



JoAnn Grif Alspach

# Editorial

## Weighing the Evidence on Patient Safety: Strategies to Implement Now

**T**his issue of *Critical Care Nurse* is devoted to prevention and includes papers related to prevention of aspiration and ventilator-associated pneumonia, pressure ulcers, and pain. High on our list of other clinical problems to mitigate or wholly avoid in critical care patients are all compromises to patient safety. Following publication of the Institute of Medicine's landmark report on the prevalence and detrimental effects of medical errors in 2000,<sup>1</sup> the priority of patient safety was suddenly relocated from near obscurity into the spotlight of numerous health

care efforts. A year later, the Agency for Healthcare Research and Quality commissioned an analysis of existing literature related to patient

safety practices,<sup>2</sup> which confirmed that while a number of the reported remedies showed some degree of promise, there was a considerable dearth of information on the paths that would likely lead to progress on this front.

Over the past 12 years, however, a substantial and expanding body of both descriptive and research literature related to patient safety initiatives has evolved not only nationally but internationally. This body of work has heavily focused on identifying potential and known preventable hazards, identifying valid and reliable indexes and methods to measure potential and actual harm with greater precision, and sorting out more effective approaches to mitigate harm. As reports related to patient safety have continued to generate

extended investigations, monitoring and weighing the expansive evidence represents a formidable challenge for all health care professionals, including busy critical care nurses.

To our great fortune, a project team led by members from the RAND Corporation, with representatives from Johns Hopkins University, Stanford University, University of California at San Francisco, and the Emergency Care Research Institute, together with an international panel of 21 stakeholders and experts in evaluation methodology, was commissioned by the Agency for Healthcare Research and Quality 4 years ago to analyze, critique, and appraise the evidence reported for various patient safety strategies. The project team completed its work in 3 distinct phases<sup>3</sup>:

1. Developing a framework that could be used to both review existing patient safety research and to prospectively appraise new studies as these evolved.
2. Reviewing current patient safety strategies reported in the literature. This phase started with the 79 strategies originally examined in the 2001 report, then incorporated additional safety practices suggested by the international panel of experts and secured from other relevant sources such as the National Quality Forum, the Leapfrog Group, and the Joint Commission. These efforts produced a compilation of 158 possible strategies, which was then subjected to several rounds of voting by the stakeholders to whittle the list down to 41 strategies considered as to be the most important to the largest audience. Time and resource constraints then prompted sorting of those 41 strategies into one of 2 categories for further examination: those requiring only a

I hope this information facilitates your ability to apply patient safety strategies more expeditiously with all your patients and to launch quality improvement initiatives and research studies that further this work.

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**Table 1** Patient safety strategies strongly encouraged for immediate adoption with summary of evidence<sup>4</sup>

| Patient safety practice  | Scope of the problem | Frequency/Severity of problem | Strength of evidence for effectiveness |
|--|----------------------|-------------------------------|--|
| Preoperative and anesthesia checklists to prevent perioperative events   | Common               | Moderate                      | High                                   |
| Bundles with checklists to prevent central catheter–associated bloodstream infections  | Common               | Moderate                      | Moderate                               |
| Interventions to reduce use of urinary catheters such as stop orders, reminders, or removal protocols                        | Common               | Moderate                      | Moderate                               |
| Bundles to prevent VAP, including HOB elevation, oral care using chlorhexidine, subglottic ET suctioning, sedation vacations | Common               | High                          | Moderate                               |
| Hand hygiene   | Common               | Moderate                      | Low                                    |
| The do-not-use list of hazardous abbreviations   | Common               | Low                           | Low                                    |
| Multiple component initiatives to prevent pressure ulcers  | Common               | Moderate                      | Moderate                               |
| Measures such as barriers, isolation, and surveillance to prevent health care–associated infections                          | Common               | Moderate                      | Moderate                               |
| Using real-time ultrasonography for placement of central catheters   | Common               | Low to moderate               | High                                   |
| Prophylaxis interventions for venous thromboembolism   | Common               | Moderate                      | High                                   |

Abbreviations: endotracheal tube, ET; head of bed, HOB; ventilator-associated pneumonia, VAP.

**Table 2** Patient safety strategies encouraged for adoption with summary of evidence<sup>4</sup>

| Patient safety practice   | Scope of the problem | Frequency/Severity of problem | Strength of evidence for effectiveness |
|---|----------------------|-------------------------------|--|
| Interventions to reduce falls   | Common               | Low                           | High                                   |
| Using clinical pharmacists to reduce adverse drug events  | Common               | Low                           | Moderate-to-high                       |
| Documenting patient preferences for life-sustaining treatments                                      | Common               | Moderate                      | Moderate                               |
| Obtaining informed consent prior to medical procedures  | Common               | Moderate                      | Moderate                               |
| Team training   | Common               | High                          | Moderate                               |
| Medication reconciliation   | Common               | Low                           | Moderate                               |
| Reducing radiation exposure from fluoroscopy and computed tomography                                | Rare                 | High                          | Moderate                               |
| Using surgical outcome measurements or report cards to reduce perioperative morbidity and mortality | Common               | High                          | Moderate-to-high                       |
| Rapid-response systems  | Common               | High                          | Moderate                               |
| Using complementary methods to detect adverse events or medical errors                              | Common               | Low to high                   | Low                                    |
| Computerized provider order entry   | common               | Moderate                      | Low to moderate                        |
| Using simulation training in patient safety efforts   | Common               | Moderate to high              | Moderate to high for some topics       |

brief, focused review (23 practices) or those warranting a full systematic, in-depth review (18 practices).

3. Appraising and rating of the relative quality and strength of evidence related to the implementation and effectiveness of each patient safety strategy described in those 41 studies. From this critique process, the expert panel concluded that it could recommend a total of 22

patient safety practices for adoption by health care professionals: 10 of which the expert panel “strongly encouraged” for *immediate* adoption and another 12 that it “encouraged” for adoption.

Rather than merely sharing this important announcement with all AACN members and *Critical Care Nurse* readers, I have recast the project team’s patient safety

| Evidence or potential for harmful unintended consequences | Cost estimate    | Implementation: How much do we know? | Implementation: How hard is it?   |
|---|------------------|--------------------------------------|---|
| Negligible  | Low              | A lot                                | Moderate  |
| Low   | Low to moderate  | Moderate                             | Not difficult (implement bundle) to moderate (understand organizational culture, context) |
| Low   | Low              | Moderate                             | Moderate  |
| Low   | Low to moderate  | Moderate                             | Moderate  |
| Low   | Low              | Moderate                             | Moderate  |
| Negligible  | Low              | Little                               | Probably not difficult  |
| Negligible  | Moderate         | Moderate                             | Moderate  |
| Moderate (isolating patients)                             | Moderate to high | Moderate                             | Moderate  |
| Negligible  | Low to moderate  | A lot                                | Moderate  |
| Moderate (bleeding)                                       | Low              | Little                               | Moderate  |

| Evidence or potential for harmful unintended consequences | Cost estimate | Implementation: How much do we know? | Implementation: How hard is it? |
|---|---------------|--------------------------------------|---------------------------------|
| Moderate (use of restraints or sedation)                  | Moderate      | Moderate                             | Moderate                        |
| Low   | High          | Little                               | Moderate                        |
| Low   | Low           | Moderate                             | Moderate                        |
| Negligible  | Low           | Moderate                             | Not difficult                   |
| Low   | Moderate      | Moderate                             | Moderate to difficult           |
| Low   | Moderate      | Moderate                             | Moderate                        |
| Negligible  | Low           | Moderate                             | Not difficult                   |
| Low   | Moderate      | Moderate                             | Moderate                        |
| Low   | Moderate      | Moderate                             | Moderate                        |
| Negligible  | High          | Moderate                             | Difficult                       |
| Low to moderate   | High          | Moderate                             | Difficult                       |
| Uncertain   | Moderate      | Moderate                             | (None indicated)                |

strategies with its appraisal of the quality and strength of the evidence reported for each of these practices<sup>4</sup> so you can see both the outcomes of their work as well as the evidence base upon which those recommendations are offered. Table 1 summarizes the 10 patient safety strategies “strongly encouraged” for immediate adoption by health care professionals together with the panel’s appraisal of

that evidence and Table 2 affords comparable information for the 12 strategies “encouraged” for adoption.

I hope this information facilitates your ability to apply patient safety strategies more expeditiously with all your patients and to launch quality improvement initiatives and research studies that further this work. For readers who are inspired to contribute studies in this area, please also

see a related reference by Shekelle et al<sup>5</sup> that provides guidelines on designing and describing patient safety intervention studies. [CCN](#)



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