The Impact of a Daily Goals Tool in the ICU: More than a Checklist

May 24, 2016
Acknowledgements

**NSICU**
- Sharmila Soares, CN IV
- Christa Williams, Nurse Manager
- Megan Brissie, Nurse Practitioner
- Helen Nester, Nurse Practitioner
- Lissy Olivencia-Simmons, Nurse Practitioner
- Sarah Biancanello, Respiratory Therapist
- Kelly Sullivan, Pharmacist
- Emily Durr, Pharmacist
- Marin Darsie, Physician Fellow
- Rhonda Cadena, Physician Attending
- Dedrick Jordan, Medical Director

**CICU**
- Cristie Dangerfield, Nurse Manager
- Brooke McLaughlin, CN IV
- Carrie Neal, CN IV
- Jonathan Cicci, Pharmacist
- Kamal Henderson, Physician Fellow
- Josh Roark, Physician Resident
- Jason Katz, Medical Director

**SICU**
- Maureen Heck, Nurse Manager
- Sean Montgomery, Medical Director
- Shell Brownstein, Physician Attending

**Project Management Team**
- Sean Miller
- Emelin Tan
- Julie Farmer
- Riane Hoffman
- Todd Hardy

**IHQI**
- Tina Schade Willis
- Laura Brown
Project Aims

Improve team performance and patient outcomes via a team-driven Daily Goals Tool in the Neurosciences ICU at UNC.

Objectives

○ Implement standardized rounding communication workflows within the ICU
○ Promote adherence to ICU-specific QI initiatives
○ Achieve 80% utilization rate of the Daily Goals Tool by July 2016

○ Reduce hospital-associated complications and preventable patient harms
Medical Errors Reported as Number 3 Cause of U.S. Deaths

- New BMJ report estimates number of deaths attributable to medical errors is more than double estimated by “To Err is Human” in 1999 (250K vs 100K)
- Communication failures and human factors errors remain leading root causes of sentinel events and preventable medical errors

Cancer: 585k
Heart disease: 611k
Motor vehicles: 34k
COPD: 149k
Suicide: 41k
Firearms: 34k

All causes: 2,597k

Based on our estimate, medical error is the 3rd most common cause of death in the US

Martin A Makary, and Michael Daniel BMJ 2016;353:bmj.i2139
Multiple Factors Threaten NSICU Team Communication

- >1300 alarms / 12 hr shift
- Avg Noise 55dBA (Eq. to low TV)
- Peak Noise 95dBA (Eq. to chainsaw)
- Data overload
- 3 documentation systems
- Multiple handoffs
- Transitional staff
- Rotating learners

High-Risk Environment

Priorities Vary Between Providers

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<th>MD/APP</th>
<th>RN</th>
<th>Pharmacist</th>
<th>Resp Therapist</th>
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<td>- Catheter/line removal</td>
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<td>- Family meeting</td>
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<td>- Sedation wean</td>
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<td>- Nutrition</td>
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<td>- Trach/Peg decision</td>
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<td>- Patient mobilization</td>
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<td>- Delirium screening</td>
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<td>- Falls prevention</td>
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<td>- Pressure ulcer prevention</td>
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<td>- Antibiotic stewardship</td>
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<td>- Adherence to VTE &amp; GI prophylaxis</td>
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<tr>
<td>Pharmacist</td>
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<td></td>
<td>- Lung protective ventilation</td>
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<td>- Ventilator wean screen</td>
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Why Should We Use Daily Goals Tools?

Daily goals tools foster a culture of collaboration, improve team coordination and communication, and facilitate individualized, goal-directed patient care.

Daily goals tools improve outcomes and promote adherence to interventions known to decrease morbidity and mortality.

- Decrease errors of omission
- Reduce “ICU Inertia”
- Decrease length-of-stay
- Reduce hospital-associated complications
Common Elements of Daily Goals Tools

- Team Centric
- Checklists & Bundles
- Single Platform for Multiple QI Initiatives
- Standardized Workflow
- Accountability

- Every Daily Goals Tool must be tailored to the unit and team
- One size does not fit all
- Most effective in conjunction with well-defined improvement protocols

**WHY CHECKLISTS FAIL**

Operating-theatre staff at ten UK hospitals were interviewed about the barriers to implementing the World Health Organization surgical checklist. The biggest problems were:

- Staff resisted or failed to complete the checklist.
  - 51%
  - “When the surgeons weren’t on board you were told to ‘Oh shut up and let’s get on with it.’”

- The checklist was inappropriate or illogical.
  - 34%
  - “It’s a bit bizarre and there’s a sense of, I’m not actually progressing the patient care with this question.”

- The checklist was thought to waste time.
  - 29%
  - “Yet more delay! Oh gosh, we’re going to get less work done for the patients.”

**Original Investigation | CARING FOR THE CRITICALLY ILL PATIENT**

**Effect of a Quality Improvement Intervention With Daily Round Checklists, Goal Setting, and Clinician Prompting on Mortality of Critically Ill Patients**

A Randomized Clinical Trial

**RESULTS**

A total of 6877 patients (mean age, 59.7 years; 3218 [46.8%] women) were enrolled in the baseline (observational) phase and 6761 (mean age, 59.6 years; 3098 [45.8%] women) in the randomized phase, with 3327 patients enrolled in ICUs (n = 59) assigned to the intervention group and 3434 patients in ICUs (n = 59) assigned to routine care. There was no significant difference in in-hospital mortality between the intervention group and the usual care group, with 1096 deaths (32.9%) and 1196 deaths (34.8%), respectively (odds ratio, 1.02; 95% CI, 0.82-1.26; P = .88). Among 20 prespecified secondary outcomes not adjusted for multiple comparisons, 6 were significantly improved in the intervention group (use of low tidal volumes, avoidance of heavy sedation, use of central venous catheters, use of urinary catheters, perception of team work, and perception of patient safety climate), whereas there were no significant differences between the intervention group and the control group for 14 outcomes (ICU mortality, central line-associated bloodstream infection, ventilator-associated pneumonia, urinary tract infection, mean ventilator-free days, mean ICU length of stay, mean hospital length of stay, bed elevation ≥30°, venous thromboembolism prophylaxis, diet administration, job satisfaction, stress reduction, perception of management, and perception of working conditions).

**CONCLUSIONS AND RELEVANCE**

Among critically ill patients treated in ICUs in Brazil, implementation of a multifaceted quality improvement intervention with daily checklists, goal setting, and clinician prompting did not reduce in-hospital mortality.
Staff report key quality and safety issues not addressed on daily basis
• All should be at 100%
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<th>Patient</th>
<th>Issue</th>
<th>Impact</th>
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| 52 y.o. woman w/ ruptured brain aneurysm | - Patient required tracheostomy but was not medically stable  
- Trach decision by family not obtained by time patient stable, delaying trach by 5 days | - Patient developed pneumonia during delay  
- LOS increased |
| 69 y.o. man w/ large stroke | - Gastric tube placement recommended due to poor swallowing mechanism  
- Night prior to G-tube placement, tube feeds held but insulin dose not adjusted | - Patient developed severe hypoglycemia |
Daily Goals Tool is a Single Streamlined Platform for Multiple QI Initiatives

**National**

ICU Liberation Initiative: Bundle Improvement Collaborative
A: Assess, prevent & manage pain
B: Both spontaneous awakening & spontaneous breathing trials
C: Choice of analgesia & sedation
D: Delirium
E: Early mobility
F: Family engagement

**Institutional**

Patient Harms Reduction initiative  
Carolina Value (CAPP rounds, reduce LOS, improve transfers)  
TeamSTEPPS (effective team communication)

**Unit-Specific**

Early mobilization protocol  
CAUTI prevention  
VAP prevention  
Event reduction (falls & unplanned extubations)  
Delirium prevention  
VTE prevention  
Decrease length-of-stay  
Ventilation liberation  
Code status awareness  
Hypoglycemia prevention
Daily Goals Tool Used Across 24 Hour Cycle

Overnight
- Night RN fills out new sheet for Nursing Report
- (May be used for RN shift handoff)

AM Rounds
- RN gives Nurse Report
- NP reviews assessment and plan for each system
- RN fills out daily goals tool and recaps
- RN and MD sign

PM Check-In
- NP/resident and RN review goals
- Pertinent updates discussed w/ attending/fellow at evening sign-out

Designed for compatibility w/ other NSICU communication workflows:
- CAPP rounds
- RN rounds reporting tool
- RN – RN shift handoff
- MD/APP – MD/APP shift handoff
Multiple Iterative Revisions Necessary for Implementation (4 months)

P: APP/residents perform recap of daily goals.
D: APP/resident verbally recaps goals after assessment/plan. RN documents. All team members sign.
A: Attending/fellow recaps goals.

P: Attending/fellow recaps daily goals.
D: Attending/fellow recaps goals. RN documents. All team members sign.
S: Moderately redundant. Inclusion of RN variable. Lacking closed-loop communication.
A: RN recaps goals.

P: RN recaps goals.
D: RN documents and recaps goals. Only RN and attending sign.
S: Significantly less redundant. Reliable inclusion of RN. Closed-loop communication faster.
A: Continue to evaluate opportunities for improving efficiency.

Challenges
- Increased length of rounds
- Variation across attendings/fellows
- PM daily goals review inconsistent
**Significant Reduction in Catheter-Associated Urinary Tract Infections**

- NSICU historically unit with highest rate of CAUTI in UNC Healthcare System
- NSICU achieved >100 days CAUTI free in April 2016
- Synergistic effect between Daily Goals Tool & institutional initiative
Ventilator-Acquired Pneumonia Trending Down

- 90 days VAP free as of May 2016
- Not as dramatic improvement as CAUTI
- Need to develop more rigorous VAP prevention protocols

VAP Per 1000 Vent Days

NSICU Days Between VAP
NSICU Reliably Discussing Quality & Safety Focus Areas

**NSICU AM Daily Goal Sheet % Completion (3 week April/May Audit)**

- Highest consistency on Neuro initiatives
- PM check-in process needs more focus
Team Testimony

Rhonda Cadena, MD  
*NSICU Physician*

“The daily goals tool gets us talking every day about important things that might have been missed otherwise.”

“Having a daily goal for mobility has really been getting patients moving.”

“Communication has improved considerably and everyone understands the plan when we are done.”

Shelly Tessitore, RN  
*ICU Flex Nurse*

“The behavior surrounding the tool was probably what made it most successful. For example, in some units with checklists, the MDs start rounding without the nurse, yet it’s the nurse that’s supposed to be doing the checklist. The [Daily Goals Tool] is basically encouraging us to behave as a team.”

“The RN on night shift used the tool to help give me report in the morning. It helped me understand what the goals of the prior shift were, and what the goals going forward were.”
Team Testimony

Megan Brissie, DNP, RN, ACNP
NSICU Nurse Practitioner
"The goal sheet encourages daily mobilization of patients in the NSICU to achieve the highest most appropriate daily mobilization goals. When goals are not achieved, discussion regarding the barriers to mobilization are addressed to ensure safe mobilization can be achieved the following day"
Lessons Learned

- Leadership commitment is critical. Leadership must reinforce that the daily goals tool is mandatory.
- Strong representation required from each stakeholder group.
- Daily goals tool must be integrated into surrounding workflow and communication processes.
- Daily goals tool most successful in combination with clearly defined improvement initiatives and protocols.
- Implementation may increase duration of rounds.
## Sustainability

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<td>o Continue refining goal sheet content and process</td>
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<td>o New staff (i.e. residents and fellows) education (July)</td>
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<td>o Post-intervention data collection (Aug-Oct)</td>
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<td>o Develop compliance reports for unit leadership</td>
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<td>o Enable unit leadership to provide feedback to frontline staff</td>
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<tr>
<td>o Develop process to systematically update goal sheet content based on evolving unit quality improvement priorities</td>
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<td>o Next focus: Communication of daily goals to patients/families</td>
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<td>o Improve data collection for outcomes metrics</td>
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<tr>
<td>o Continue standardizing protocols for unit improvement priorities (ex. VAP)</td>
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<td>o Ongoing education for new/rotating staff</td>
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