

Increasing Post-Code-Event Debrief Adherence in the Neonatal Intensive Care Unit: A Quality Improvement Project

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BACKGROUND

- Error rates in the neonatal resuscitation program (NRP) range from 15-50%
- Errors include completing skills incorrectly, lack of coordination between those providing positive pressure ventilation and compressions, and errors of omission.
- Nonadherence with NRP correlated with poor communication among code team members
- Post-code-event debriefing has been identified to promote team learning, identify areas for resuscitation improvement, offer information on knowledge gaps, and improve communication among the resuscitation team

LOCAL PROBLEM

- Urban 116 bed level IV NICU in the southeast United States
- Debrief checklist has existed since 2022, but lack of policy, process, education, and leadership lead to limited adherence
- 2/111 (1.8%) of codes resulted in a debrief in 2023
- “No one remembered to initiate” was the most common reason for not completing a debrief after a code event
- Project purpose: to implement a standardized debrief process to improve adherence rate to completing a formal debrief after qualifying code events
- Aim: Increase the number of completed post-code-event debriefs from 1.8% to > 50% by August 1, 2024

METHODS

- The Model for Improvement guided the project
- Data was gathered from previous post-code debriefs, and an organizational assessment was completed to determine areas of improvement
- Adherence was measured by assessing the number of completed debrief checklists out of the number of qualifying code events reported
- Data collected regarding what needs to improve, what went well, how long the debrief lasted, and why a debrief was not completed if applicable
- Data was collected weekly via REDCap, a secure data collection server
- Process changes were determined through PDSA (plan-do-study-act) cycles

Even in a high acuity environment, creating a formal process can improve post-code-event debriefing adherence

What went well	N=18
All roles filled	14 (77%)
Identification of team leader	12 (66%)
Pharmacy arrived in a timely manner	11 (61%)
Closed loop communication	10 (55%)
Response time of code team	9 (50%)
Quick ID of patho	9 (50%)
Crowd Control	5 (27%)
Equipment easily available	4 (22%)
Family Support	2 (11%)

What can be improved	N=18
Closed loop communication	5 (27%)
Equipment easily available	5 (27%)
Crowd control	1 (5%)
Quick ID of patho	1 (5%)
Identification of team leader	0
All roles filled	0
Pharmacy arrived in a timely manner	0
Response time of code team	0
Family support	0

Length of debrief	N=18
1-5 minutes	13 (72%)
5-10 minutes	5 (28%)
> 10 minutes	0



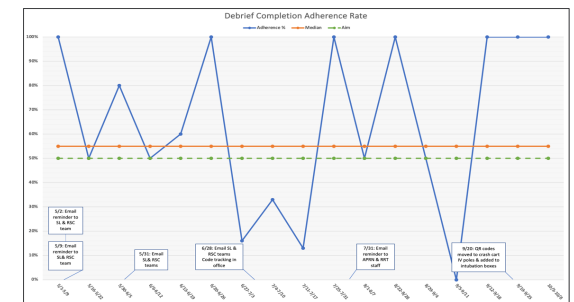
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INTERVENTIONS

- The Project team developed an operational definition of what code events qualify for a debrief
- The code recorder was designated to initiate the debrief using a QR code
- The neonatology fellow was identified as the debrief leader

RESULTS

- Implementation was extended from August 1 to October 8, 2024, to establish a more stable process through PDSA Cycles
- From May 1 –October 8, 2024, 47 code events were reported and 24 debrief checklists were completed
- 18 met the operational definition of a code event
- Average debrief adherence increased from 1.8% to 65%
- Due to variation in adherence rate and data not being normally distributed, the median adherence rate was 55%.
- “No one remembered to initiate” reduced to 27%



CONCLUSIONS

- Creating a formal debrief process led to an increase in post-code-event debrief adherence
- A formal process improved the identification of the team leader and addressed unit-wide concerns of communication and crowd control during resuscitations
- Debriefing allowed the code team to recognize errors in the resuscitation process and provided an opportunity to find targeted solutions to improve patient safety