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Matthew B. Johnson
Children's Mercy Hospital

Lisa Carney
Children's Mercy Hospital

Cheryl Powers
Children's Mercy Hospital

Bradley Bishop
Children's Mercy Hospital

Natalie Masters
Children's Mercy Hospital

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Authors

Matthew B. Johnson, Lisa Carney, Cheryl Powers, Bradley Bishop, Natalie Masters, Becky Paulsen, Andrea Raymond, and Paul N. Bauer

Utilizing a Situation Awareness Huddle Tool to Decrease Code Blue Events

Matthew B. Johnson, MD; Lisa Carney, MD; Cheryl Powers, RN, MSN, NE-BC; Brad Bishop, MD; Natalie Masters, RN, MSN, CPN; Becky Paulsen, PhD(c), RN, CPN; Andrea Raymond, BA-HCM, RRT-NPS, CPHQ; Paul Bauer, MD

Children's Mercy Kansas City, Kansas City, MO

Background

- Cardiac/respiratory arrests outside the ICU result in significant morbidity and mortality.
- Many of these events are likely preventable, and could represent missed clinical deterioration.
- Improved situation awareness and communication amongst bedside team results in better clinical outcomes
- Three components to situation awareness: detection, comprehension, and projection.
- We adapted a situation awareness (SA) tool previously published from Cincinnati, which combines elements of a huddle and a checklist. We sought to trial the process on a single unit, prior to spreading hospital-wide.

FIRST TOOL



CURRENT TOOL



Objective/Aim

To decrease code blues outside the ICU from 0.5 per 1,000pt-days to 0.1 per 1,000pt-days by December 31, 2017 on the pilot unit.

Methods

Setting – general inpatient unit at a tertiary children's hospital (28 beds, primarily 2 resident teams)

Inclusion criteria – all medical-surgical patients admitted to the unit during the study period

Multidisciplinary team/input – hospitalists, critical care, nurses (frontline, QI trained, directors), respiratory therapists, chief residents, family advisory board, sub-specialists

Interventions – see Figure 1; continued modifications to the tool itself; repeated education, feedback, and data sharing; workshops with stakeholders; incorporation into unit and hospital-wide tiered huddles; monthly dashboard to share progress

Measure/Results

Outcome measure – code blues outside the ICU

- Decreased from 0.495 to 0.090 codes per 1,000pt-days

Process measures (some key ones) –

- % triggered by high PEWS/HFNC: **57.2% average**
- % completed on interventions, expected outcomes, and reassessment: **93%, 86% and 78% average respectively**

Balancing measure – low acuity ICU transfers (patients transferred to ICU with no significant interventions given) – **result pending**

Code blues per 1,000pt-days on pilot unit

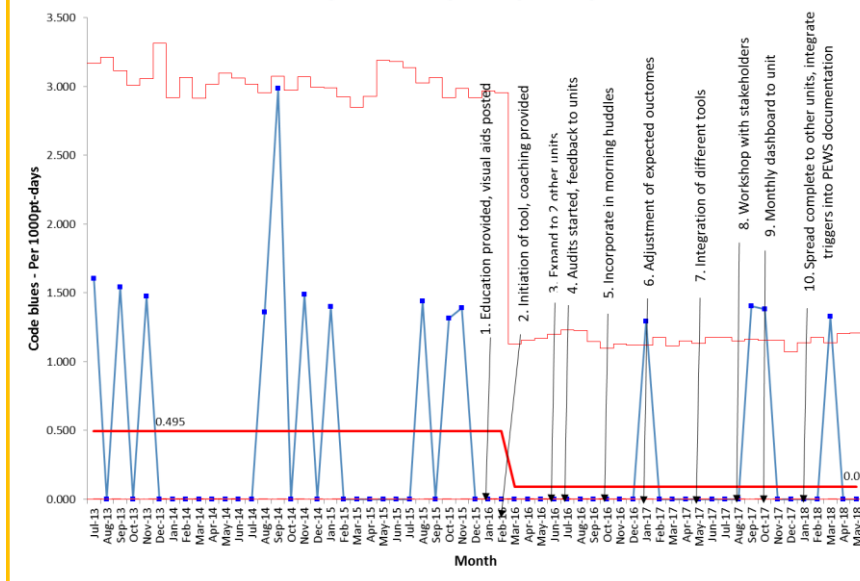


Figure 1. Annotated U-chart of code blue events on pilot unit.

Conclusions

- Improvement was seen earlier than expected with initial period without a code reaching 415 days.
- Subsequent codes may not have been preventable (other causes that may not have been impacted by SA process).
- General feedback thus far has been positive, surveys pending.
- Spread to all 8 medical/surgical units through phased improvement workshops to promote adoption of process; input from subspecialists and leaders from each unit to help buy-in.
- **Next steps:** incorporating into EMR; collaboration with High Flow Nasal Cannula/sepsis groups; simulation; supporting telemedicine.