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Decreasing Unplanned Extubations by Taping Technique & Creating a Culture of Safety

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BEST CHILDREN'S HOSPITALS U.S. NEWS 2018-19

MAGNET RECOGNIZED

UMKC School of Medicine

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Disclosures

We describe an ETT taping technique that differs from the manufacturers recommendations

Presented at PAS 2019

No other disclosures

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Background: Unplanned Extubations

- **Defined as dislodgement or removal of the endotracheal tube at a time that was not specifically intended or ordered by the physician or practitioner**
- **It is a common problem in Neonatal ICUs**
- **It places patients at increased risk of adverse events**

Reducing Unplanned Extubations in the NICU; Lori Merkel, Kimberly Beers, Mary M. Lewis, Joy Stauffer, Dennis J. Mujsce, Mitchell J. Kresch; Pediatrics 2014

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Background: NICU

- Level IV Neonatal ICU, 84 beds
- Over 300 RN's, 80 RT's, 60 NNP's
- 32 Neonatologists, 7 Fellows
- Over 1000 admissions per year
- Average ventilator days per month ~330-350
- Average UPE rate 1.6-2.0 events per 100 ventilator days

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SMART Aim

Decrease the UPE rate in our Level IV NICU to less than 1.0 event per 100 ventilator days by December 2018

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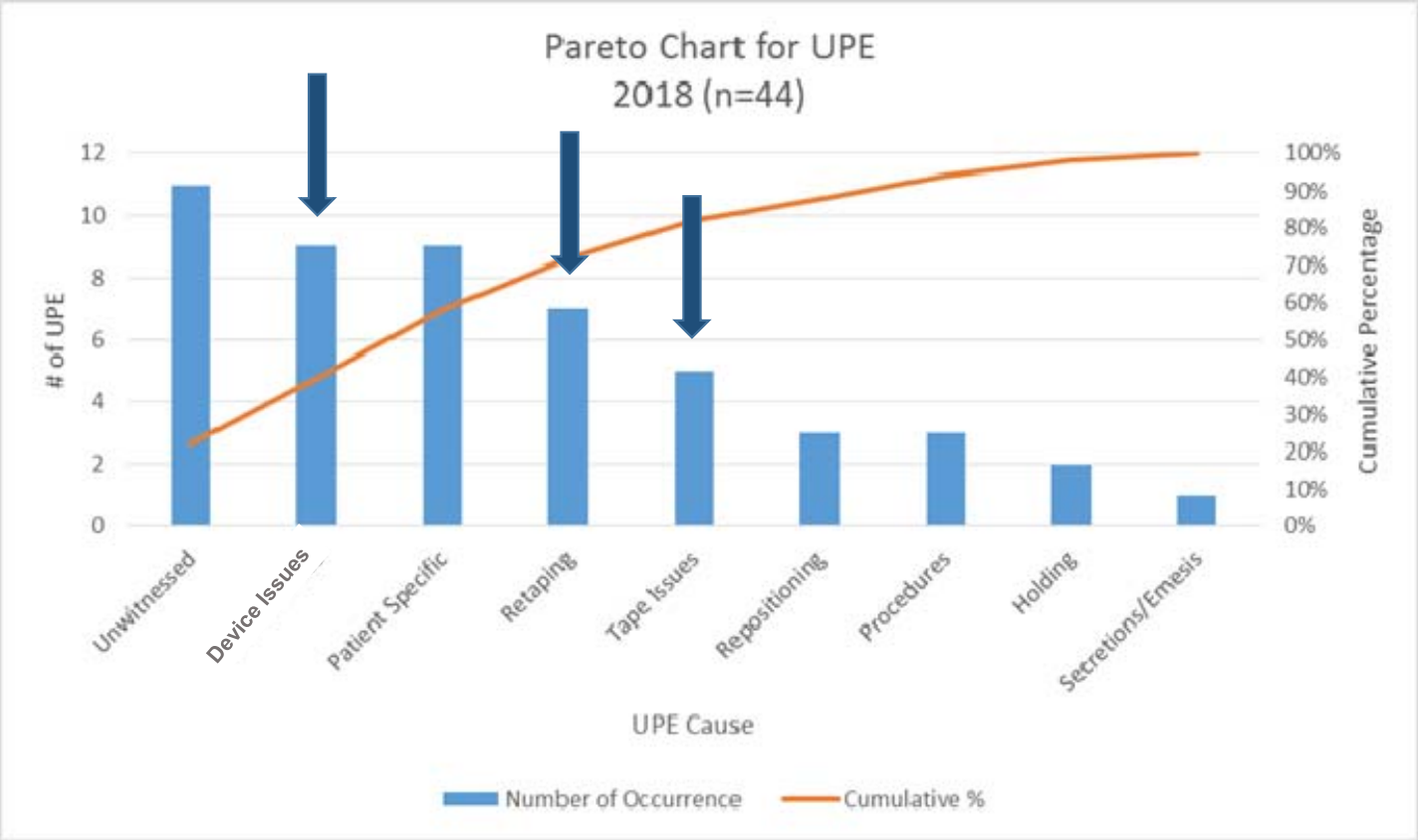
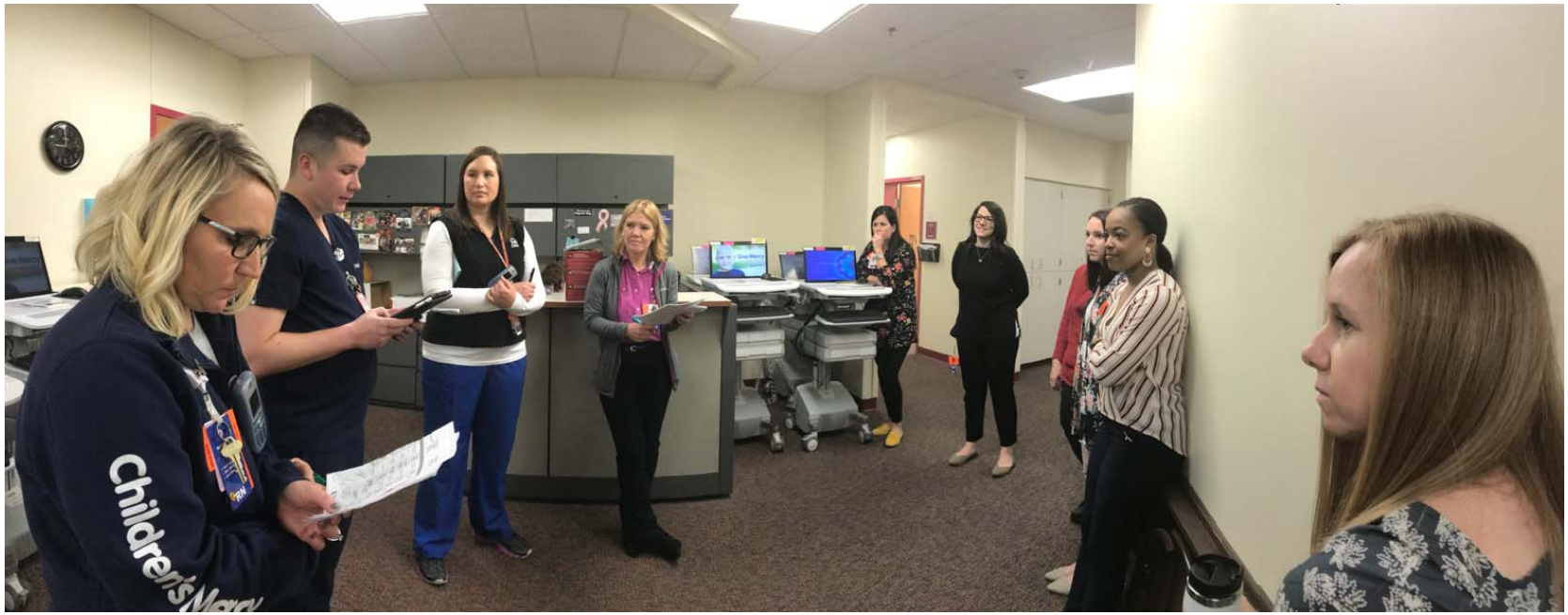
Root Cause Analysis



Debriefing after Leadership Rounds



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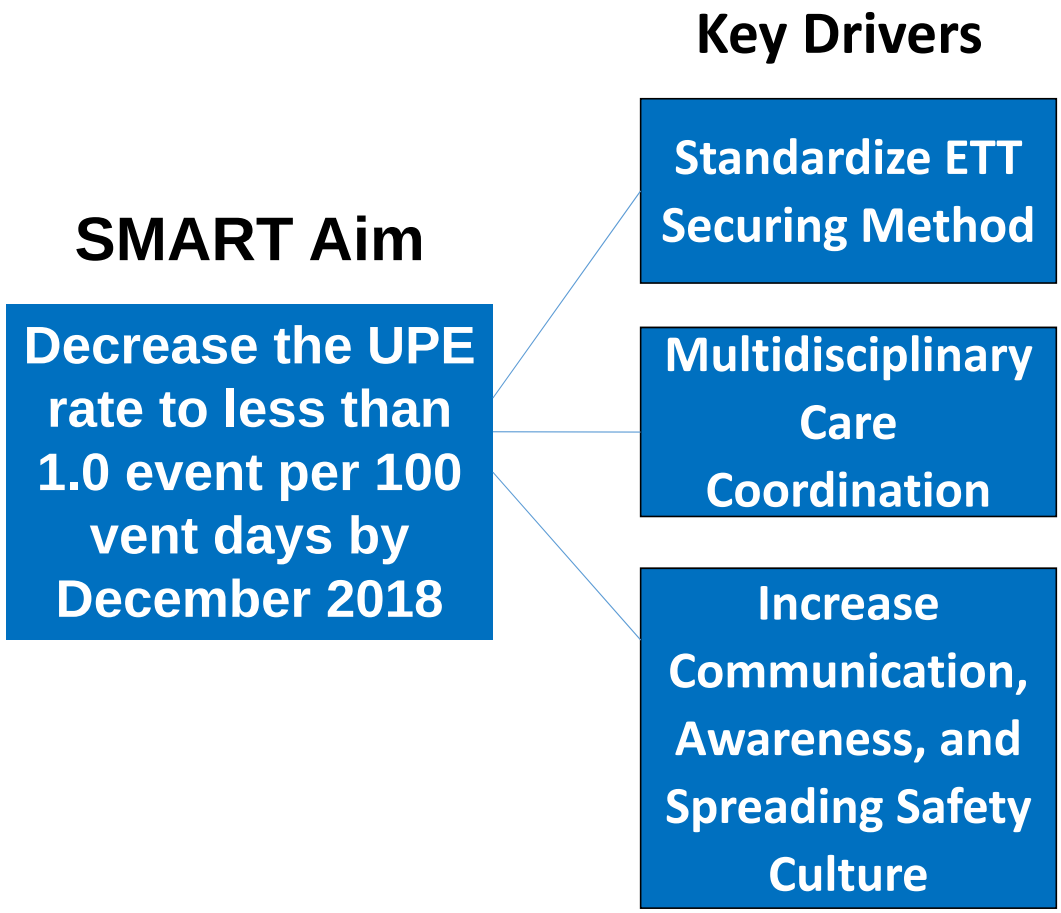
Driver Diagram



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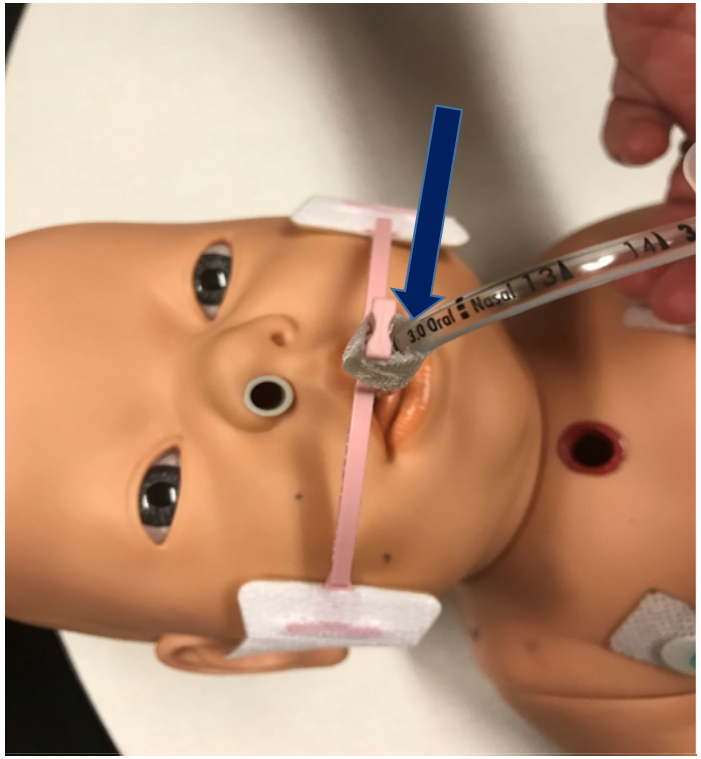
Taping Technique



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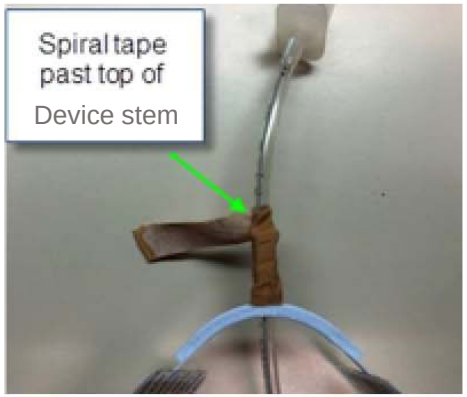
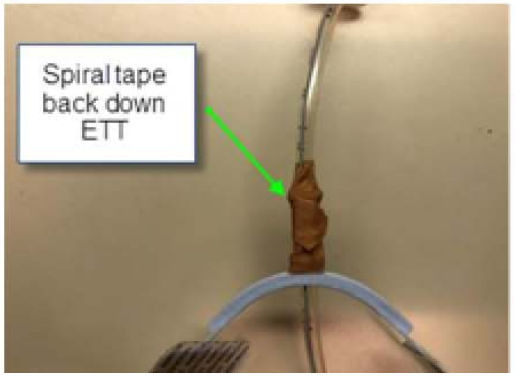
New Taping Technique





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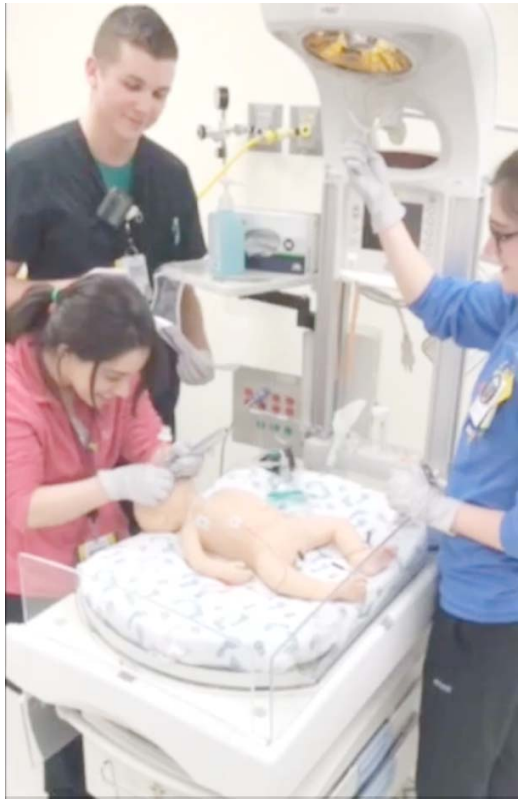
Team Education

- An educational module was created
- Consisting of a video followed by a quiz
- It highlighted the new taping technique
- Defined team member roles at bedside
- Reinforced device use recommendations



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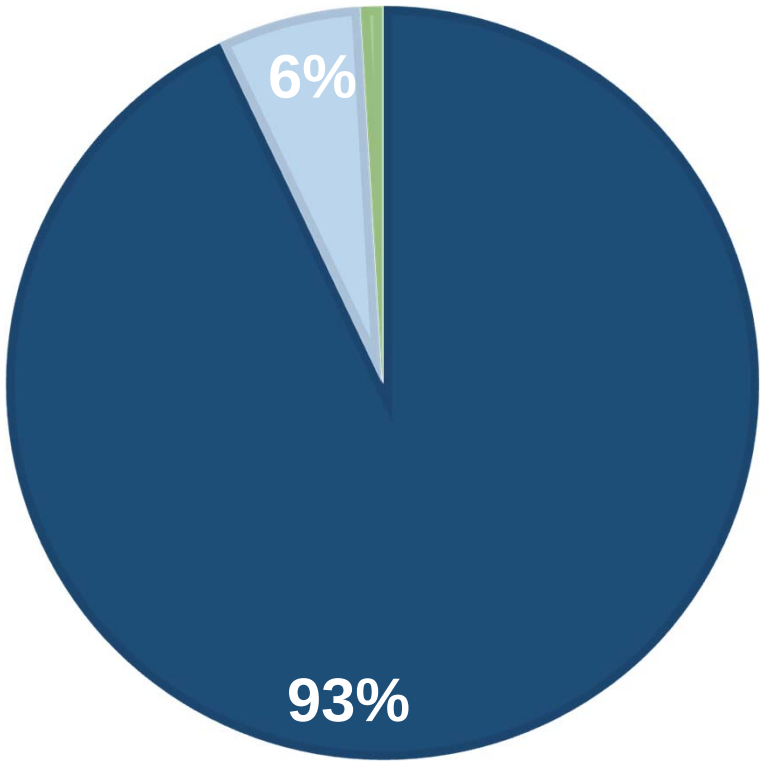
Educational Module

n = 536 people



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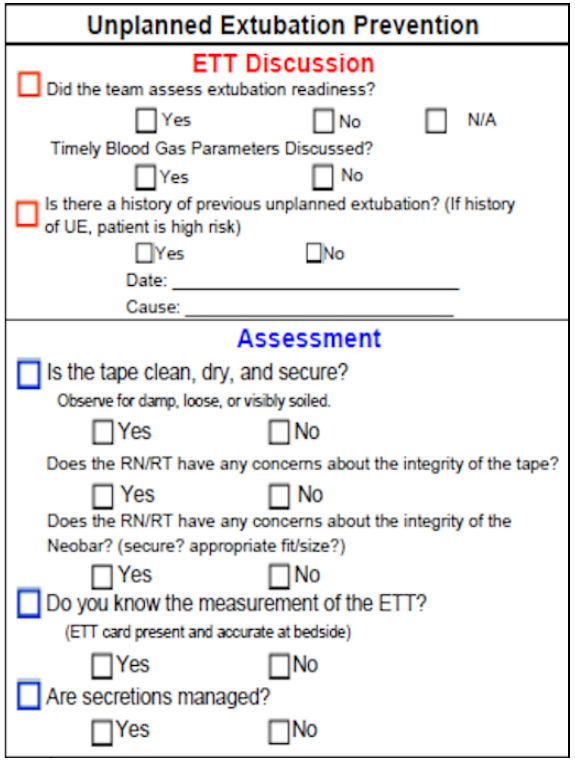
Bedside Checklist



Unplanned Extubation Prevention

ETT Discussion

☐ Did the team assess extubation readiness?

☐ Yes ☐ No ☐ N/A

Timely Blood Gas Parameters Discussed?

☐ Yes ☐ No

☐ Is there a history of previous unplanned extubation? (If history of UE, patient is high risk)

☐ Yes ☐ No

Date: _____

Cause: _____

Assessment

☐ Is the tape clean, dry, and secure?

Observe for damp, loose, or visibly soiled.

☐ Yes ☐ No

Does the RN/RT have any concerns about the integrity of the tape?

☐ Yes ☐ No

Does the RN/RT have any concerns about the integrity of the Neobar? (secure? appropriate fit/size?)

☐ Yes ☐ No

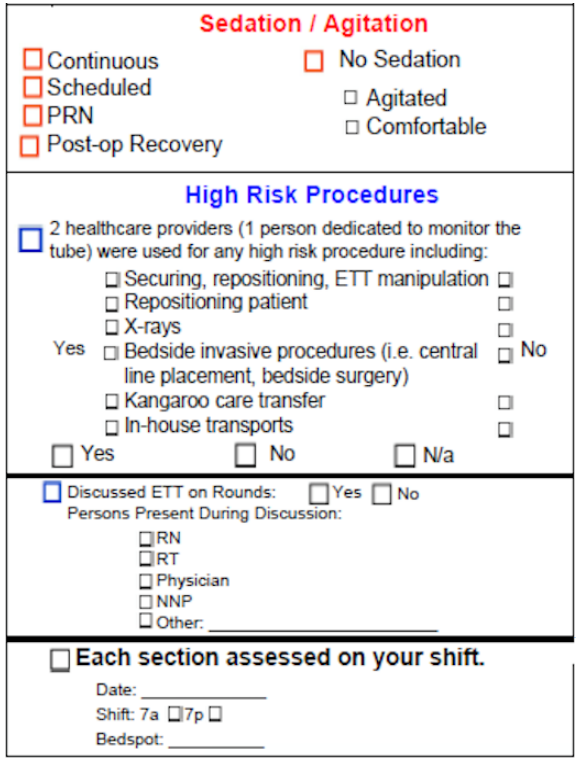
☐ Do you know the measurement of the ETT?

(ETT card present and accurate at bedside)

☐ Yes ☐ No

☐ Are secretions managed?

☐ Yes ☐ No



Sedation / Agitation

☐ Continuous
☐ Scheduled
☐ PRN
☐ Post-op Recovery

☐ No Sedation
☐ Agitated
☐ Comfortable

High Risk Procedures

☐ 2 healthcare providers (1 person dedicated to monitor the tube) were used for any high risk procedure including:

	☐ Securing, repositioning, ETT manipulation	☐	
	☐ Repositioning patient	☐	
	☐ X-rays	☐	
Yes	☐ Bedside invasive procedures (i.e. central line placement, bedside surgery)	☐	No
	☐ Kangaroo care transfer	☐	
	☐ In-house transports	☐	

☐ Yes ☐ No ☐ N/a

☐ Discussed ETT on Rounds: ☐ Yes ☐ No

Persons Present During Discussion:

☐ RN
☐ RT
☐ Physician
☐ NNP
☐ Other: _____

☐ **Each section assessed on your shift.**

Date: _____

Shift: 7a ☐ 7p ☐

Bedspot: _____

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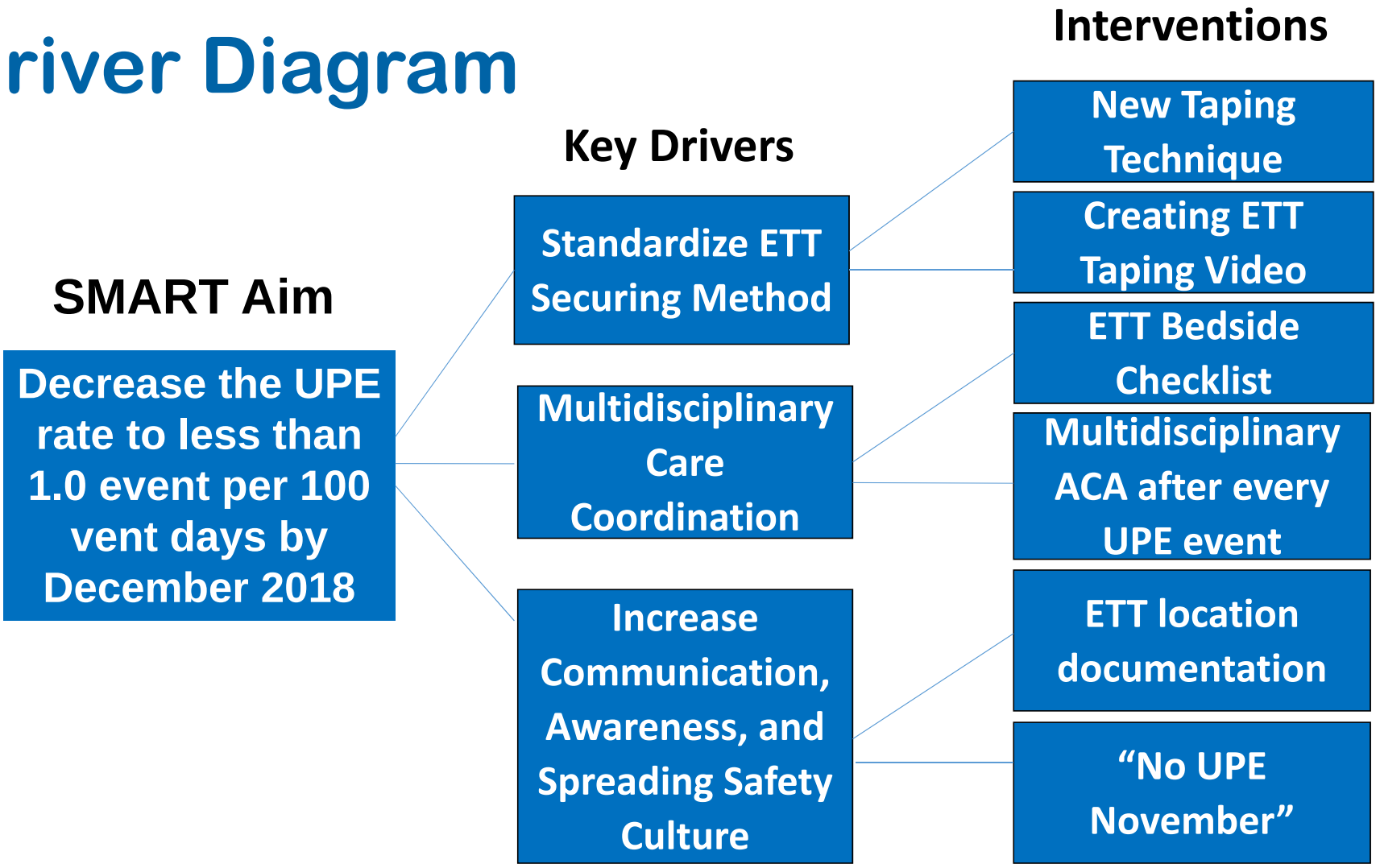
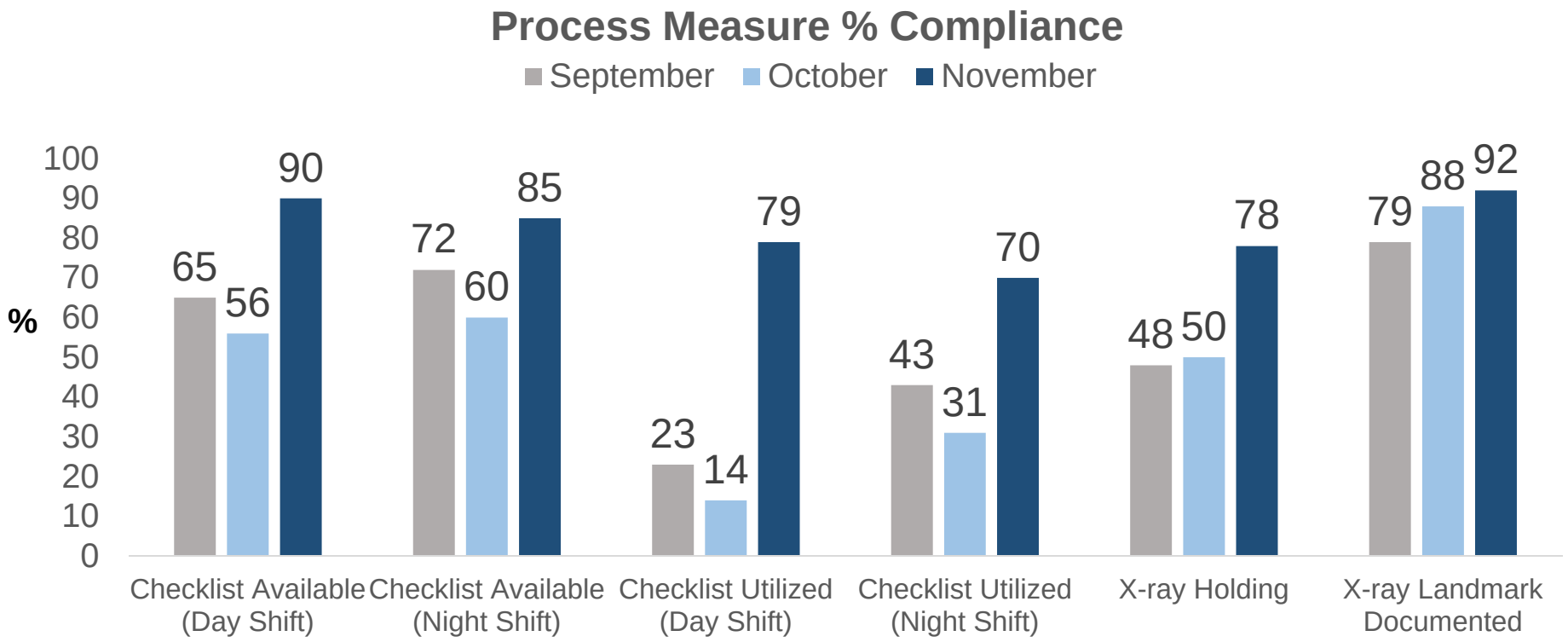
Driver Diagram



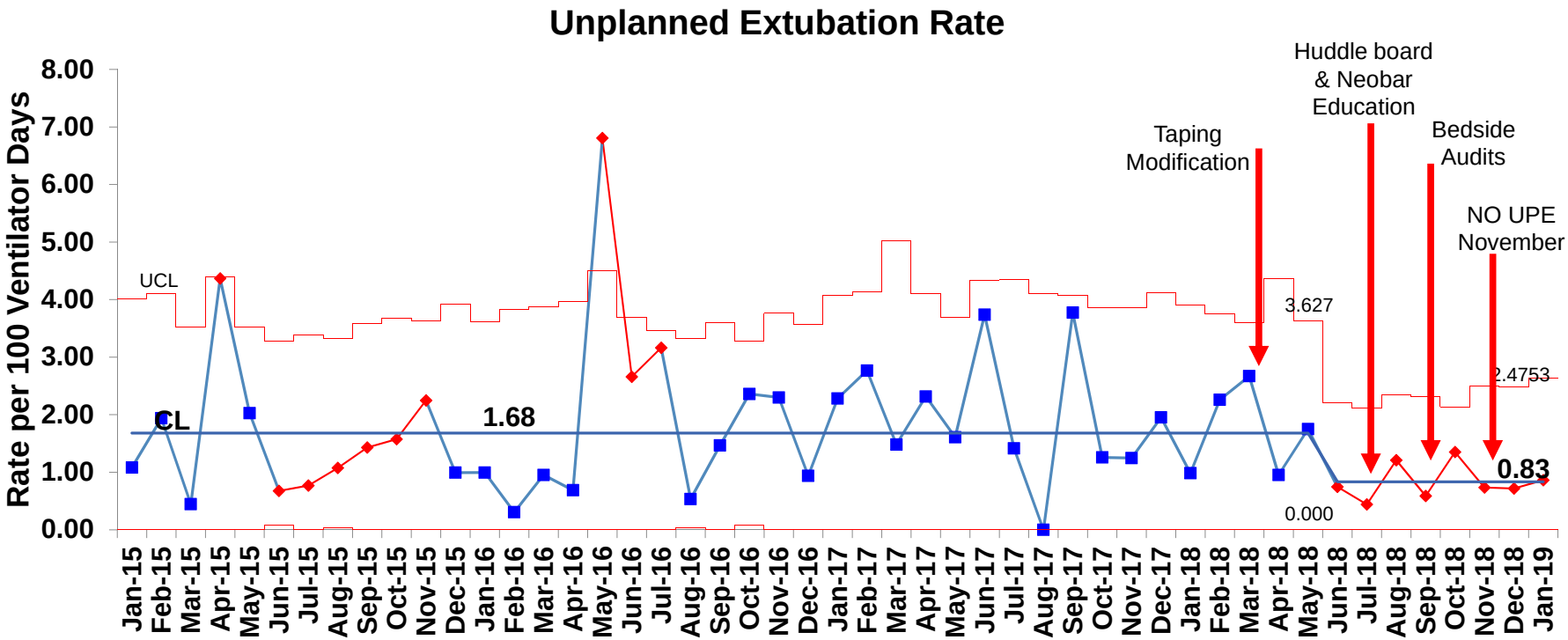
“No UPE November”

- Month long educational program
- Weekly educational emails
- Aimed at reinforcing new practices
- Increased awareness
- Filled in gaps in education
- Reinforced every disciplines role in preventing UPEs

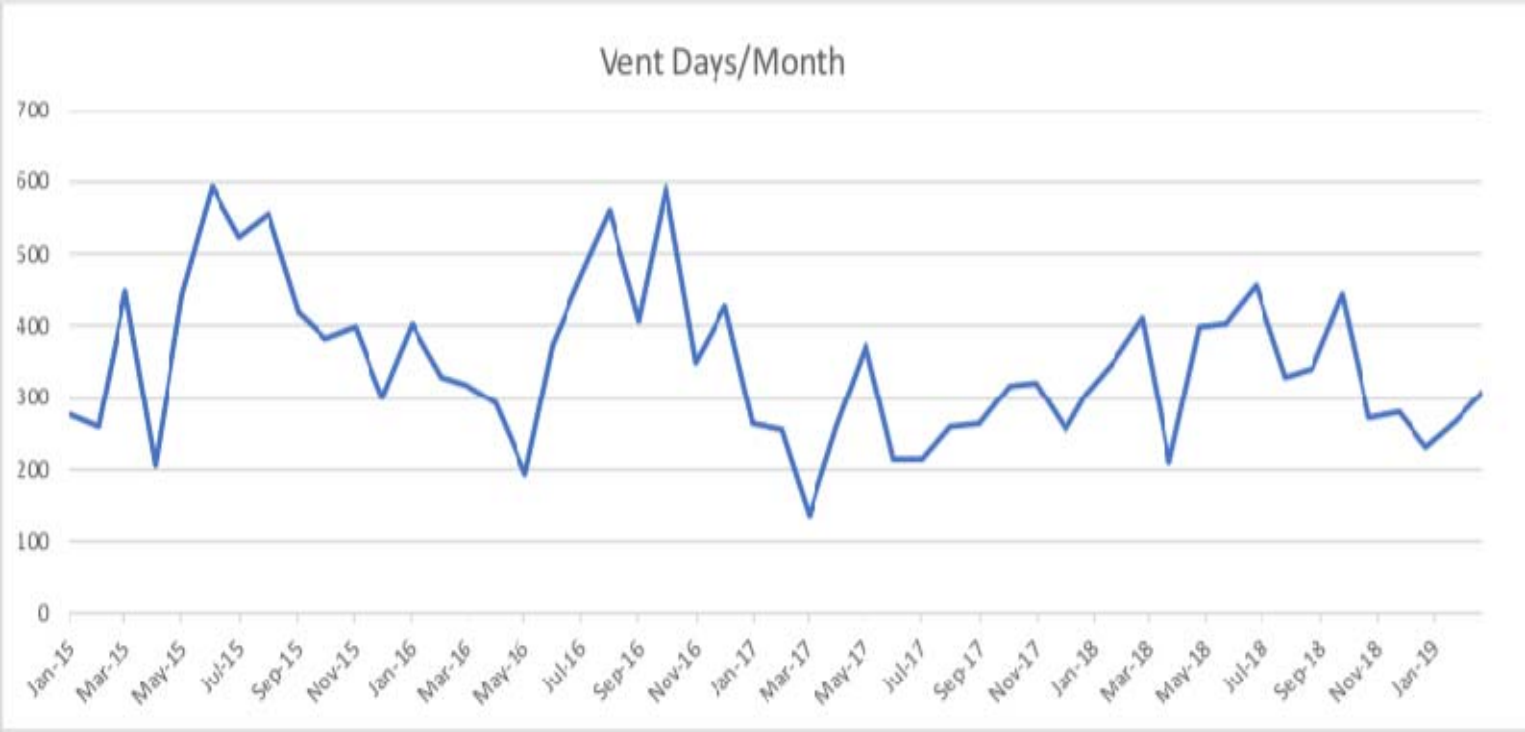
Compliance with Process Measures



Decreased UPE Rate



Balancing Measures



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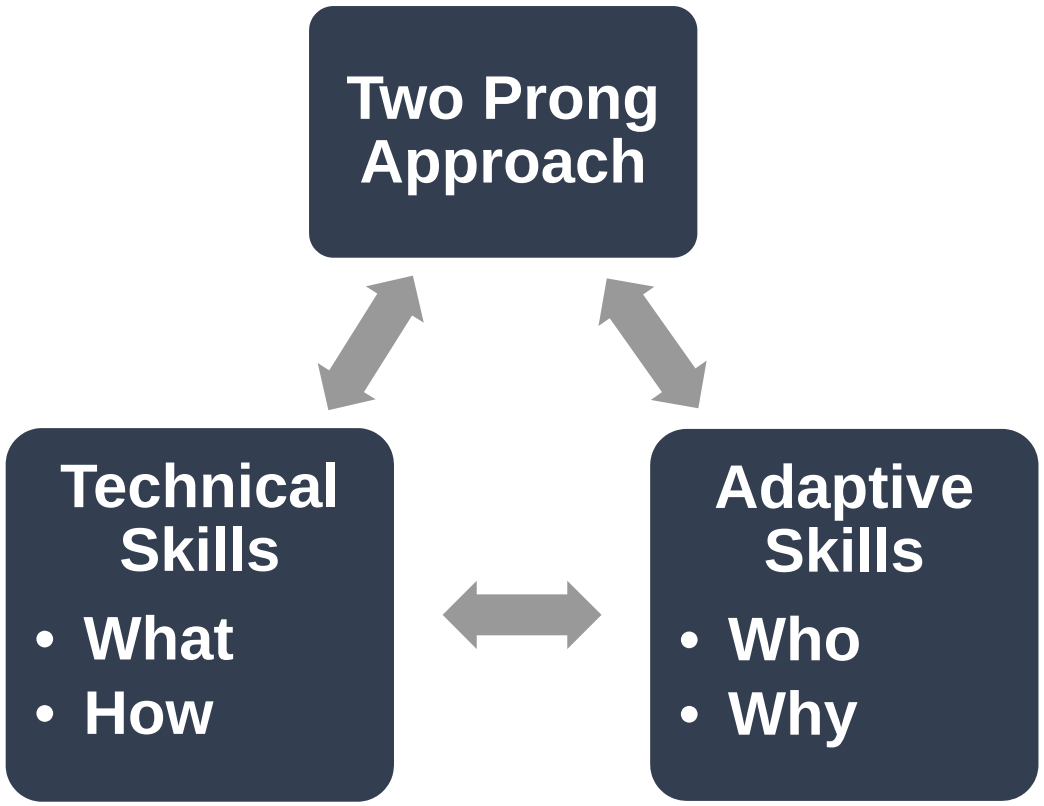
Driving Culture Change



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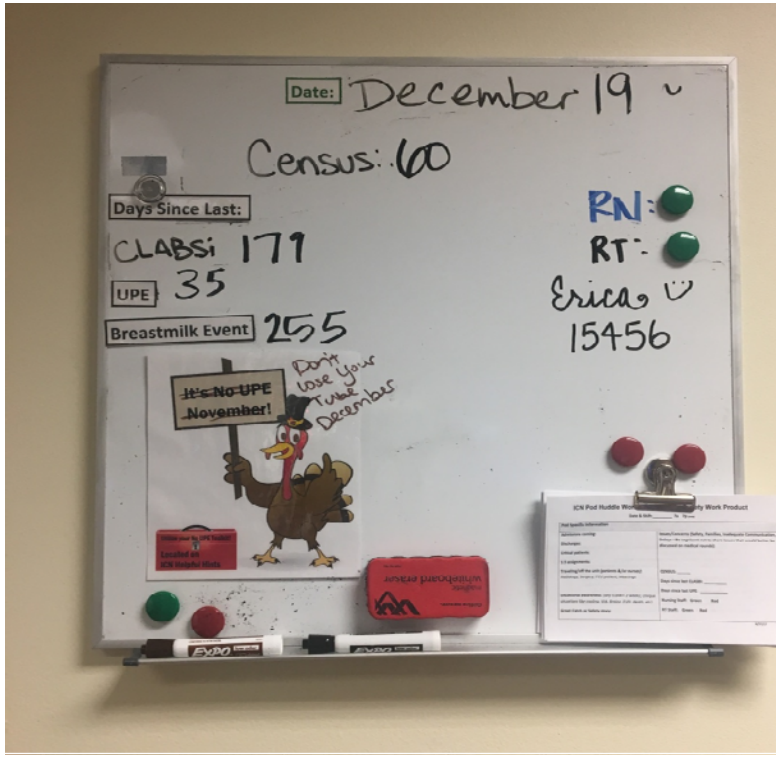
Change in Culture



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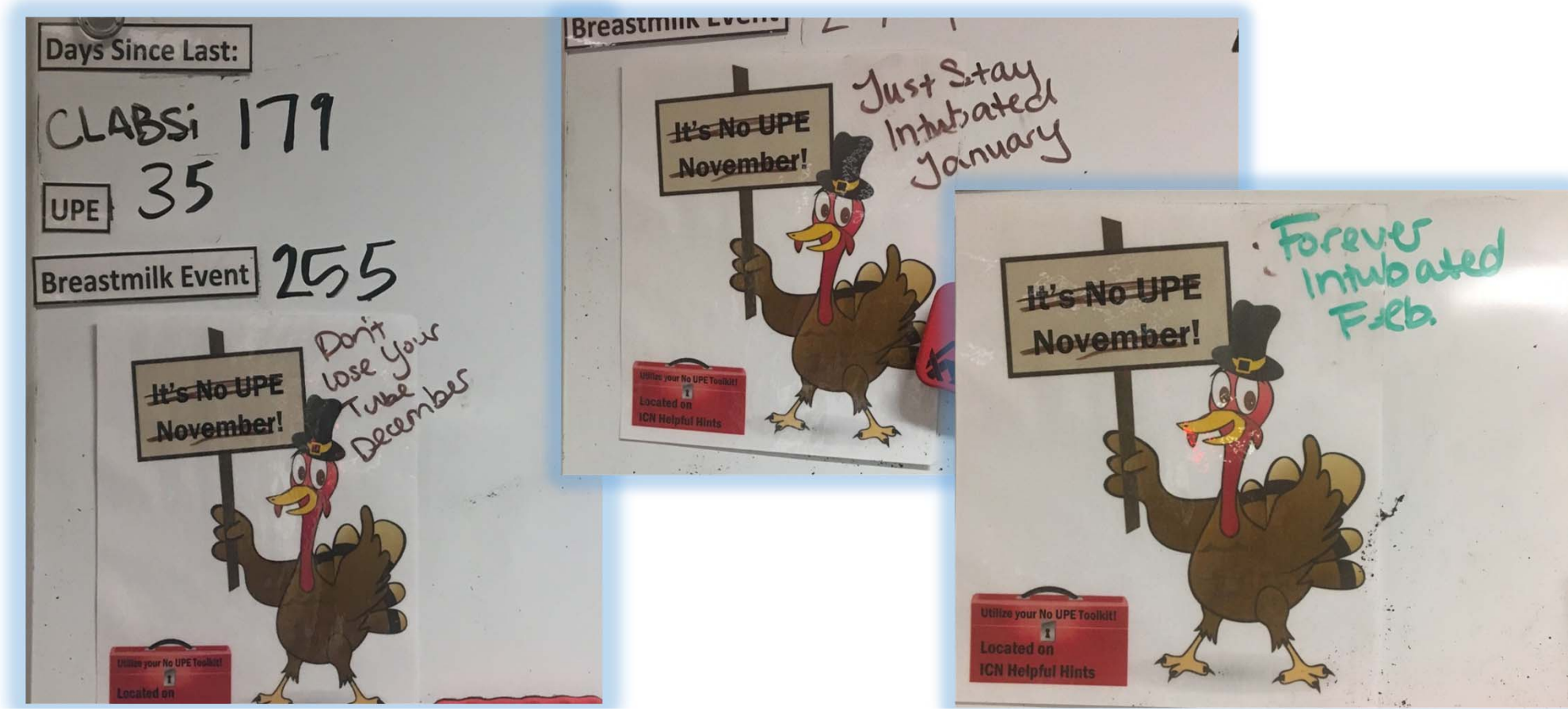
Change in Culture



Summary

- Unplanned Extubations should be a never event
- Engaging all members of the health care team to own the solutions is critical to success
- “No UPE November” promoted increased awareness and team ownership of the UPE goal
- Ensuring access to resources, securement process improvement and encouraging a culture of safety we successfully lowered our UPE rate

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Future Directions

- Sustain and strive to achieve lower UPE rates
- Ultimate goal of UPE rate less than 0.5 per 100 ventilator days
- Setting up debriefing tool using QR code

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