



A TeamSTEPPS™- based Communication Quality Improvement Project for Effective and Efficient Transfer from Birth Center to Hospital

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Background

National Problem:

Poor Communication on Healthcare Teams is a root cause of:

- Increasing maternal morbidity & mortality rates in U.S.^{1,2}
- adverse perinatal outcomes & sentinel events^{1,2,3}
- Medical errors and preventable errors, especially during inter-facility transfers^{1,2,3,4}
- Malpractice claims & billions in healthcare dollars^{1,2,3,4}

Birth Center Movement requires Quality Improvement (QI):

- Rapid growth of birth centers in U.S. since 2004⁵
- Typical transfer rates to hospital = 13 – 37.4%⁶

Local Problem:

BCOB lacked standardized communication for transfers:

- Incomplete patient information for report and documentation
- No standardized patient education or shared decision-making process
- No standardized debriefing process or documentation thereof

Solutions:

- Three areas for improvement of communication: Among team members, patient – provider, within systems^{1,3}
- Standardized communication for transfer coordinates inter-facility communication and reduces errors^{2,4,7,8,9}
- Structured, timely, efficient, and interactive methods for conveyance of patient information are integral to patient safety, especially during inter-facility transfer^{1,2,5,6,7,8,9}
- post-transport debrief reduces communication errors and improves patient outcomes^{1,7,8}
- Engagement and communication with patients improves patient experience and QI^{8,10}
- Effective healthcare teams and good teamwork lead to better health outcomes, decrease patient morbidity and mortality, and improve patient experience^{8,10}

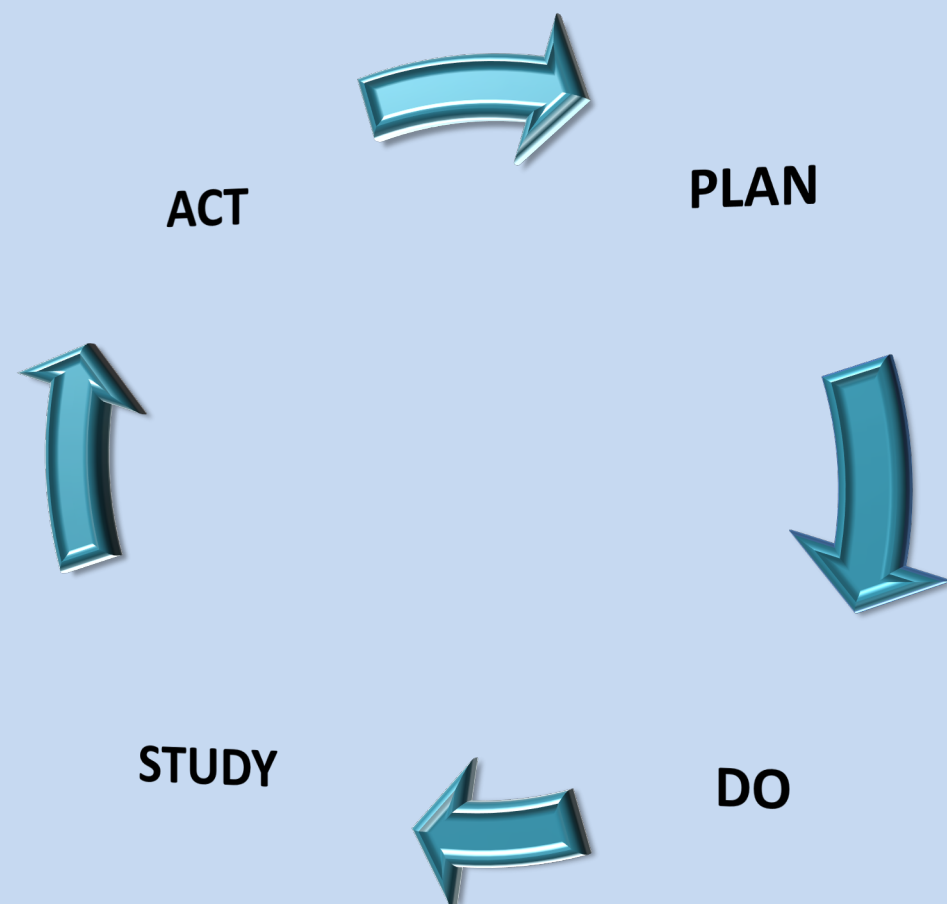
Aim

Over a 90 day period, implementation of a transfer tool and TeamSTEPPS® - based debriefing process would lead to improvement in effective and efficient communication and documentation at a freestanding birth center at least 75% of the time.

Methodology

Rapid Cycle Quality Improvement Model

- Four 2-week PDSA Cycles
- Each cycle had 4 tests of change (TOC)
- TOC and interventions were adjusted each cycle in response to qualitative and quantitative data collected



The Birth Center of Boulder (BCOB)

- 3 CNMs, 3 RNs, Manager, CFO, Receptionist

Boulder Community Hospital (BCH)

- 4 CNMs, 4 OBs, RNs, Nurse-manager, Director of Nursing, Chief Medical Officer / VP

Patient Population

- Caucasian White, highly educated, privately insured

| Test of Change | interventions |
|------------------------------|--|
| Teambuilding exercises | Solution-focused, “fishbowl” team meetings, mindfulness exercises, one-on-one sessions |
| Client Transfer Info Tool | Patient education and shared decision-making re: transfer issues and hospital interventions |
| Maternal Newborn Report Tool | Thorough yet concise standardized patient information form for transfer reports and documentation based on TeamSTEPPS® |
| Debrief Tool | Standardized debrief guide for verbal review of events (simulation, labor, birth, or transfer) based on TeamSTEPPS® |

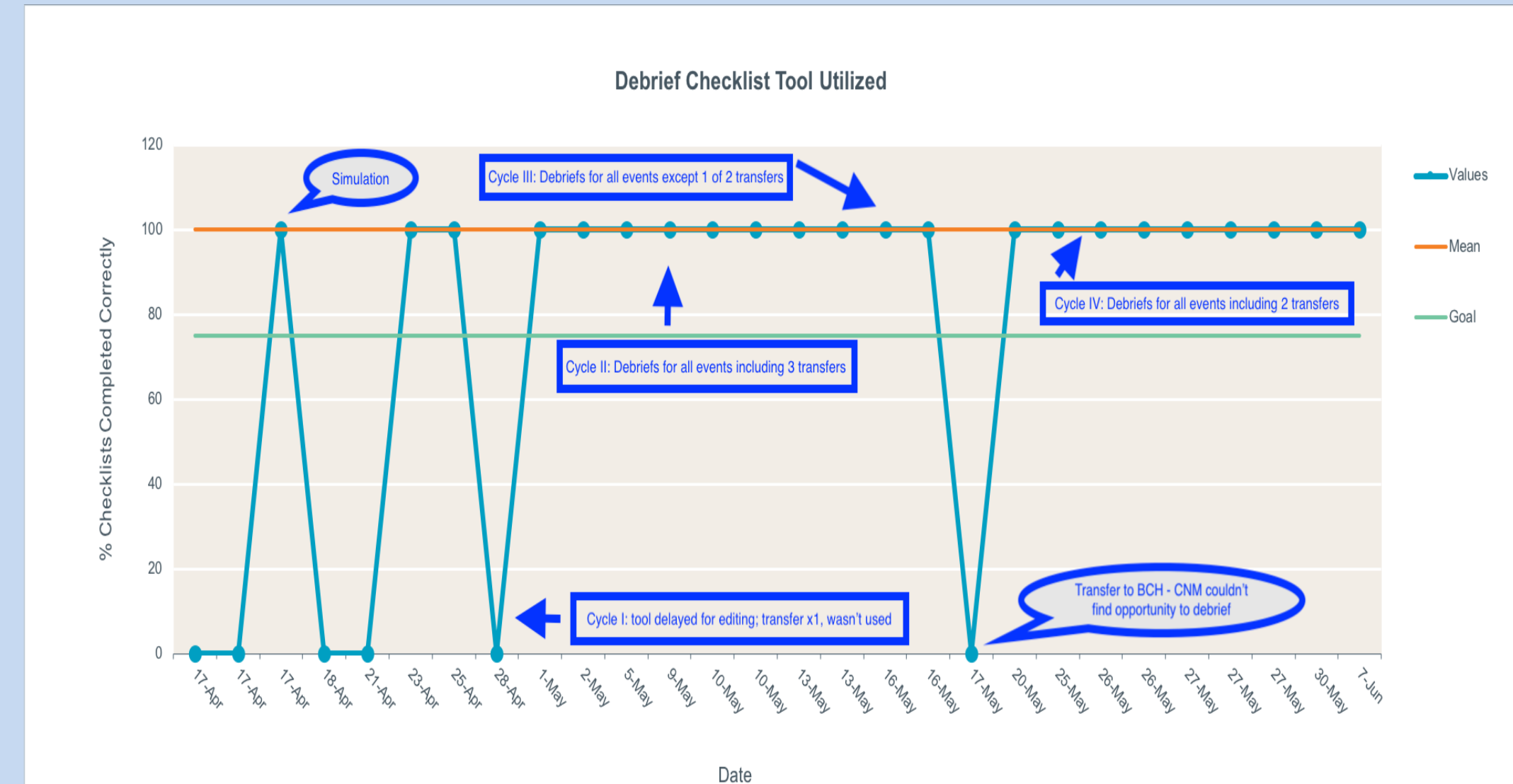
Acknowledgements

Gratitude and Appreciation goes out to:

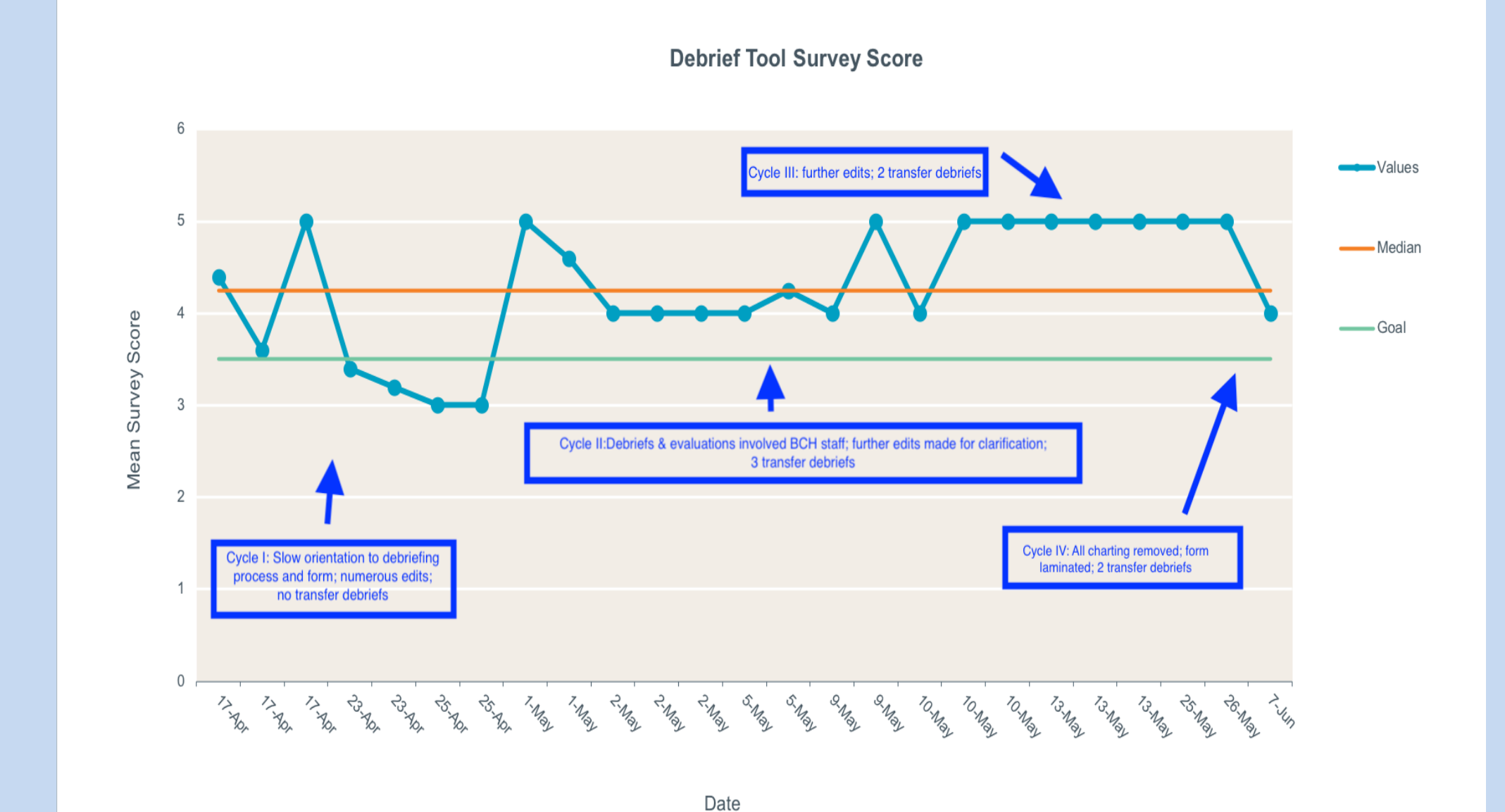
- Dr. Niessa Meier and the Frontier Nursing University Faculty
- The providers and staff @ the Birth Center of Boulder and Boulder Community Hospital

Results

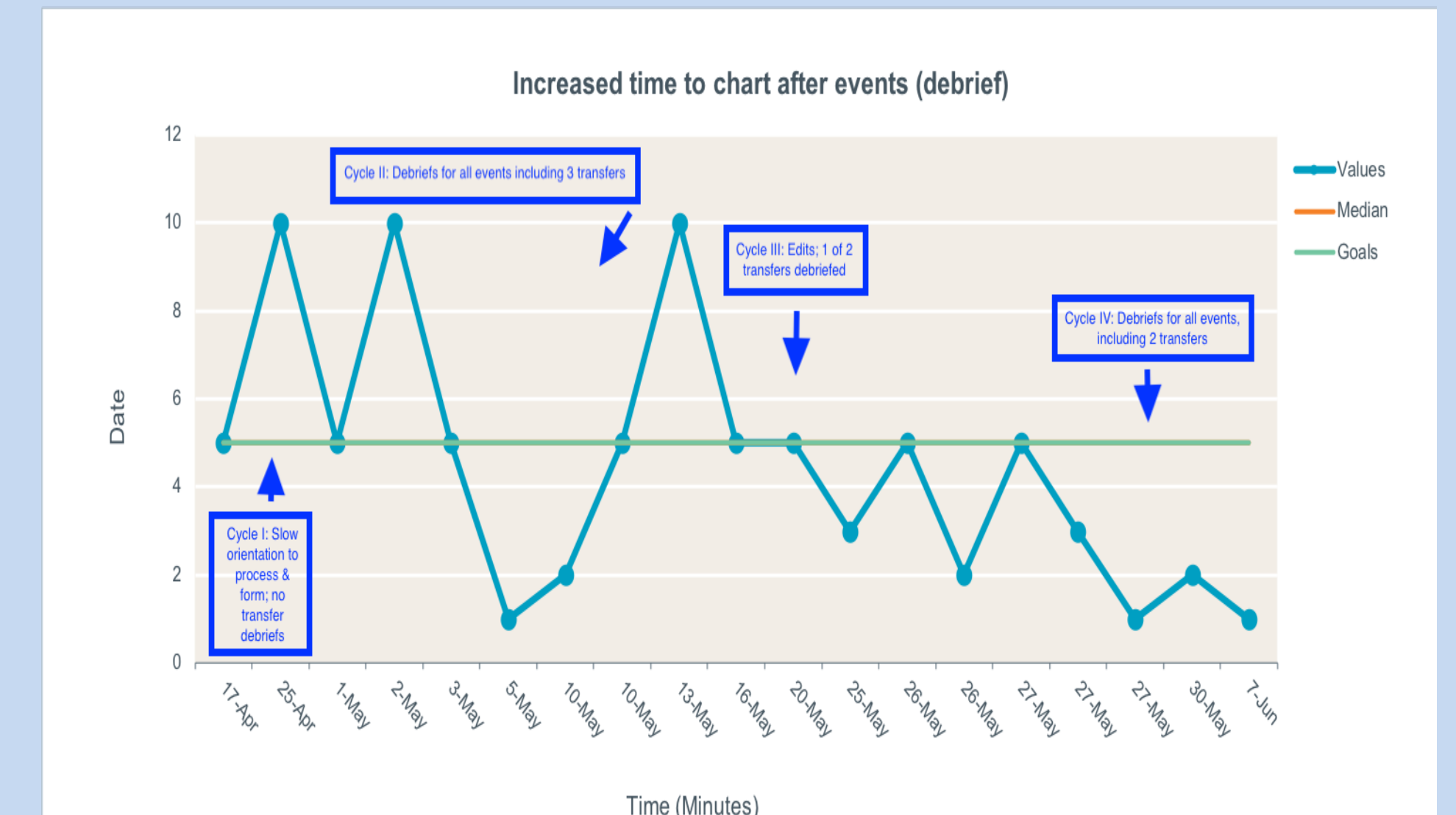
| Test of Change | Total N | RESULTS HIGHLIGHTS from 4 PDSA Cycles over 8 week Period |
|-------------------------------------|---------|---|
| Teambuilding Exercises | 36 | Team performed consistently @ 100%, staff satisfaction from 4.2 → 4.6 |
| Client Transfer Info / SDM Tool | 46 | Utilization from 0% → 46%, patient satisfaction from 4.2 → 5.0 |
| Maternal Newborn Report Tool | 27 | Portions completed from 50% → 46%, staff satisfaction from 4.2 → 5.0 |
| Debrief Tool | 28 | Staff utilization from 0% → 100%, staff satisfaction from 4.2 → 5.0 |
| Time to Debrief (Balancing Measure) | 28 | Ranged from 3 – 6 minutes, reached → 3.8 minutes |



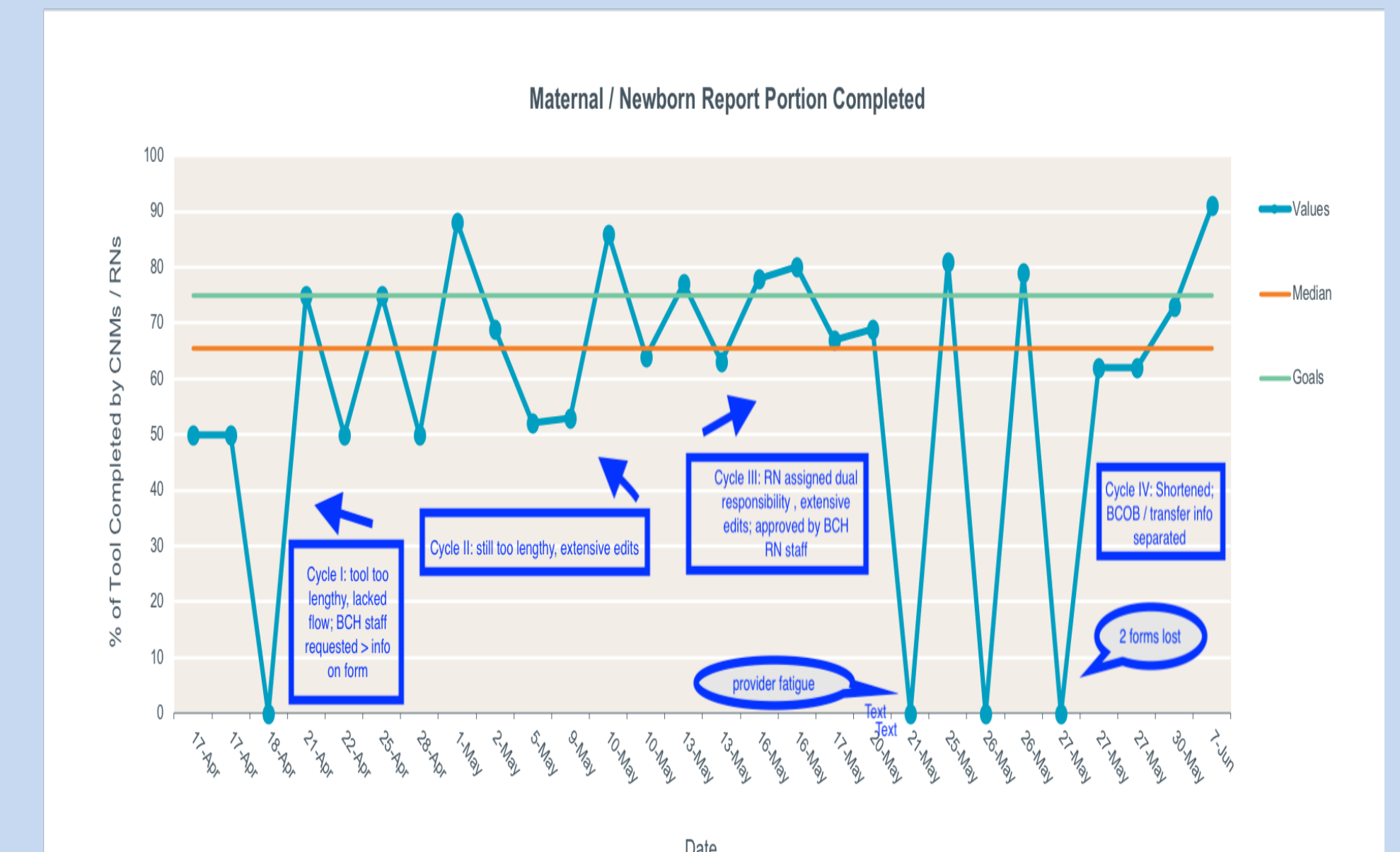
Debriefing process was a collaborative effort resulting in 100% application



Outcomes improved with standardization & simplification of debrief process



Goal of < 5 minute Debriefing Process met by 4th cycle



Percentage portions of MNRT tool met goal by 4th cycle after extensive edits & iterative changes

Measures

| TEST OF CHANGE (TOC) | Operational Definition | Baseline % | Goal % | Results (Cycle 4) |
|--|---|----------------|----------------|-------------------|
| Over a 90 day period, implementation of a transfer tool and TeamSTEPPS® - based debriefing process would lead to improvement in effective and efficient communication and documentation at a freestanding birth center at least 75% of the time. | | | @ least 75% | 76% of the time |
| TEAM BUILDING EXERCISES | Process: Total # participating team members / total # members attending team meeting | 75% | ≥ 85% | 100% |
| | Outcome: Mean survey score (5 point Likert scale) | Mean score 3.4 | Mean score ≥ 4 | 4.6 |
| CLIENT TRANSFER INFO TOOL (CTIT) | Process: # tools used / total # 3rd trimester patients in clinic day | - | ≥ 70% | 46% |
| | Outcome: Mean survey score (5 point Likert scale) | - | ≥ 3.5 | 5.0 |
| MATERNAL / NEWBORN REPORT TOOL (MNRT) | Process: # sections completed / total # sections for every event (simulations, labors, births or transfers) | - | ≥ 75 | 76% |
| | Outcome: Mean survey score (5 point Likert scale) | - | ≥ 3.5 | 5.0 |
| DEBRIEF TOOL | Process: # tools completed / # events (simulations, labors, births or transfers) | - | ≥ 75% | 100% |
| | Outcome: Mean survey score (5 point Likert scale) | - | ≥ 3.5 | 4.8 |
| BALANCING MEASURE: Debriefing will take no longer than 5 minutes (min) | | - | ≤ 3.5 min | 3.8 min |

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Conclusions

- Outcome:** Interventions at Boulder’s freestanding birth center (BCOB) and local hospital (BCH) led to improved transfer-related communication, documentation, teambuilding and patient engagement.
- Sustainability** is likely given strong, inter-facility collaborative efforts, dedication of both BCOB and BCH staff and administrations, and very low cost of interventions.
- Limitations:** Providers and staff of both BCOB and BCH are under significant time constraints, typical of busy maternity care practices, and staffing shortages are not uncommon.
- Generalizability:** The tools are based on a strong evidence base and readily available curriculum, and are thus applicable to any healthcare entity that performs inter-facility transfers.
- Next steps:** Improve standardization of debriefing process, further collaboration with Boulder Community Health, volunteer as communications advisor to the board of BCOB.

Lessons Learned

- Factors that promoted success of the project:**
 - Interdisciplinary teams at BCOB and BCH exhibited immediate “buy-in” and commitment creating a supportive, environment, and “positive-attitude” and relationships for QI changes and development.
 - BCOB staff is a small, intimate, motivated team which made teambuilding and one-on-one meetings highly productive.
 - The BCOB patient population expects intimate care, thus enthusiastically provided feedback on surveys / interviews.

Barriers to success:

- Concurrent BCOB short-staffing and high patient volume at times resulted in increased exhaustion, stress, and reduced engagement.
- Mentor absent from clinical site the last PDSA cycle

Take home messages:

- Strong inter-facility collaboration contributed to success of the project and introduced areas for future QI development
- Highly engaged patients identified certain interventions as valuable when providers were unaware. Patients provide much needed, unique insight and perspective for QI.
- Reducing charting burden can increase use of tools, and quality of care