Phlebotomy excess contributes to anemia in PICU patients and increases the likelihood of red blood cell transfusion, which is associated with risk of adverse outcomes. Excessive phlebotomy reduction (EPR) strategies may reduce the need for transfusion, but have not been evaluated in a PICU population” Steffen et al (2017). 

Abstract: 

BACKGROUND AND OBJECTIVES: Phlebotomy excess contributes to anemia in PICU patients and increases the likelihood of red blood cell transfusion, which is associated with risk of adverse outcomes. Excessive phlebotomy reduction (EPR) strategies may reduce the need for transfusion, but have not been evaluated in a PICU population. We hypothesized that EPR strategies, facilitated by implementation science methods, would decrease excess blood drawn and reduce transfusion frequency.

METHODS: Quantitative and qualitative methods were used. Patient and blood draw data were collected with survey and focus group data to evaluate knowledge and attitudes before and after EPR intervention. The Consolidated Framework for Implementation Research was used to interpret qualitative data. Multivariate regression was employed to adjust for potential confounders for blood overdraw volume and transfusion incidence.

RESULTS: Populations were similar pre- and postintervention. EPR strategies decreased blood overdraw volumes 62% from 5.5 mL (interquartile range 1-23) preintervention to 2.1 mL (interquartile range 0-7.9 mL) postintervention (P < .001). Fewer patients received red blood cell transfusions postintervention (32.1% preintervention versus 20.7% postintervention, P = .04). Regression analyses showed that EPR strategies reduced blood overdraw volume (P < .001) and lowered transfusion frequency (P = .05). Postintervention surveys reflected a high degree of satisfaction (93%) with EPR strategies, and 97% agreed EPR was a priority postintervention.
CONCLUSIONS: Implementation science methods aided in the selection of EPR strategies and enhanced acceptance which, in this cohort, reduced excessive overdraw volumes and transfusion frequency. Larger trials are needed to determine if this approach can be applied in broader PICU populations.

Reference:


Thank you to our partners for supporting IVTEAM