



Letters are welcome and encouraged. They should raise points of current interest in the care of critical or high acuity patients or address topics that previously have appeared in the *American Journal of Critical Care*. Please be concise; letters are subject to editing for length and clarity. Include your name, credentials, title (optional), institutional affiliation, city and state, and phone number (for verification, not publication). Address letters to Kathleen Dracup, RN, DNSc, School of Nursing, University of California at Los Angeles, Factor Building, Box 956918, Los Angeles, CA 90095-6918; fax, (310) 794-7482; e-mail, ajcc@sonnet.ucla.edu. Correspondence may be sent via eLetters from the journal's Web site, www.ajconline.org.

Alarms and Nurse to Patient Ratios

As much as I enjoyed the technical aspects of the article by Korniewicz and colleagues,¹ it did seem to beg the question, "Who's even there to hear the alarm?" An adequate alarm system does not make up for the inadequate staffing patterns that are so prevalent in intensive care units across the United States.

The article mentioned the 23 injury and death reports associated with mechanical ventilation. Why isn't a patient who is dependent on a ventilator assigned one nurse to care for him or her, as is the case in England? Wouldn't we be better patient advocates if we argued for safe staffing instead of better alarms?

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FINANCIAL DISCLOSURES

None reported.

REFERENCE

1. Korniewicz DM, Clark T, David Y. A national online survey on the effectiveness of clinical alarms. *Am J Crit Care*. 2007;17(1):36-41.

Response:

Thank you for your thoughtful critique of our article¹ associated with clinical alarms. Your point about "safe staffing" continues to be a major concern in the United States, especially because the nurse workforce continues to decrease due to aging, alternate career opportunities for women, and governing issues associated with the hospital work environment.

In fact, the US government recently predicted that, by 2020, nurse and physician retirements will contribute to a shortage of approximately 24 000 doctors and nearly 1 million nurses.² These workforce shortage projections have been built around the current healthcare system, which suggests that health industry leaders need to make changes in the workforce environment.

However, you should note that our survey ranked "inadequate staff to respond to alarms as they occur" as the *fourth* most important issue in approving alarms. Although the survey stated that staffing was not the key issue, we all know that inadequate critical care staffing is often reported. The study points to recommendations for improved care management and use of newer technologies, such as smart alarm integrators

and annunciators, for which clinicians needn't be there to hear the alarm.

The Joint Commission reported 23 deaths related to ventilator alarms and mentioned inadequate training (87%) as the prime staffing issue, with 35% of the deaths related to inadequate staffing (root cause analysis).³ The recommendations of the Joint Commission and the American Association of Respiratory Care do not state the need for 1:1 ratios for nursing care of ventilated patients; they recommend only "reviewing staffing process to ensure effective staffing for ventilator patients at all times."

Alarms are not foolproof, of course, so staff diligence and direct observation are key ingredients for improving patient care. Ultimately, a well-designed alarm system—including care management, smart device design, use of assistive technologies, and appropriate healthcare environments—can improve patient care where critical alarms are used.

Perhaps such technologies can assist the current situation, in which there is a clear nursing shortage.

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FINANCIAL DISCLOSURES

None reported.

REFERENCES

1. Korniewicz DM, Clark T, David Y. A national online survey on the effectiveness of clinical alarms. *Am J Crit Care*. 2007;17(1):36-41.
2. Florida Hospital Association. Healing the healthcare staffing shortage. <https://www.signup4.net/public/ap.aspx?EID=MED126E&OID=50>. Accessed February 5, 2008.
3. The Joint Commission Web site. Preventing ventilator-related deaths and injuries. http://www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_25.html. Accessed February 5, 2008.

Quality Improvement or Research? A Report From the Trenches

I applaud Drs Morris and Dracup¹ for focusing attention on the dilemma of discerning whether a quality improvement (QI) study conducted in a healthcare setting should be regarded and scrutinized as research covered under 45 CFR (Code of Federal Regulations) 46.² I believe that the Hastings Center Special Report³ cited by the authors would be particularly helpful to QI administrators in both academic and nonacademic healthcare organizations.