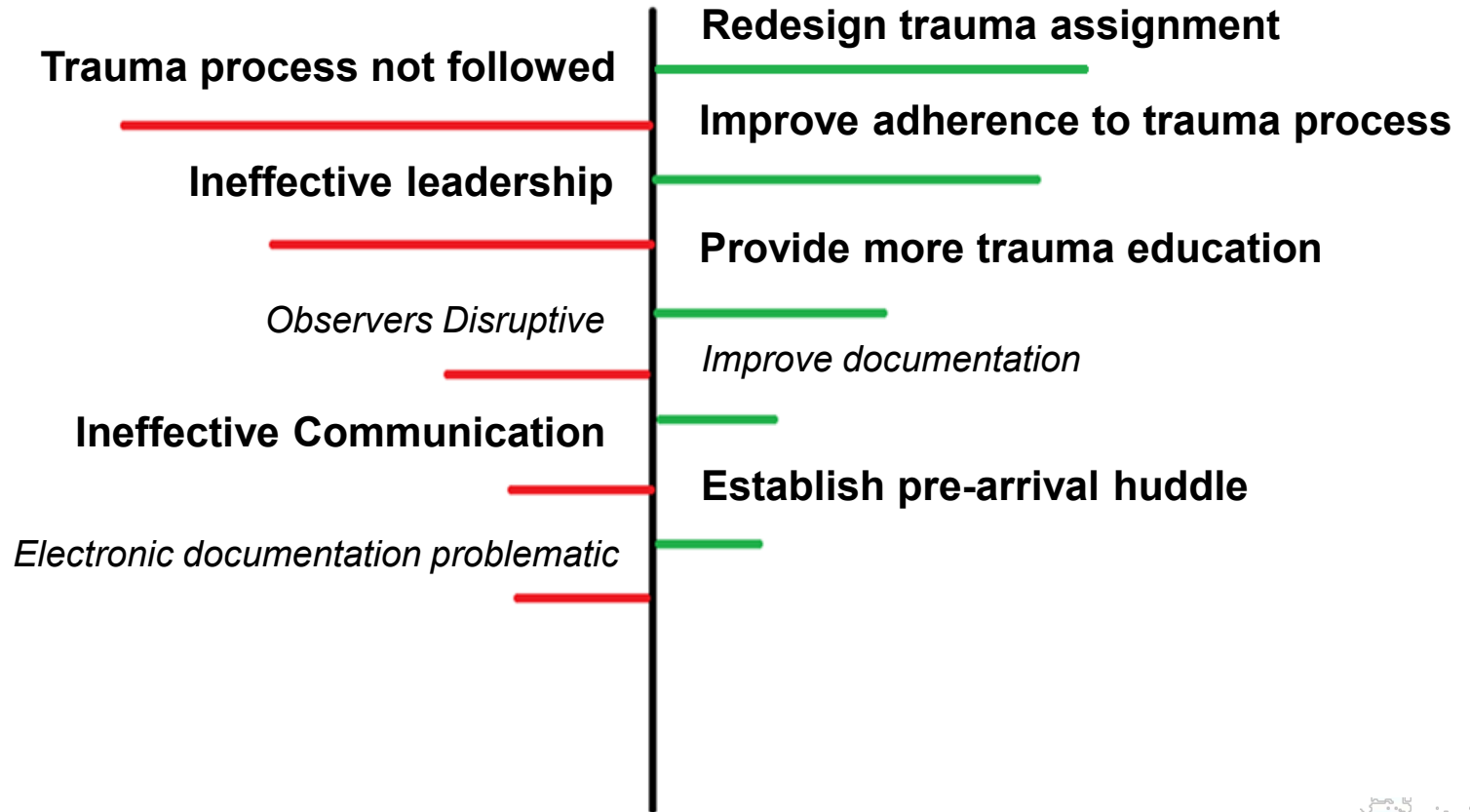
Sampson County

Robeson County

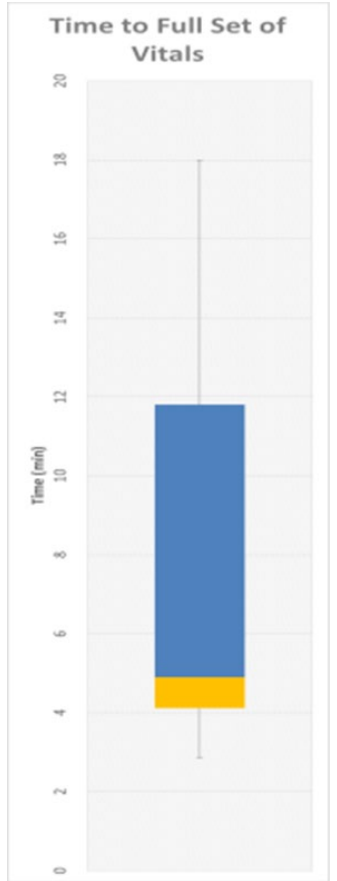
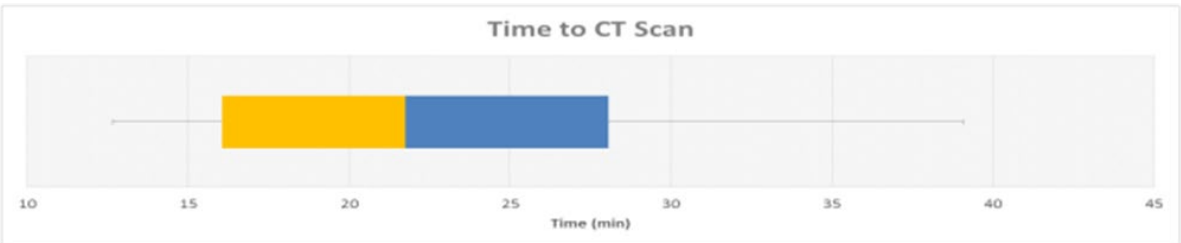
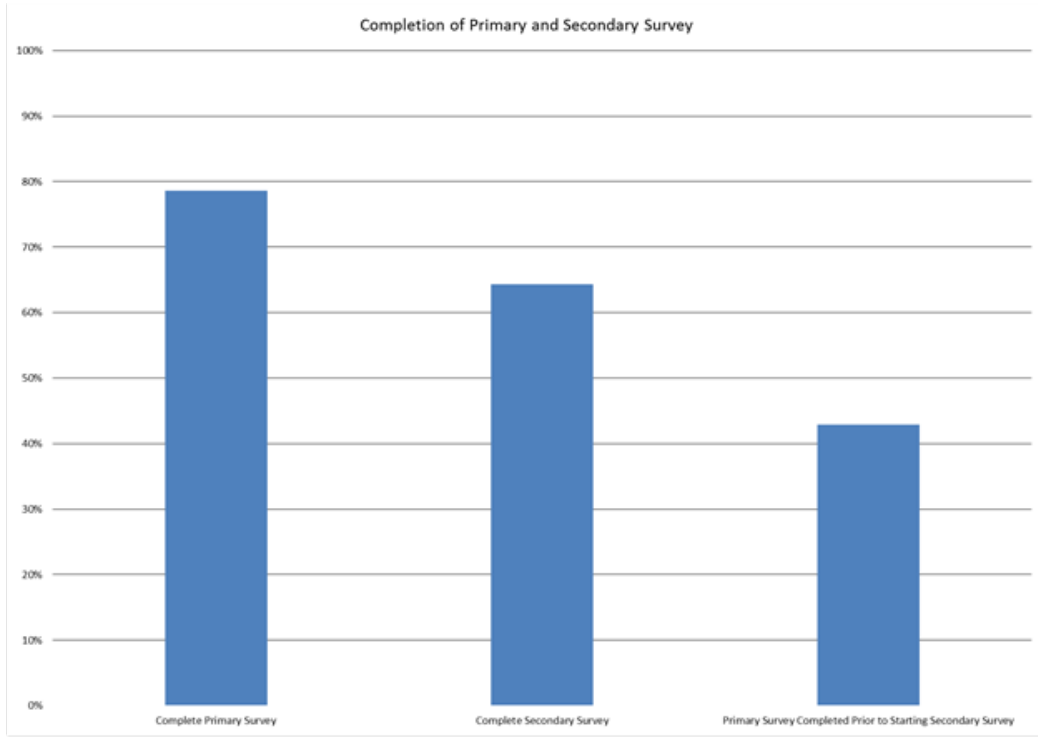


AMERICAN COLLEGE OF SURGEONS
Verified Trauma Center





B A S E L I N E



Optimizing Tar Heel Trauma Care

METHODS



UNC

INSTITUTE FOR HEALTHCARE
QUALITY IMPROVEMENT

The UNC Institute for Healthcare Quality Improvement (IHQI) Seed Grant Program promotes the development of experience and expertise in quality improvement at UNC Hospitals, Faculty Physician practices and Physician Network practices.



Improve the consistency, reliability and efficiency of **trauma resuscitation** through the implementation of a **standardized process** in the Emergency Department

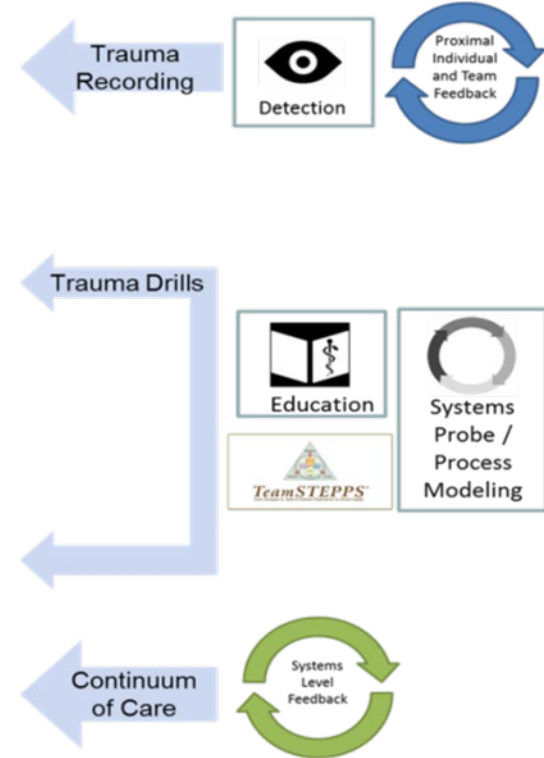
Consistent Patient Assessment following ATLS @ UNC guidelines

Consistent Education and Training

Direct Observation and Performance Feedback

Focus on Teamwork, Communication and Leadership

Uniform Trauma Bay Preparation



Consistent Patient Assessment following ATLS @ UNC guidelines

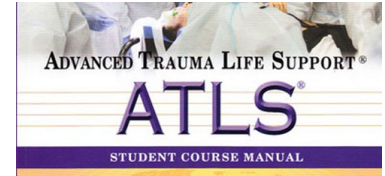
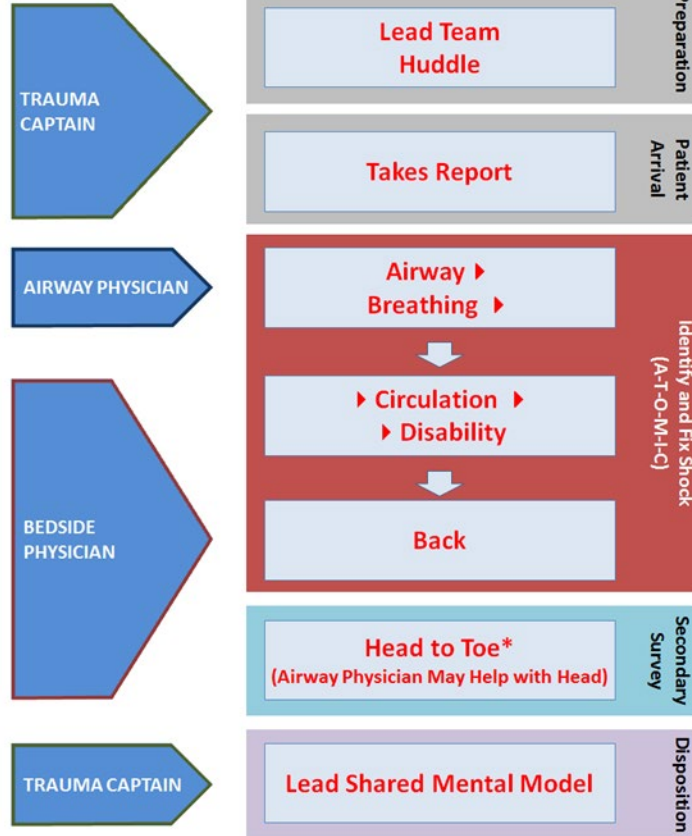
Consistent Education and Training

Direct Observation and Performance Feedback

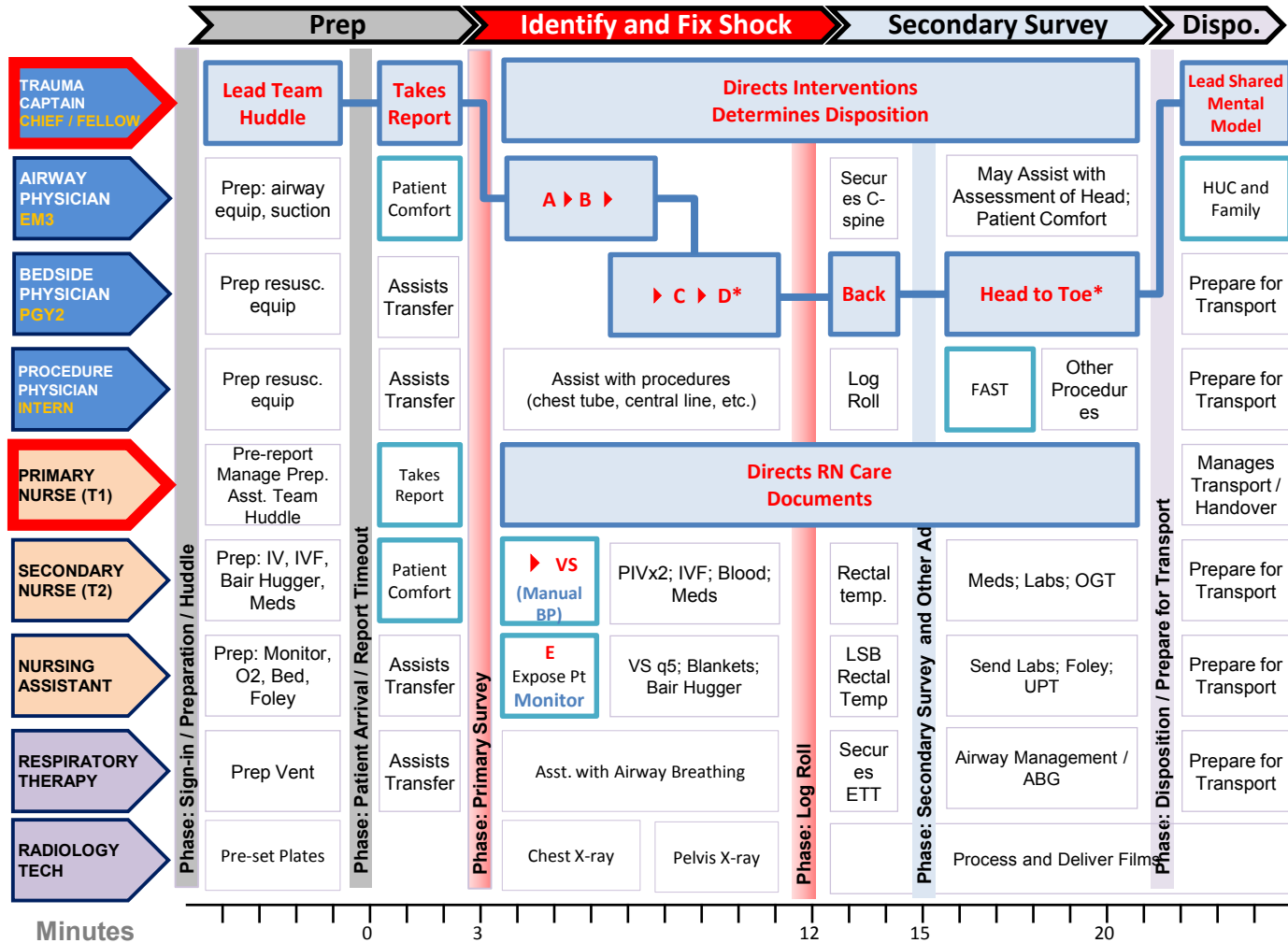
Focus on Teamwork, Communication and Leadership

Uniform Trauma Bay Preparation

Tar Heel Trauma Critical Path



Tar Heel Trauma Resuscitation Process

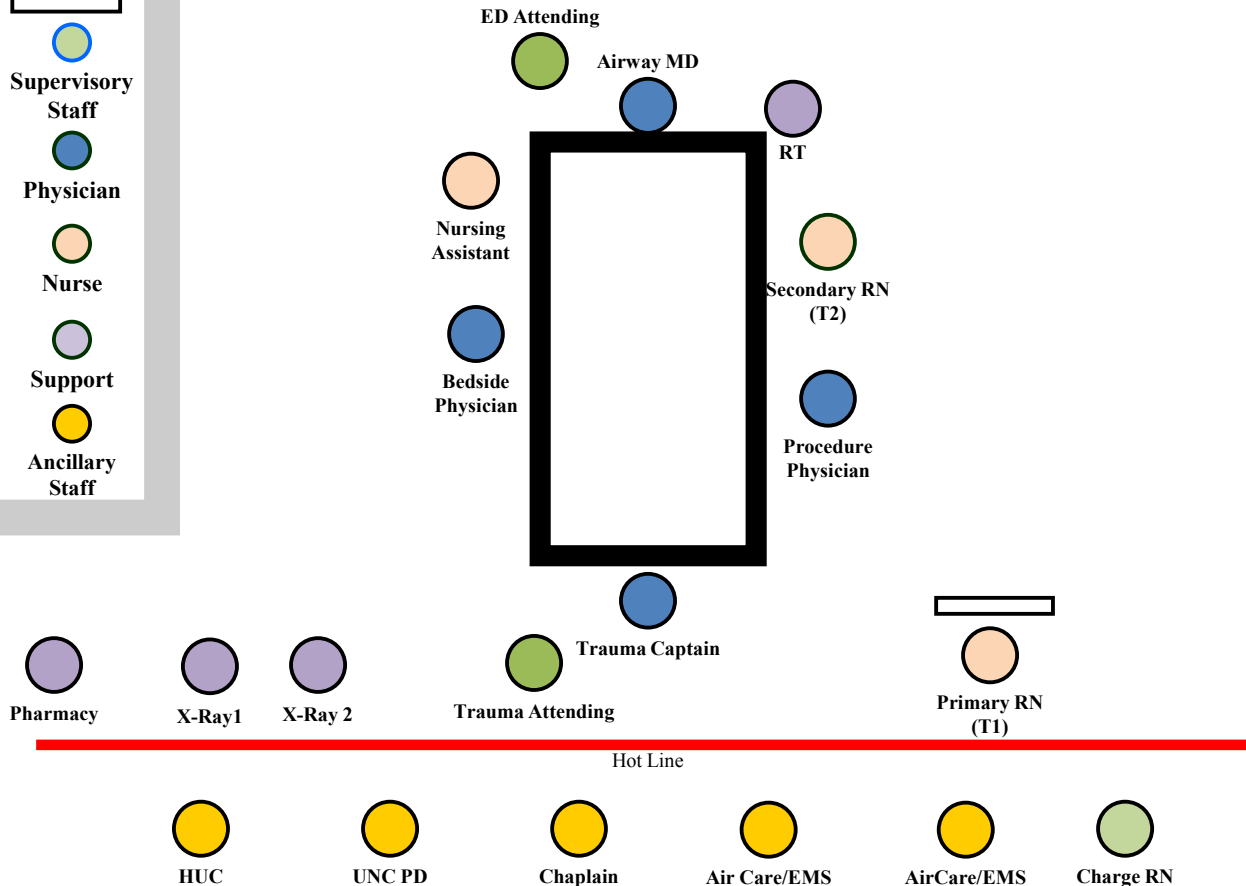


* Airway Physician may assist with assessment of head per Bedside Physician / Trauma Captain

Adult Trauma Positions

KEY

- Supervisory Staff
- Physician
- Nurse
- Support
- Ancillary Staff

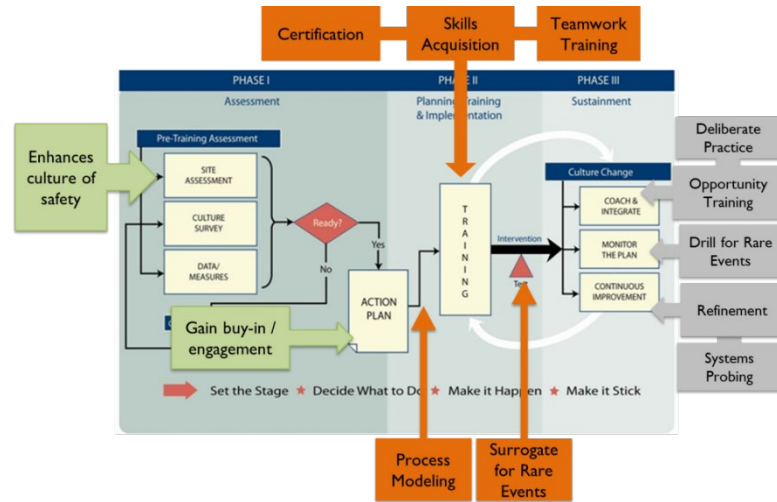


ATLS@UNC
(VIDEO)

Optimizing Tar Heel Trauma Care

GUIDING PRINCIPLES

Combining QI Methodology



Project Owner: _____		Event Date Range: _____		Department/Division/Value Stream: Psychiatric	
Event Name: _____		Current Date: _____		Coach: Tom Coffey and Jennifer Pollard	
REASONS FOR ACTION		GAP ANALYSIS		COMPLETION PLAN	
INITIAL STATE		SOLUTIONS APPROACH		CONFIRMED STATE	
TARGET STATE		EXPERIMENTS		INSIGHTS	

- Enhances Culture of Safety
- Buy-in / Engagement

- Surrogate for Rare Events
- Systems Probing
- Process Modeling

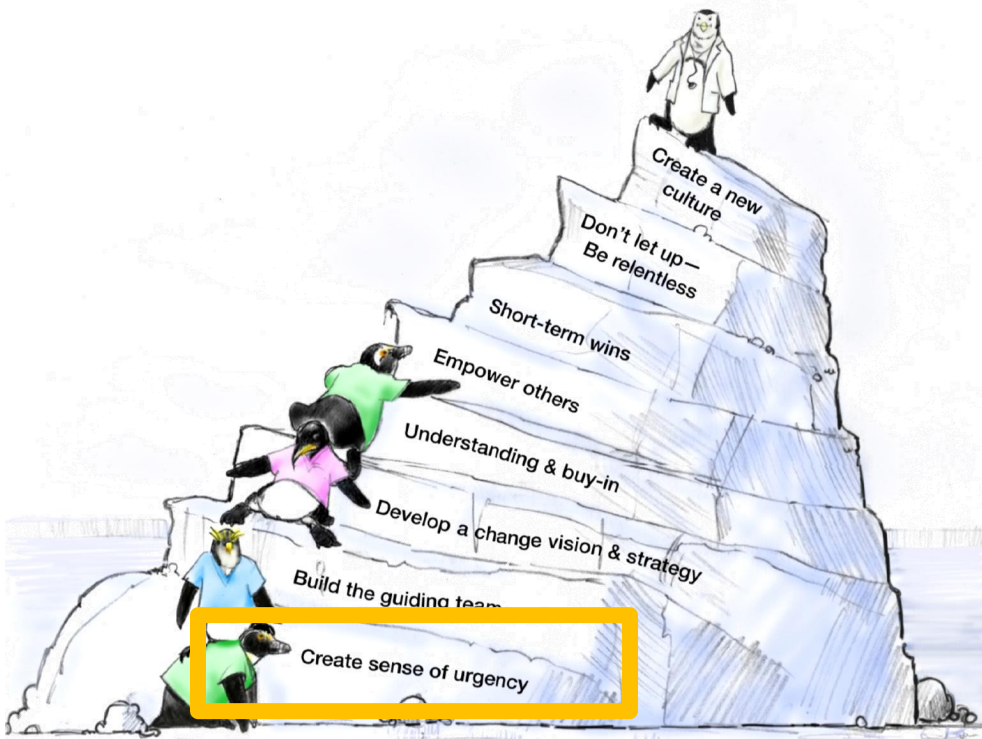
- Skills Acquisition
- Certification
- Teamwork Training
- Opportunity Training
- Drill for Rare Events
- Refinement
- Deliberate Practice



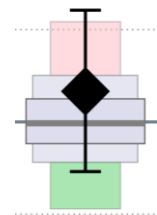
Guiding Principles: Kotter In Action



Guiding Principles: Kotter In Action

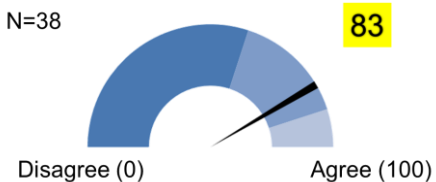


"TQIP benchmark rankings in the lower 50% for patients in shock"*



I feel we provide the highest quality nursing care for trauma patients.

N=38



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SENSE OF URGENCY IS DIFFERENT TO DIFFERENT PEOPLE

Guiding Principles: Kotter In Action



STAKE HOLDER ANALYSIS / CORE TEAM / VOICE OF PATIENT

PROJECT LEADERSHIP:

- Liz Dreesen MD FACS (Project Sponsor): Chief, Acute Care Surgery
- Daryhl Johnson MD FACS (Project Leader): UNC Trauma Medical Director
- Alberto Bonifacio RN BSN MHA CEN (Project Manager): UNC Trauma Program Manager. *Team STEPPS Master Trainer; Six Sigma Yellow Belt; Simulation Expert; VA Root Cause Analysis*

PROJECT MANAGEMENT SUPPORT: (0.5 FTE available only through grant funds). Will provide critical programmatic support to complete tasks not able to be done by other members: planning team meetings and communications; recording and reviewing resuscitations; field observations; data collection and analysis; dashboard creation and maintenance.

ADVISORY PANEL: Leadership counsel and project champions

- [Kelly Revels RN MSN CEN \(Trauma Survivor\)](#): TeamSTEPPS Master Trainer. Six Sigma Purple Belt.
- Jane Brice MD MPH: Director, Emergency Medicine
- Nikki Waller MD: Director, Emergency Medicine Residency Program
- Christian Lawson RN BSN: Director, Emergency Services

FUNCTIONAL TEAMS: Provides administrative, logistical and specialty support.

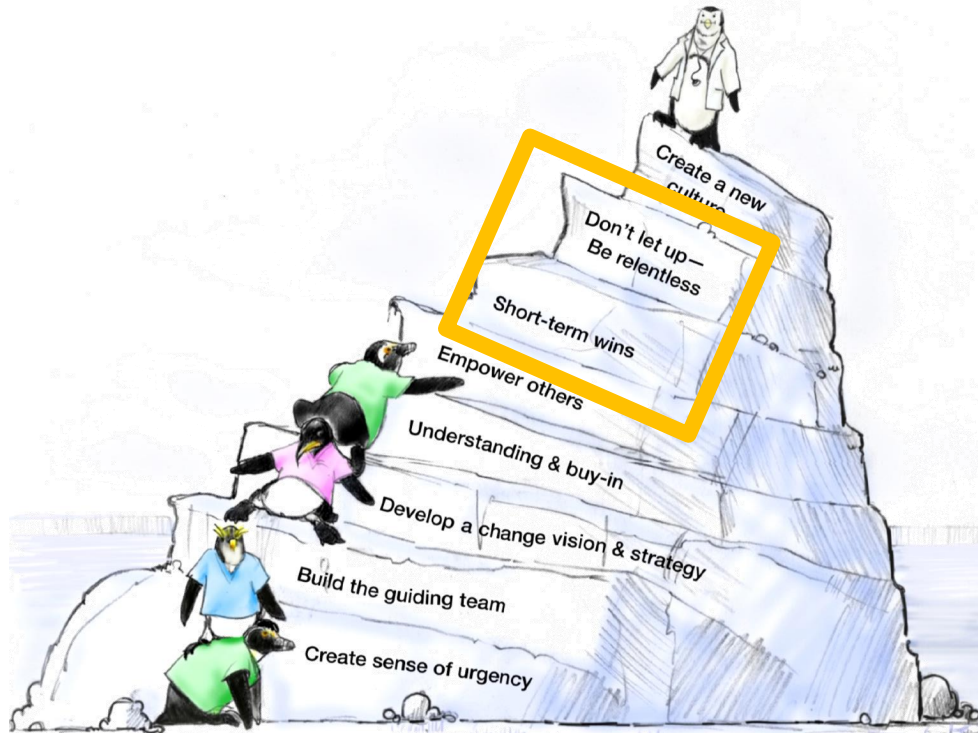
- Gene Hobbs (Simulation Support): Assoc. Director Simulation. Team STEPPS Master Trainer
- Katelyn Hausfeld RN, BSN (Consultant): PICU CNIII, Cincinnati Children's Hospital Trauma Nurse
- UNC Trauma Program (permanent staff): Team includes administrative support (Paula Bruno), Adult Trauma Coordinator (Cheryl Workman, Yellow Belt), Pediatric Trauma Coordinator (Sabrina Thompson-Fisher, Green Belt), Nurse Educator (Heather Tuttle) and Trauma Registrars.

Guiding Principles: Kotter In Action



**Process modeling
using in situ high
fidelity simulation**

Guiding Principles: Kotter In Action



SUSTAIN WITH SIM / OBSERVE SUPPORTIVELY / DONUT POWER!!

Guiding Principles: Kotter In Action



STORIES, PRIDE AND OWNERSHIP MATTER

Teamwork, Communication and Leadership

Establish One Leader

Treatment Leader:
"Ok Alex, I'll take it from here."

Leadership



SBARQ

Treatment Leader:
"What happened?"

Beside Nurse (First to Arrive):
"72 y/o male found unresponsive by visitor. He came here for a urology follow-up. I found him pulseless and apnic. We need to begin full resuscitation. What else can I tell you?"

Brief



Callout / Checkback

Beside RN:
"BP is 60/30"

Treatment Leader: "Got it, BP 60/30"


Or

Treatment Leader:
"Pat, please push one amp of epi"

Beside RN:
"One amp of epi IV push"

Treatment Leader:
"That's right"

Closed-Loop Communication



Know all Roles

Treatment Leader:
"Pat, the circulation nurse is tied up with another code, you're going to have to cover her role until a replacement arrives"

Team Awareness



Keep a Wide View

Treatment Leader:
"Alex, Jamie has left to find another central line kit, would you mind placing he pads for her?"

Or

Treatment Leader:
"Francis, I'm going to need to stand. Where you're at, I can't see the team from here"

Situation Monitoring



Clear, Concise, Calm, Directed

Airway Manager:
"Jessie, could you hand me another stylet please? Thanks so much."

Effective Delegation



No One Functions Alone

Airway Assistant:
"I don't think that's in the trachea."

Airway Manager:
"Good call. I think you're right, would you mind auscultating the chest while I ventilate?"

Mutual Support Assertion



Smooth is Fast

Treatment Leader:
"Nice and easy team, we're doing fine"

Energy Control



Reflect and Learn

Data Manager:
"I know we need to get back to our work, but real quick...great compressions, Jessie; Pat, make sure everyone everyone is away before defibrillating; team was very calm throughout; great job everyone"

Debrief



Each individual behaviour will improve teamwork and performance

"Perceived rudeness is the **KILLER** of Teamwork"

Lead by calm example – emotions are contagious

Courage is grace under pressure.
- Ernest Hemingway






- **CUS**: "I'm Concerned...I'm Uncomfortable...STOP, this is a Safety Issue"
- **I NEED CLARITY**: Use when message is not 100% understood or received
- **2 CHALLENGE RULE**: Tactfully voice concern twice, then utilize chain of command

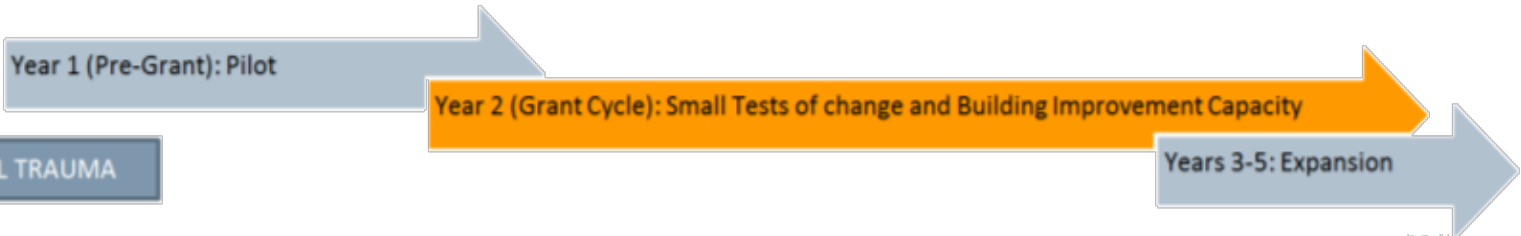
Language



MEANS TO AN END

Guiding Principles: “Just Try It”

	PILOT						Grant Cycle											
																		
	1/1/2016	2/1/2016	3/1/2016	4/1/2016	5/1/2016	6/1/2016	7/1/2016	8/1/2016	9/1/2016	10/1/2016	11/1/2016	12/1/2016	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017	6/1/2017
1. Standardize Resuscitation																		
2. Education and Training Plan																		
3. AV Filming																		
4. Baseline Evaluation																		
5. Iterative Quality Improvement																		
5. Continuum of Care Conference																		
6. Expansion to Peds and Geriatrics																		
7. Post-Intervention Data																		
8. Project Close / Final Report																		



TARHEEL TRAUMA

Guiding Principles: “Just Try It”



Making It Stick

HARDWIRING



TYPE IN CHAT

Establish One Leader

Treatment Leader:
"Ok Alex, I'll take it from here."

Leadership



SBARQ

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Beside Nurse (First to Arrive):
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Brief



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Treatment Leader: "Got it, BP 60/30"
Or

Treatment Leader: "Pat, please push one amp of epi"
Beside RN: "One amp of epi IV push"
Treatment Leader: "That's right"

Closed-Loop Communication



Know all Roles

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Team Awareness



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Reflect and Learn

Data Manager:
"I know we need to get back to our work, but real quick... great compressions, Jesse! Pat, make sure everyone everyone is away before defibrillating; team was very calm throughout; great job everyone"

Debrief



• **CUS:** "I'm Concerned...I'm Uncomfortable...STOP, this is a Safety Issue"

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Language



TOOLS and STRATEGIES

Communication

- SBAR
- Call-Out
- Check-Back
- Handoff

Leading Teams

- Brief
- Huddle
- Debrief

Situation Monitoring

- STEP
- I'M SAFE

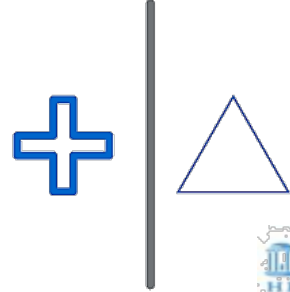
Mutual Support

- Task Assistance
- Feedback
- Assertive Statement
- Two-Challenge Rule
- CUS
- DESC Script

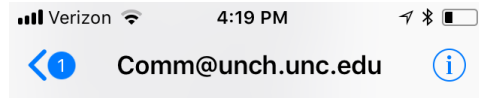
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Lead by calm example – emotions are contagious

Courage is grace under pressure.
- Ernest Hemingway



Code Stork – Trauma Bay



controlled GCS 14
VSS ETA 15 rm 2

Mon, Oct 9, 7:33 AM

Adult Red
SIMULATION 28 yr
F High Speed MVC.
7mos pregnant rigid
abdomen, bruising
to chest. ETA 6 min
ED room 2

Mon, Oct 9, 9:47 AM

Adult Yellow 19 Y F
transfer MVC Rt tib/
fib fx, foot Ex, Elbow
Ex GCS 15 VSS ED



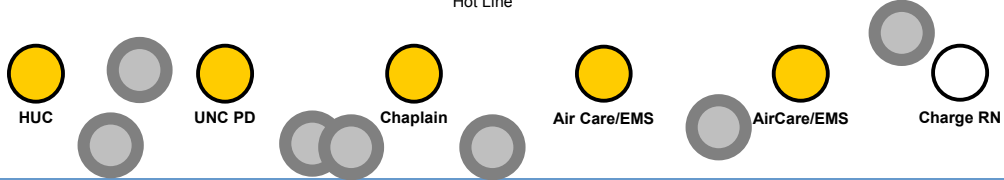
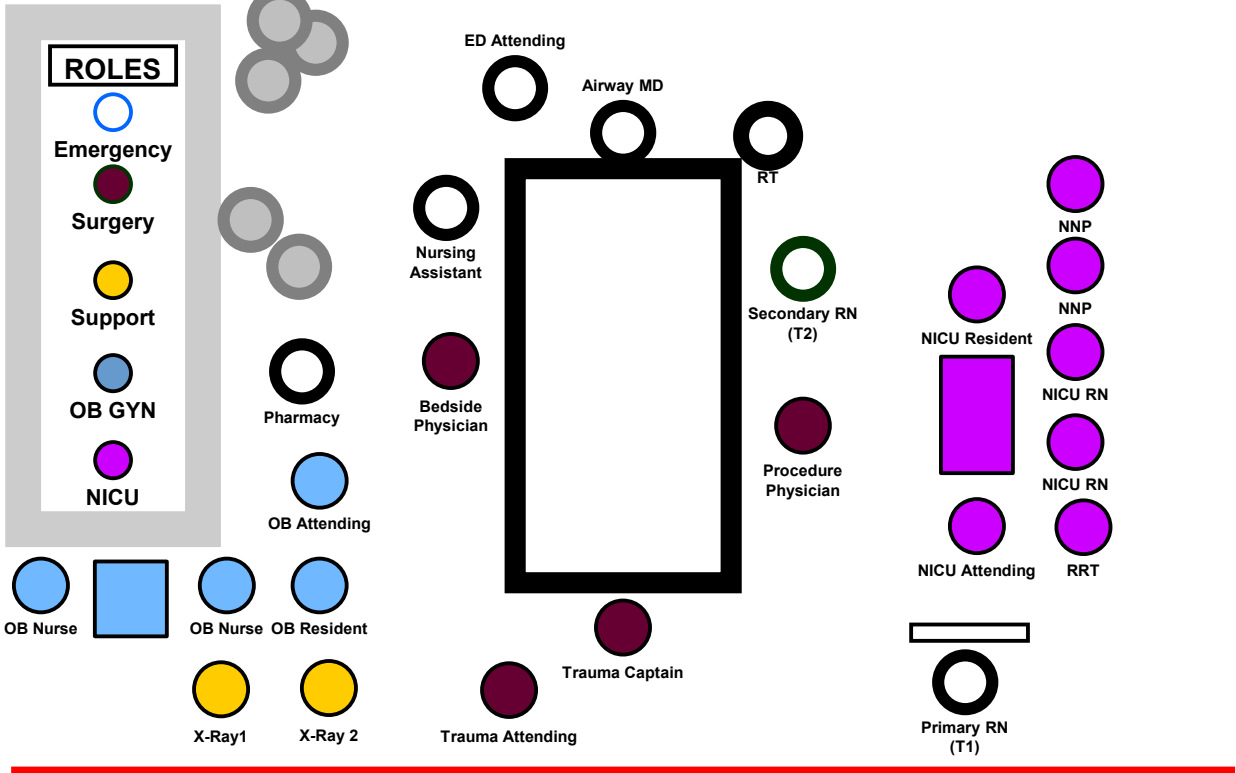
Text Message



Code Stork Real Time Debrief

(VIDEO)

Adult Trauma Positions



Debrief

Establish One Leader

Treatment Leader:
"Ok Alex, I'll take it from here."

Leadership 

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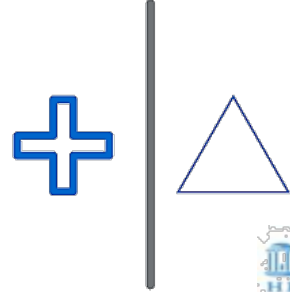
Mutual Support

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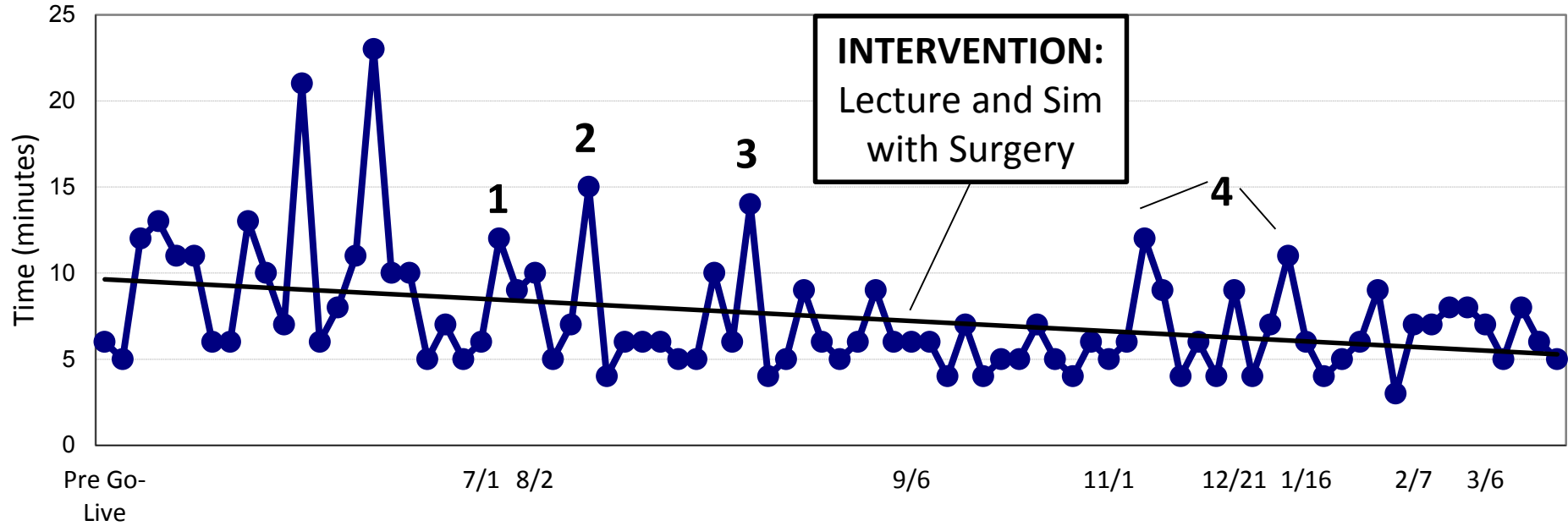
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Optimizing Tar Heel Trauma Care

RESULTS

Decreased Time to Log-Roll

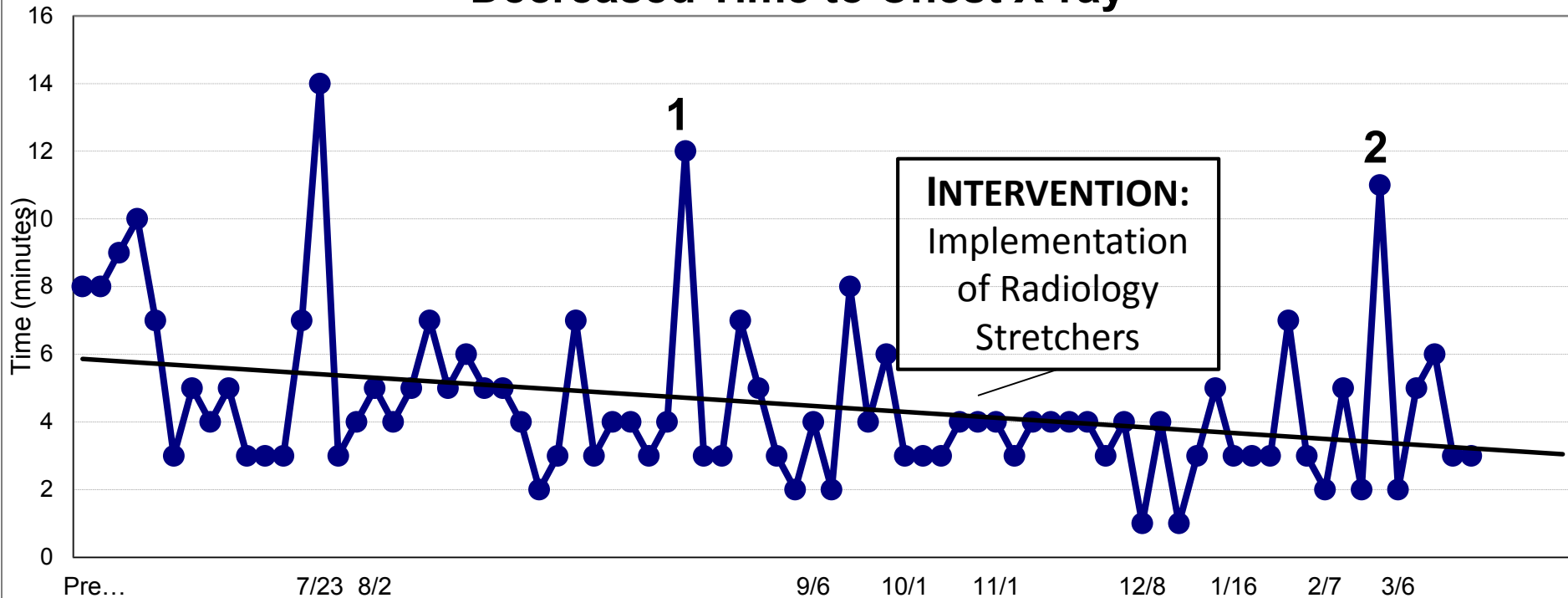


Reasons for time > 10 minutes

1. Only RN and ED Resident initially present; requires more staff for safe log-roll
2. Providing additional comfort measures to the patient prior to log-roll
3. Resuscitation is lacking defined leadership and direction
4. Delays in obtaining vital signs, which are required prior to log-rolling



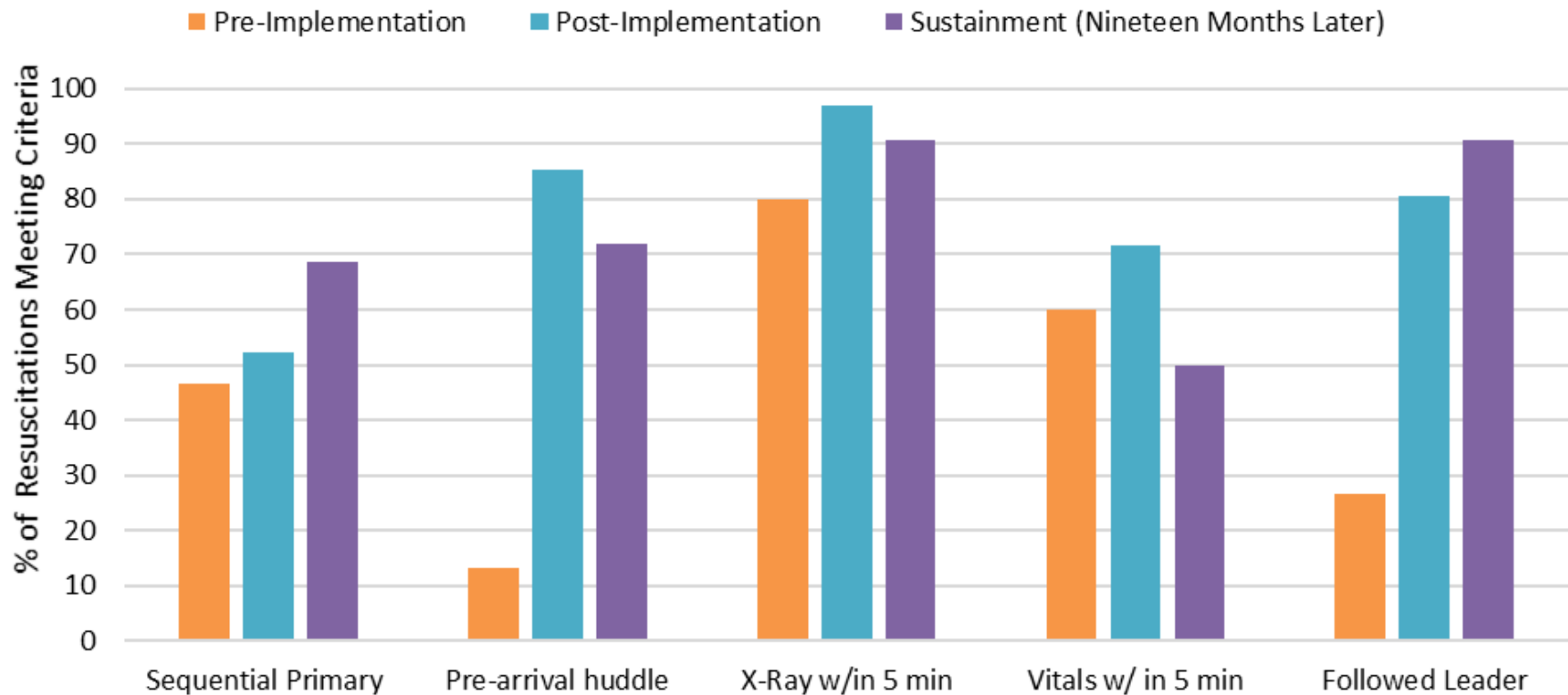
Decreased Time to Chest X-ray



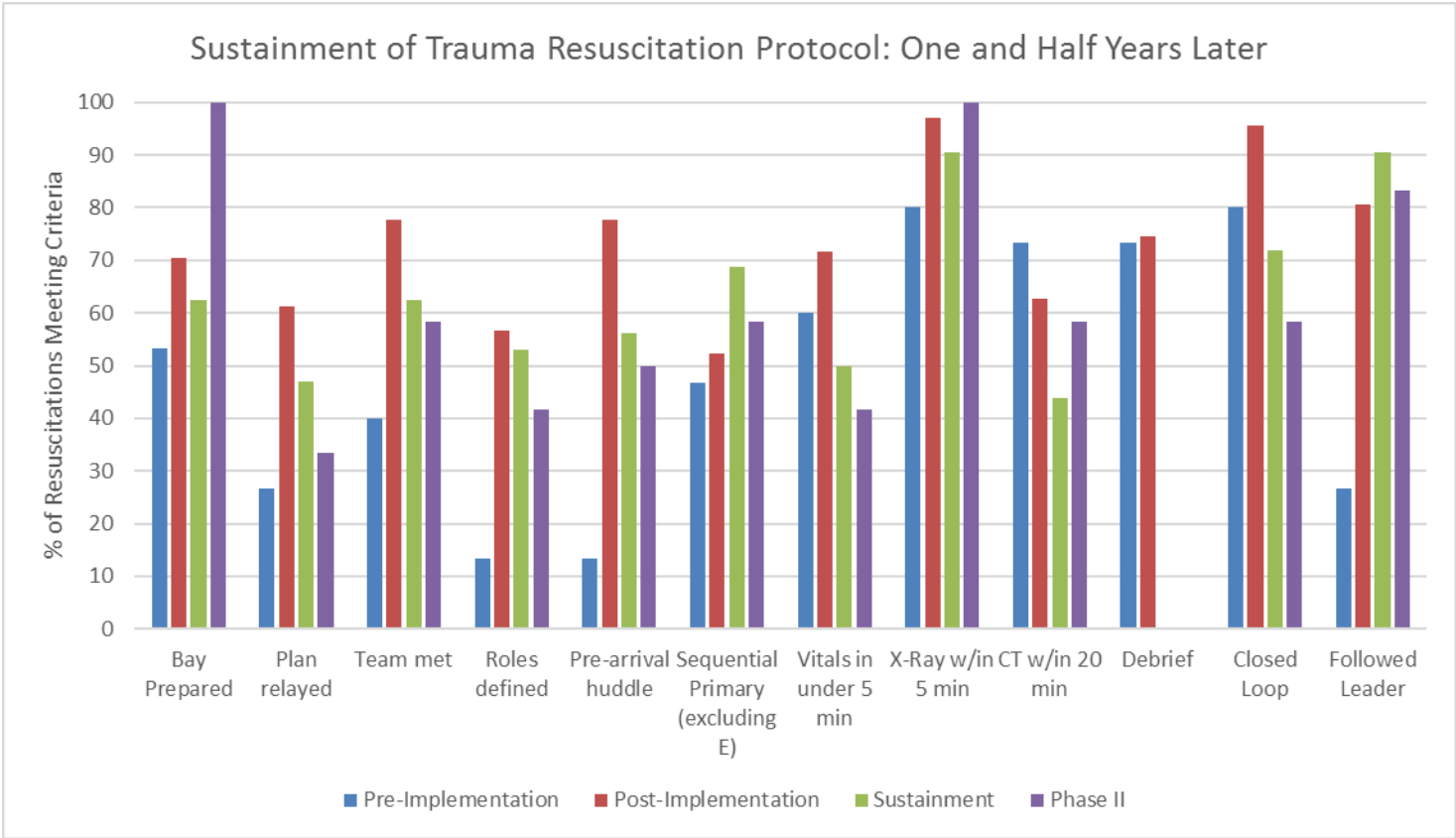
Reasons for delays

1. Obtaining central access on a critical patient
2. Change in radiology leadership and need for more education

Sustainment of Tar Heel Trauma Standardized Process: Nineteen Months Later



Preliminary Data: 24 months (N=12)



“I wanted to reach out to you because I remember the trauma/code stork simulation we did several months ago (while I was still in the ED) and I feel like that experience helped immeasurably with this one.”

Overall, despite many teams and moving parts, this trauma ran extremely smoothly, communication was great, and teamwork was truly outstanding.”

Megan K. Seston, MSN, RN, CCRN-CMC, CEN | Nursing House Supervisor
Nursing Staffing Systems
UNC Hospitals

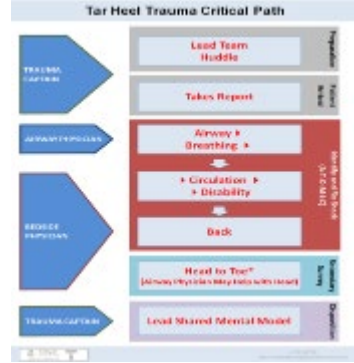


HORIZONS

Eye Tracking in Trauma



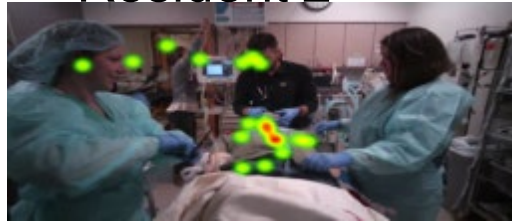
Leadership and Teamwork in Trauma



Resident 1



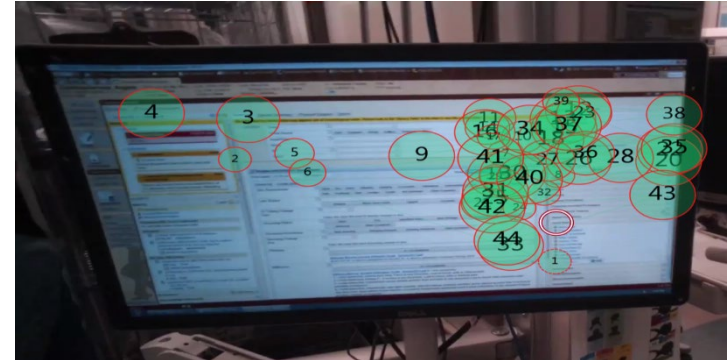
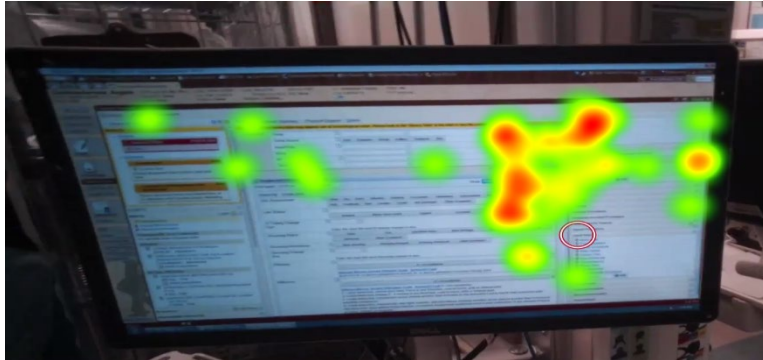
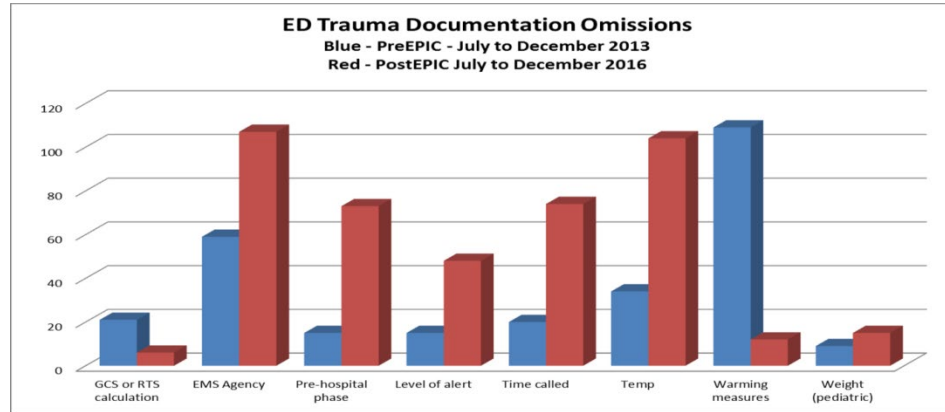
Resident 2



Fellow



EHR in Trauma Documentation



Eye Tracker Footage

(VIDEO)

Expanding QI Capacity: Geriatrics

TAR HEEL TRAUMA



GERIATRIC WORK GROUP



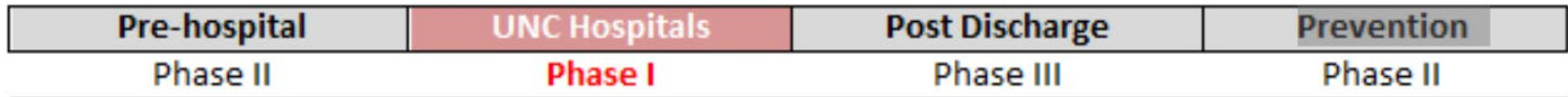
LEAN KAIZEN COACH



PLAN & EXECUTE KAIZEN EVENTS



	ADULT RED (AGE 16 and Over)	ADULT YELLOW (AGE 16 and Over)
<p>UNC HEALTH CARE</p> <p>Tar Heel Trauma</p> <p>UNC TRAUMA TRIAGE CRITERIA CARD (PILOT)</p> <p>PATIENT LOGISTICS / TRANSFER CENTER:</p> <p>1-855-PLC-4-UNC</p> <p>1-984-974-4500</p> <p><small>Mid Carolina Health System</small></p> <p>tarheeltrauma@health.unc.edu</p>	<ul style="list-style-type: none"> Traumatic cardiac arrest during transport to UNC AIRWAY COMPROMISE including all burns with known or suspected inhalation injuries Patients intubated and transported from the scene Transfers requiring intubation en route Continuing respiratory distress post-definitive airway placement RESPIRATORY DISTRESS SHOCK at ANY time prior to or after patient arrival <ul style="list-style-type: none"> Age 16-64: Systolic BP <90 Age 65 or older: Systolic BP <130 UNRESPONSIVE - GCS ≤ 8 with traumatic MOI Transfer patient exsanguinating en route to maintain VS Penetrating wounds to head, neck, chest, abdomen, and/or extremities above the elbow or knee limb paralysis with traumatic MOI Amputation above wrist or ankle Vascular compromise of extremity Open patients with known or suspected trauma meeting red alert criteria Multiple casualties (2 or more red or yellow alerts) ED physician's discretion 	<ul style="list-style-type: none"> GCS ≤ 14 but ≥ 8 with MOI attributed to trauma Intubated transfer patients not meeting red alert criteria Respiratory rate <10 or >30 Pulse rate <60 or >130 Flail chest or multiple rib fractures Pneumothorax / hemothorax Open or depressed skull fractures Two or more long bone fractures Crush injury to chest or pelvis Open long bone fracture Burns with known or suspected trauma meeting yellow criteria Known head bleed on anticoagulants / antiplatelets other than Aspirin ED physician's discretion <p>Patients age 65 or older who meet the above criteria will be RED ALERT</p> <p><small>*All trauma transfers from outside hospitals age 65 or older (unless upgraded to Red Tag status or deferred by EM discretion)</small></p> <p>Special Considerations: High Risk MOI/scene factors, e.g. fatality in same vehicle, prolonged extrication, ejection Special populations, e.g. comorbid factors, age, anticoagulants, pregnancy</p>



Thank You!



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