Determining Unintended Extubation Rate in a Level IIIb NICU

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Problem

- Unintended extubation (UE) rate is a reflection of best practice of airway management in the neonatal intensive care unit (NICU)
- It is defined as UE/invasive ventilator days and is used in NICUs in the United States as a reflection of best practice

Goal

- Goal #1 is to organize deidentified access to the University of Chicago RedCap system to document UEs by the bedside nurse after a short post extubation debrief
- Goal #2 is to document invasive ventilator days as the denominator for UE/Vent days= UE rate
- The best practice rate is < 0.5/100 vent days.

"Intervention Design"

Part 1: Unintended Extubation Data Collection Tool

- **Define unintended extubation**
  - Not part of the plan of care
  - No provider order
- **Identify priority data for ease of use and timely collection**
  - ✓ Date and time of unintended extubation
  - ✓ Medical record number
  - ✓ Activity during unintended extubation
  - ✓ Manual ventilation required?
  - ✓ Reintubation required?
  - ✓ Resuscitation required?

- **Limit discoverability**
  - Worked with med-legal
  - Survey is anonymous
  - User is taken out of the EMR and into RedCap
- **Educate staff on use of tool**
  - *Who* should fill out the tool?
  - *What* constitutes an unintended extubation?
  - *When* should the tool be filled out?
  - *Where* is the tool found?
  - *Why* do I need to report an unintended extubation?
  - *How* are we going to create a culture change around unintended extubations?

"Results to Date",

November 2018:

- *Extubation data link live in EPIC*

November 2019:

- *Invasive ventilator row live in EPIC*

January 2020:

- *Manual counts for 2019 data complete*
- *UE Rate is 0.49/100 vent days*

Conclusions and Next Steps

- Thus far, our UE has been in the best practice range.
- However, we are working to refine the documentation process for each unintended extubation and for total invasive ventilator days

Acknowledgements