Implementation of a Standardized Quality-Improvement-Centered Multidisciplinary Meeting to Improve Patient Care by Optimizing Teamwork

A Quality Improvement Project

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QUALITY PROBLEM

Optimal care of the critically ill neonate requires multidisciplinary Neonatal Intensive Care Unit (NICU) colleagues to work interdependently, with the quality of teamwork linked to the quality and safety of healthcare delivery. Patient outcomes suffer when a complex healthcare unit lacks cohesion, as evidenced by occurrence of preventable patient harm events or unintentional deviation from evidence-based standards of care practices.[1] Barriers to a successful team dynamic may include inadequate interdisciplinary communication, siloed approaches to unit education, or an individual-centric practice culture.

Furthermore, caring for a critically ill patient population has been shown to increase psychological stress and burn out, both of which can be diminished in settings that value interpersonal support and promote resiliency within the workplace.[2]

This project aims to foster interdisciplinary collaboration and provide centralized support to increase teamwork dynamics and quality of care within the University of New Mexico Hospital (UNMH) newborn units.

In doing so, we also hope to create a more positive, engaging, and resilient workspace.

SELECTION OF CHANGES TO TEST

Figure 1. Cause and Effect (Fishbone) Diagram

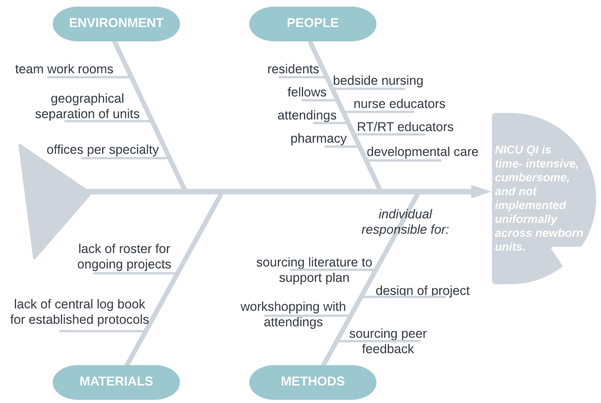
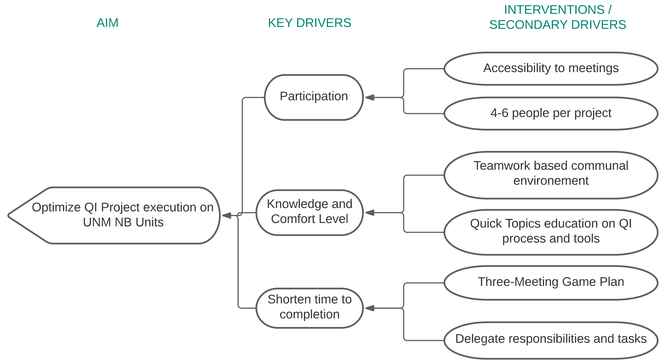


Figure 2. Key Driver Diagram



SUMMARY

Establishment of a standing QIC meeting has created a supportive space where we can utilize individual and collective knowledge, skills, and attitudes to address shared goals for improvement.

Practice change is more easily implemented through the creation of multifaceted, multidisciplinary teams with uniquely successful performance dynamics. As a result, there has been an improvement in adherence to evidence-based guidelines in the acute management on our units.

The number of guidelines and protocols reviewed, revised, or implemented after discussion in QIC meetings was also monitored in combination with feedback after implementation as a way to measure the effects of multidisciplinary stake holder contribution on the success of an implemented change.

SETTING AND TEAM

Our newborn units at UNMH comprise a 1 to 2 bed nursery in our mother-baby unit, a 16-bed Level II intermediate care nursery (ICN), and a 36-bed Level IV NICU; the last two of which are adjacent but not confluent.

The geographical separation of spaces impedes communication and has created variability in clinical care between locations. Moreover, it created a barrier in prior attempts to implement improvement projects or protocol updates, the success of which are integral to high-quality patient care.

In order to improve standards of care and increase evidence-based management across all UNMH newborn units, we designed a quality improvement initiative targeting multidisciplinary teamwork and enhanced communication.

QI team includes key stakeholders:

- Neonatology attendings and fellows
- Nursing administration
- Bedside nursing
- Pharmacy
- NICU registered dieticians

The importance of high-performance team dynamics is not unique to NICU, and considering geographical separation is an unavoidable feature of most hospitals, we hope this endeavor provides a blueprint for similar improvements within other facets of medicine.

QI PROJECT MEASURES

- Attendance composition and project participation were tracked over the course of eight months (at the time of this drafting) as proxy for engagement / communication
- Catalogued the number of individual QI projects, most of which are already in progress
  - Each project to be discussed in a rotating fashion as needed for feedback to foster support and promote forward momentum

METHODS and INTERVENTIONS

QI PROJECT AIM

Over the course of 12 months, UNMH NICU+ICN will utilize a monthly multidisciplinary Quality-Improvement-Centered (QIC) meeting to foster teamwork and increase participation in improvement projects across our units.

Through this, we aim to improve adherence to evidence-based practices in the realm of clinical care to optimize patient outcomes, while developing resiliency within the work environment among colleagues through the creation of a safe, supportive space to bring up concerns and offer suggestions for improvement.

- A standardized monthly Zoom meeting was established to:
  - ⇢ Provide a forum to workshop within a communal, multidisciplinary environment
  - ⇢ Facilitate the QI process
  - ⇢ Provide a protected space to promote and discuss change
- All NICU care teams / disciplines were informed and invited to participate
- Total number of projects formed/collaborated/completed plus guidelines reviewed / implemented were tracked over a eight-month implementation period to establish baseline

Figure 3. Qualitative and quantitative attendance tracking shows the total number of participants, as well as the varying disciplines represented.

Of these, the most often represented were:

- Fellows
- Attendings
- Nursing
- Nurse educators
- Developmental care
- Dietary
- Social Work
- Case Management

PDSA CYCLES

PDSA focus	#	Outcome
AWARENESS	1	- Utilizing reminder emails to maintain engagement, tested over 2 months → ADAPTED
INTEREST	2	- Explore the multidisciplinary interest for this group - Establish regular meeting time; best available given schedules → ADAPTED
ENGAGEMENT	3	- Assess comfort level with QI material, and provide guidance to new projects / participants - Assign (multidisciplinary) team members to specific tasks for completion over the month until the following meeting → CURRENTLY TESTING

Table 1. PDSA focus, cycles, and outcomes

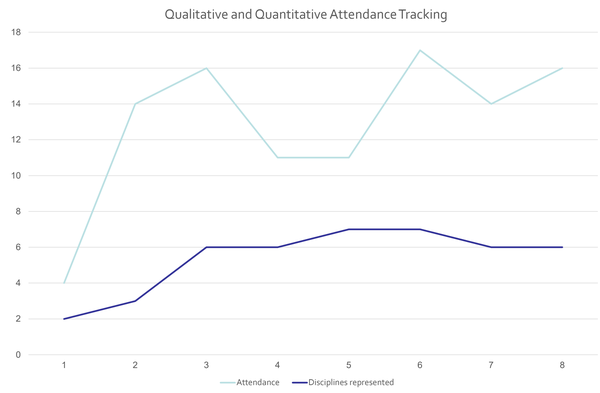


Figure 3. Representation of number of attendees, and number of disciplines represented

NEXT STEPS

Measurement of patient outcomes may include assessing for decrease incidence of preventable patient harm events such as CLABSI or late initiation of therapy etc. using retrospective and prospective study models surrounding implementation and education of central line practice changes.

Monitoring of "adherence to evidence-based guidelines" may include survey (accuracy varies) vs. observation (very time intensive)

Clinical variables and outcomes will eventually be compared using appropriate statistical models to assess if interventions improve participation or attendance *i.e. maintaining communication, sending out reminders between meetings, and sending specific invites*

Surveys to assess changes in comfort level and perceived quality of teamwork were not implemented due to the noticeable variation in participant meeting attendance, but will be implemented in future cycles

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