Daily Goals Worksheets and Other Checklists: Are Our Critical Care Units Safer?
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In *To Err Is Human,* the Institute of Medicine (IOM) reported that system failures are responsible for 44,000 to 98,000 deaths of patients each year. Communication issues have been cited as a top safety incident that causes harm in medical and surgical intensive care units (ICUs), with training and team factors as major contributors. Health care professionals are confronted with multiple communications (pagers, phone calls, wireless phones), interruptions and distractions, escalating noise, and limits to human performance in short-term memory from multitasking and stress/fatigue. Although it may seem that safe communication does not stand a chance against these odds, researchers in a recent ICU study found that nurses interrupted 42% of serious errors.

In their 2001 publication, *Crossing the Quality Chasm,* the IOM called for radical redesign of the health care system to make it easier for clinicians to keep patients free from harm. The Joint Commission’s National Patient Safety goals have unquestionably brought acute focus to patient safety as every patient’s right and everyone’s responsibility. AACN’s Standards for a Healthy Work Environment also advocate that “nurses must be as proficient in communication skills as they are in clinical skills.” As a result of these forces, a culture of safety has become a strong ethic in health care organizations. Human factor science addresses interpersonal interactions implicated in adverse outcomes. The family of human factors skills—communication, briefings, cross-checking/verifying, addressing red flags with constructive assertion—is about detecting threats to patient safety as well as avoiding and managing errors in a team-based environment. As one approach, daily goals worksheets and checklists may reduce error by avoiding reliance on memory and transforming complex diagnostic and therapeutic decisions into a series of simple yes/no tasks. This clinical review discusses the evidence behind these tools for increasing reliability in the delivery of care.

**Methods**

The search strategy included searching MEDLINE, CINAHL, and Cochrane data bases. Key words included daily goals, checklists, structured communication, and ICUs. Recent primary research and quality improvement reports were included if focused on critical care.

**Results**

As summarized in the Table, 14 reports describe evaluations of whether human factor tools eliminated communication gaps in the plan of care and promoted adherence with evidence-based practice guidelines. Daily goals worksheets and checklists were associated with improvements in all of the following: knowledge of the plan of care among clinicians; a culture of teamwork and safety; bundle adherence; and clinical (catheter-related bloodstream infection, ventilator-associated pneumonia, weaning, delirium screening, pain assessment/treatment, end-of-life care, mortality), financial (reduced length of stay), and service (patient/employee satisfaction) outcomes.

**Recommendations**

According to the evidence available, use of daily goals worksheets and checklists resulted in
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<tr>
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<tbody>
<tr>
<td>Daily goals</td>
<td>Uhlig et al&lt;sup&gt;12&lt;/sup&gt;</td>
<td>Cardiac surgery</td>
<td>Structured communication with daily rounds</td>
<td>Increased quality of work life/employee satisfaction</td>
<td>Decreased mortality increased satisfaction of patients</td>
</tr>
<tr>
<td>Pronovost et al&lt;sup&gt;13&lt;/sup&gt;</td>
<td>Surgical oncology intensive care unit</td>
<td>Daily goals worksheet</td>
<td>Nurse/resident goal understanding increased from &lt;10% (baseline) to &gt;95% (after)</td>
<td>Length of stay in intensive care unit decreased 50%</td>
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<td>Dobkin&lt;sup&gt;14&lt;/sup&gt;</td>
<td>Medical intensive care unit/ surgical intensive care unit</td>
<td>Daily goals worksheet</td>
<td>Nurse’s goal understanding increased 50% (baseline) to 98% to 100% (after)</td>
<td>Ventilator time decreased 1 day; Mortality decreased 25%; Length of stay in intensive care unit decreased 1.5 days</td>
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<tr>
<td>Narasimhan et al&lt;sup&gt;15&lt;/sup&gt;</td>
<td>Medical intensive care unit</td>
<td>Daily goals worksheet</td>
<td>Goal understanding increased from 3.9 to 4.8 (nurses) and from 4.6 to 4.9 (physicians) from baseline to 6 weeks; sustained at 9 months</td>
<td>Length of stay in intensive care unit decreased 25%</td>
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<td>Wolff et al&lt;sup&gt;16&lt;/sup&gt;</td>
<td>Myocardial infarction/ stroke inpatients</td>
<td>Daily checklists/ reminders</td>
<td>Increased bundle adherence (aspirin/&lt;i&gt;β&lt;/i&gt;-blockers, dysphagia screening)</td>
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<td>Ventilator-associated pneumonia</td>
<td>Berenholtz et al&lt;sup&gt;17&lt;/sup&gt;</td>
<td>Surgical intensive care unit</td>
<td>Intervention bundle, including daily rounds checklist</td>
<td>% ventilator days bundle implemented increased 30% to 90%; sustained at 1 year</td>
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<td>Weaning</td>
<td>Walsh et al&lt;sup&gt;18&lt;/sup&gt;</td>
<td>Intensive care unit</td>
<td>Daily weaning checklist</td>
<td>83% of patients achieving ventilator independence met criteria</td>
<td></td>
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<tr>
<td>Catheter-related blood-stream infection</td>
<td>Berenholtz et al&lt;sup&gt;19&lt;/sup&gt;</td>
<td>Surgical intensive care unit</td>
<td>Catheter-related blood-stream infection bundle, including checklist for adherence</td>
<td>62% of physicians followed bundle (baseline)</td>
<td>Catheter-related blood-stream infection decreased 11.3 to 0/1000 catheter days (vs 5.7 to 1.6/1000 catheter days in the control intensive care unit); Improvement sustained</td>
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<td></td>
<td>Wall et al&lt;sup&gt;20&lt;/sup&gt;</td>
<td>Medical intensive care unit</td>
<td>Central catheter insertion checklist, monitoring real-time care processes</td>
<td>Catheter-related blood-stream infection decreased 7.0 to 3.8/1000 catheter days</td>
<td>Catheter-related blood-stream infection/ ventilator-associated pneumonia decreased 50th to 10th percentile; 63% of intensive care units eliminated both</td>
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<td>Delirum</td>
<td>Bergeron et al&lt;sup&gt;21&lt;/sup&gt;</td>
<td>Medical/ surgical intensive care unit</td>
<td>Delirium screening checklist</td>
<td>&gt;90% of patients in whom delirium develops had high screening score</td>
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Critical care professionals are continually challenged to deliver care safely and effectively. With the hundreds of activities that ICU patients endure, daily goals and checklists could undoubtedly address complexities to reduce types of harm: physiological changes, discomfort, physical injury, family dissatisfaction, psychological distress, anticipated/prolonged length of stay, or even death. Although clinicians must attend to the intricacies of physiology, the aviation field's track record with using human factors checklists provides important examples for healthcare because both industries are keenly responsible for the lives of millions of people.

Problems common to critical care populations—skin breakdown, delirium, hypoxia, altered hemodynamics, pain/anxiety, infection potential—might be preventable or have their severity at least reduced, if they were proactively assessed for on admission and if appropriate interventions were incorporated into the plan of care. Further, if caregivers indicated whether goals had been met for common problems by a simple yes/no check on a daily goals worksheet each shift, additional interventions could be addressed in multidisciplinary rounds. By creating redundancies that ensure each task occurs and is done correctly, complexities prone to error can be eliminated.

Given that clinical reminders at the point of care are the most effective strategy for affecting practice, developing checklists for "mission critical"

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**About the Author**

Margo A. Halm is a clinical nurse specialist and director of nursing research and quality at United Hospital in St Paul, Minnesota, where she leads and mentors staff in principles of clinical research and evidence-based practice.

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<td>Pain</td>
<td>Erdek and Pronovost⁴⁶</td>
<td>2 Surgical intensive care units</td>
<td>Plan-Do-Study-Act cycles, including standard rounds communication</td>
<td>Pain assessment/treatment for visual analog scale ≥3 were 42% and 59% (baseline) vs 71% and 97% (5 weeks)</td>
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<tr>
<td>End-of-life care</td>
<td>Hall et al⁵⁵</td>
<td>2 Medical/surgical intensive care units</td>
<td>Withdrawal of life support/do not resuscitate checklists</td>
<td>80% nurses believed checklists improved end-of-life process</td>
<td>Fewer patients received cardiopulmonary resuscitation, comfort medications, diazepam; Increased pastoral care during discussions of withdrawal of life support</td>
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<td></td>
<td>Clarke et al⁶⁶</td>
<td>15 adult intensive care units (8 medical, 2 surgical, 5 mixed)</td>
<td>Triggering clinical behavior for end-of-life domains with intensive care unit guidelines/documentation</td>
<td>Symptom management and comfort care integrated consistently</td>
<td>Patient/family-centered decision making, communication, emotional support, continuity of care, spiritual care domains not well represented</td>
</tr>
</tbody>
</table>

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standardized delivery of care through higher adherence with evidence-based practice guidelines and promotion of teamwork cultures that enhanced effective communication. According to Pronovost et al., the leading national experts in the use of safety checklists, the single most important aspect of successful change in health care settings is engaging the culture. “Safety first” is the hallmark of high-reliability units, where communications are structured and rewarded, team contributions valued, and protocols founded on evidence-based practice are used. Staff respectfully speak up when encountering red flags—for instance, when a colleague lacks required skills or deviates from established protocol—honoring Florence Nightingale’s maxim “do the sick no harm.” Memory aids are recognized not as signs of incompetence, but as useful tools to preserve safety in environments where complexity reigns—environments like our high-tech ICUs, where invasive diagnostic tests and treatments are the name of the game.

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Erdek and Pronovost⁴⁶  
Hall et al⁵⁵  
Clarke et al⁶⁶  

Table Continued
nursing interventions that, if not performed correctly, could lead to adverse events and substantial harm tightens the safety net. Checklists may also have value for situations where several tasks must be completed at one time. Titrating infusions; administering sedatives or analgesics; tightly controlling glycemic levels; preventing skin breakdown and delirium; turning patients prone or mobilizing patients receiving mechanical ventilation; weaning trials; caring for the insertion site for hemodynamic catheters; removing femoral sheaths; inserting small-bowel feeding tubes; relaying critical values or status changes to physicians and other departments, not to mention family members; and verbal hand-offs during crises or supporting families at the bedside during resuscitation—these are just a few critical priorities that come to mind.

As Dobkin42 contends, checklists are simple and cost-effective tools, but the greatest challenge rests with the commitment of the team to use them. With round-the-clock presence at the bedside, nurses must continue to seize their pivotal role in monitoring for situations of risk and skillfully executing not only clinical but also communication interventions that preserve a safety net. Patients are counting on us.

REFERENCES


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