Purpose
The purpose of the project was to implement clinical decision support (CDS) within the EHR for RBC blood product order process to comply with restrictive blood transfusion guidelines.

Background
CDS is known to impact provider decision making during order entry and has demonstrated improved clinical decision-making when patient relevant data displays during order entry (Zuckerberg et al., 2015). Computerized provider order entry (CPOE) when coupled with CDS, is a powerful tool for increasing compliance with evidence-based practices. Increasing cost and a shrinking donor pool contribute to supply constraints (Participants of the Cost of Blood Consensus Conference, 2005). Clinical evidence-based guidelines developed by AABB for red blood cell (RBC) products support adherence to a restrictive blood transfusion strategy in patients with hemoglobin (Hgb) values of 7 to 8 g/dL (Carson et al., 2016).

Methodology
Project improvement interventions included:
1. Communication on the CDS associated with electronic RBC product orders
2. New electronic order sets
3. Transfusion unit changed from two units to one unit within the RBC blood product order.

Plan-do-study-act cycles were used to guide the quality improvement project. The process involved the addition of CDS into the existing electronic health record (EHR) order entry processes.

Results
The number of electronic RBC blood products orders decreased by greater than ten percent with the first PDSA cycle and maintained for the subsequent seven-month timeframe. For the associated transfusion default change from two units to one unit within the RBC blood product order, the number of orders with one unit was not higher than orders with two units.

Implications for Practice
With use of tools such as CDS, organizations can encourage provider compliance with AABB’s restrictive RBC transfusion guidelines to reduce inappropriate blood transfusion product orders.