Commentary: Time to standardize physician expertise and coverage in cardiac intensive care units?

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Admission to an intensive care unit (ICU) has become the standard of care for the majority of patients undergoing cardiac surgery. It is generally accepted that an ICU provides the necessary concentration of expertise for the care, treatment, and monitoring of postoperative cardiac surgery patients to achieve the best possible outcomes. Despite the importance of ICU care, the optimal physician expertise, coverage, and models of care have yet to be determined.¹

Lim and colleagues² present their experience in more than 4000 patients comparing a low-intensity versus high-intensity staffing model for the care of postoperative cardiac surgery patients. The study was based on a before–after implementation design in which all patient care during daytime hours was changed from a historical approach where postoperative intensive care was provided by each patient's primary surgeon (low intensity) to a revised approach where a dedicated intensivist model was instituted (high intensity). Following risk adjustment, the authors found that high-intensity staffing was significantly associated with a reduction in ICU length of stay, hospital length of stay, readmission to ICU, rate of blood product transfusion, and rate of infection. The authors were unable to demonstrate a significant effect of high-intensity staffing on 30-day and ICU mortality despite more-than-adequate sample size.

The findings from this study are supported by others who advocate for the benefits of an intensivist-driven, high-intensity staffing model in patients undergoing cardiac surgery.^{3,4} Although the results of this study and others are encouraging, one should note that many of the primary outcomes highlighted in these studies, such as ICU length of stay, hospital length of stay, and blood product use may be considered as discretionary and often reflect subjective rather than objective clinical decision making. As such, these results should be interpreted with caution because they may have been influenced by factors other than ICU staffing models, including individual

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Central Message

There is currently no standard ICU physician staffing model. The present study provides evidence that having a dedicated intensivist during daytime hours (high intensity) improves outcomes when compared with coverage by each patient's primary physician (low intensity).

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physician practice patterns, overall institutional drivers, or changing culture within ICUs. Furthermore, when less discretionary outcomes such as 30-day and ICU mortality were considered, no differences were noted, suggesting that the aforementioned, more discretionary outcomes may have been less clinically relevant or less capable of affecting overall mortality.

Given the paucity of studies in the area of cardiac surgery ICU staffing models, the authors are to be commended for tackling this important issue. Unfortunately, for the reasons stated above, the present study does not solve the existing controversy surrounding ICU staffing. What the study does highlight, is how dedicated intensivist care during daytime hours may improve certain clinical outcomes and should be considered among a series of strategies that may be implemented in an effort to ultimately improve in-hospital and 30-day mortality following cardiac surgery.

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