Neonatal Continuous Improvement System (NCIS): 2 Year Update

The Problem

Our improvement efforts often have difficult challenges, including:

- Few mechanisms for translating bedside challenges identified by clinical staff into improvement activities;
- Limited involvement of front-line staff in the identification and implementation of improvement opportunities;
- Absence of mechanisms to ensure improvement projects are completed in a timely fashion; and
- Absence of integrated communication systems resulting in redundant and uncoordinated work efforts.

Aim / Goal

On November 1, 2012, we launched the Neonatal Continuous Improvement System (NCIS), a new platform for coordinating improvement efforts in the NICU. Here we describe our experience with NCIS after 2 years.

Interventions

Project board

- NCIS is built around a project board that organizes ongoing and completed improvement efforts.
- Daily rounds by NICU staff and leadership are conducted to review new and ongoing improvement opportunities (IOs).
- Board has undergone several revisions, including adjustment of section sizes, addition of “Key” defining categories and outlining process, and addition of plastic card holders in several areas.

Improvement Opportunity (IO) Cards

- Completed by any NICU staff member at any time
- New IOs reviewed daily: assigned owner, prioritization category
- Categories: Just Do It (target completion < 7 days), Short-term (< 30 days), Long-term (< 90 days), Holding, No Action

Microsoft Access Database

- During NCIS rounds, new IOs entered and existing IOs updated
- Reports sent to submitters after initial entry and each update
- Owner reports with outstanding IOs sent weekly by email
- Cumulative summary of completed IOs posted weekly on board

The Team

- Jane Smallcomb, Perinatal Director
- Munish Gupta, QI Director
- Susan Young, CNS
- Kathy Tolland, Nurse Manager
- Pam Dunleavy, Practice Administrator
- Dave Miedema, Data Engineer
- Wendy Timpton, Asst. QI Director
- DeWayne Pursley, Chief

Results / Progress to Date through January 31, 2015

- 651 improvement opportunities submitted, of which 531 (82%) have been completed (Fig 1)
- Over last 18 months, submission rate fairly consistent between 10-20 per month (Fig 1)
- All disciplines have submitted opportunities, with 65% submitted by RNs
- Median Days to Completion higher than target for all categories (Fig 2)
- NCIS appears strongly associated with reduced items on agenda in NICU Leadership Committee (Fig 3)

Culture of Safety Survey

- Survey of NICU staff in January 2013 and January 2015
- 130-140 respondents each survey
- Results from several representative questions shown in Figure 4
- Overall fairly similar results in 2013 and 2015

Themes from Staff Quotes on NCIS from 2015 Survey

- Several very positive comments regarding overall NCIS process
- Numerous comments regarding inability of RNs to routinely attend NCIS, and therefore participate in developing solutions for improvement opportunities
- Several comments that NCIS is limited in ability to address some issues in quality and safety, including physical configuration of NICU and staffing ratios

NCIS: Mother Baby Unit

- NCIS introduced into Mother Baby Unit in January 2015, with new board and similar database structure

Lessons Learned / Next Steps

- After 2 years, staff involvement remains consistent.
- Daily review of items is critical for maintaining momentum, encouraging action, and completing items.
- Ownership of items remains almost exclusively NICU leadership (90% are owned by six individuals).
- Limited impact on culture of safety (although with high baseline) requires further study.
- Challenges continue with regards to enabling effective participation by clinical nurses.
- Challenges continue with regards to addressing difficult structural issues called out by NCIS.

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