



Implementation of Alert in the Electronic Medical Record Reduces Incidence of Non-OR Blood Transfusions for Hb > 8.0 g/dL

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Background:

- A multicenter, randomized clinical trial of transfusion requirements in critical care¹ concluded restrictive transfusion strategies for RBCs in critically ill patients was at least as effective, if not superior, in patient outcomes

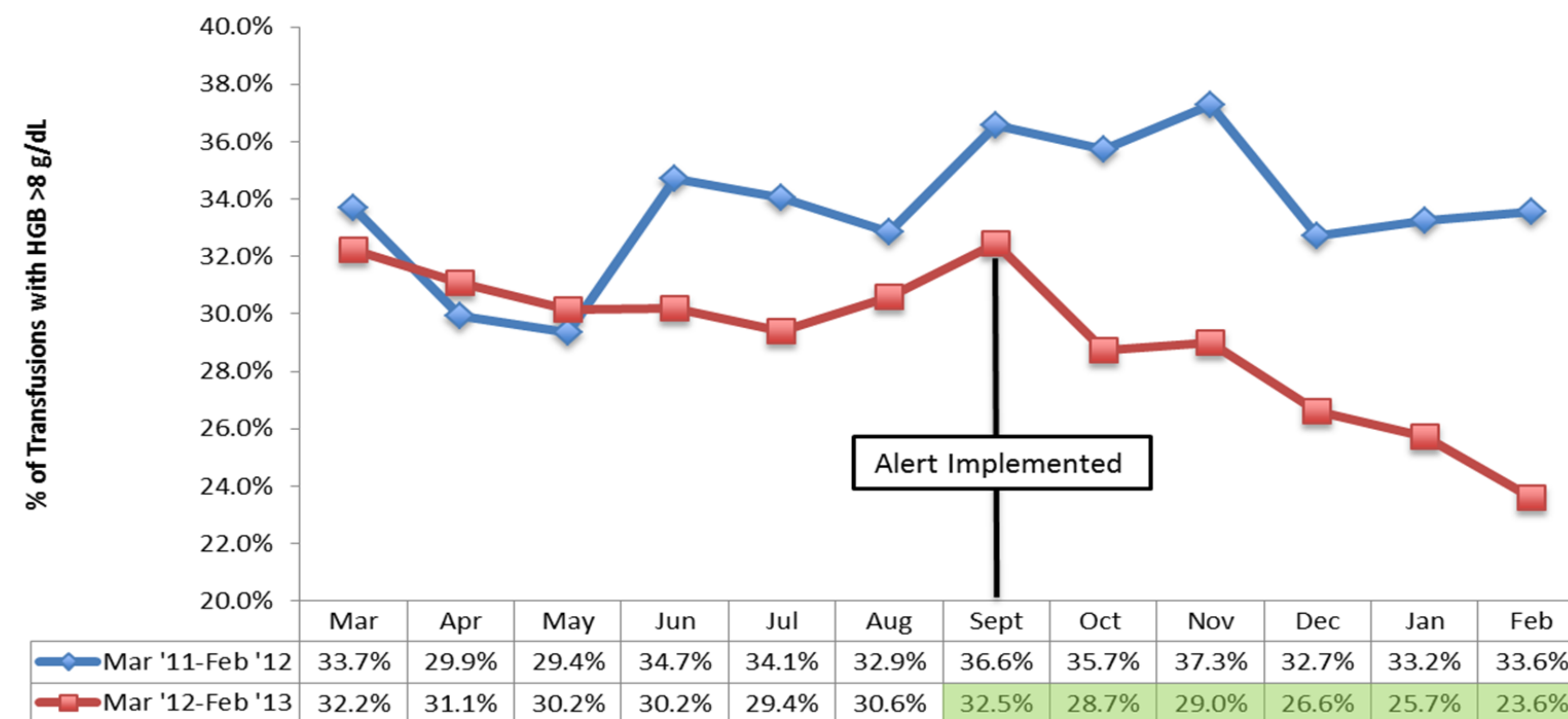
Objective:

- Implementation of an EMR alert to reduce exposure of patients to unnecessary transfusions and utilization of a limited resource

Methods:

- Beginning September 2012, an EMR alert was initiated if a patient's last hemoglobin (Hb) was >9.0 g/dL
 - Alert stated recent Hb level and prompted RBC transfusion justification
- Selected Hb of 9.0 g/dL to reduce likelihood of sending alerts for patients with active hemorrhage
- Obtained transfusion information immediately pre- and post-implementation of alert

Figure 1: Historical Utilization Pre- and Post-Implementation of Alert: RBC transfusions with HGB >8 g/dL, 2011 – 2013



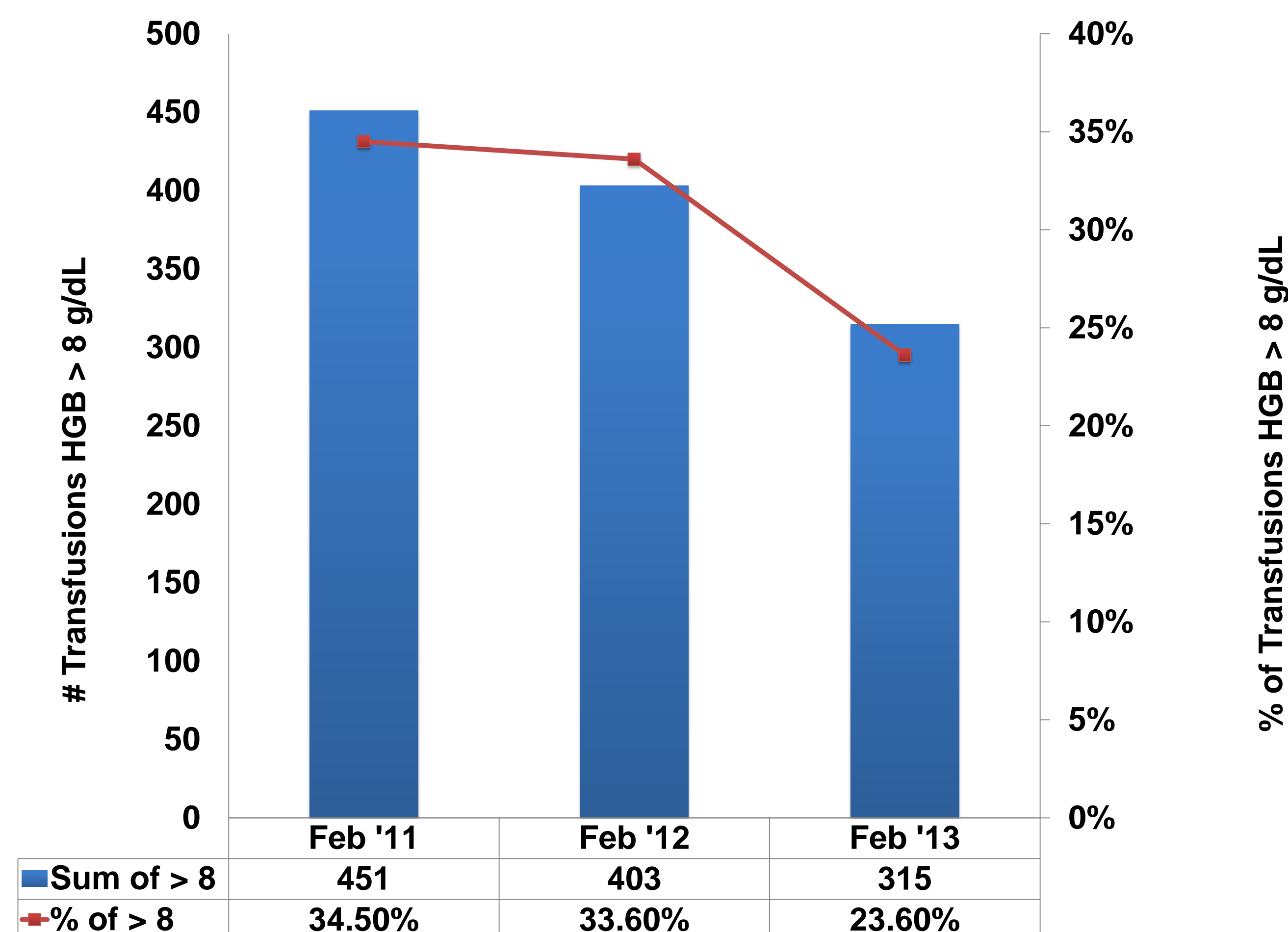
Results:

- Marked reduction in the % of blood transfusions “post-alert” implementation
- Average transfusion rate for > 8.0 g/dL “pre-alert” (Oct '11-Feb '12) was 34% vs. 27% “post-alert” (p<.001) for the same time period, and was lower “post alert” at each time point (Figure 1)
- February transfusion rate > 8.0 g/dL was 10% lower (34% vs. 24%) “post-alert,” meaning 136 fewer units of RBCs transfused (Figure 2)

Conclusions:

- Implementation of an alert when ordering RBC transfusions significantly reduced incidence of transfusion for Hb > 8.0 g/dL
- Data require further investigation to determine other factors that contribute to poor transfusion guideline compliance

Figure 2: RBC transfusions with HGB >8 g/dL by year



References:

¹ Herbert PC, Wells G, Blajchman MA, et al. “A Multicenter, Randomized, Controlled Clinical Trial of Transfusion Requirements in Critical Care.” *The New England Journal of Medicine* 1999; 340: 409-417.

