



JoAnn Grif Alspach

Editorial

Weighing the Evidence on Patient Safety: Strategies to Implement Now

This 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 2000,¹ 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,² 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 phases³:

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 evidence⁴

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 evidence⁴

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 practices⁴ 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 al⁵ that provides guidelines on designing and describing patient safety intervention studies. [CCN](#)



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