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The Authors Reply

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We agree with Drs. Littlewood and Snow (1) that removing ICU teams from their ‘home’ unit to round on boarders in geographically separate areas may disadvantage other patients and contribute to inefficiency. Indeed, it is our anecdotal experience that both of these issues occur with some frequency. We do *not* claim that the boarding practice at our institution is free of harm to patients situated in the ‘home’ unit (*non-boarders*). Our manuscript does, however, suggest that the harm of this practice is disproportionately borne by the boarders who have a relative risk of ICU stay mortality of 1.18 (95% CI, 1.01-1.38) compared to non-boarders(2). It is worth mentioning that the variant of boarding at the authors’ institution wherein patients are assigned to the geographic ICU team regardless of diagnosis has similarly been associated with a statistically significant increase in hospital mortality across a broad range of diagnoses (3).

With regards to length of stay, we believe there are several possible contributing factors that might explain our finding of no difference. First, ICU length of stay was reported without adjustment for bias introduced by the increased risk of ICU mortality among boarders. Second, the mere fact that an ICU patient is a boarder is a strong stimulus for the team to move the patient elsewhere - either into a newly available bed in the ‘home’ ICU or to a floor bed. In our experience, many providers believe ICU boarders will be better served on a general medicine floor with a co-localized team than in an alternative specialty ICU with a geographically distant (albeit diagnosis-appropriate) ICU team. Supporting this notion is that in contrast to ICU length of stay, total hospital length of stay *did* appear to differ between boarders and non-boarders: 8.2 ± 8.2 versus 8.9 ± 9.6 days (mean $\pm$ SD) respectively. Statistical tests of significance were not performed as this was not an outcome of interest in our study.

Finally, we agree that the difference in mortality between boarders and non-boarders is almost certainly the result of more than just differences in specialist staff knowledge.

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Communication between the patient's nurse, physicians, respiratory therapists and other allied health professionals also suffers from the lack of geographic co-localization. In addition, time to emergent response is increased and situational awareness is diminished. The solution to this problem is far from clear and may differ depending on the specific context of the institution, but it likely begins with hospitals accepting there is a problem here that needs solving.

Citations

1. Littlewood S, Snow TAC. Boarding rather than boring, how do we best juggle our ICU outliers? *Crit Care Med*. 2018 in press.
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