Measuring the Impact of Changes in EHR Functionality and Education Interventions on Blood Documentation

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Introduction/Background

Implementation of our enterprise-wide EHR (Partners eCare, or PeC) required dual-verification of patient and blood bar code scanning using the Blood Product Administration Module (BPAM). Although we had 99% compliance with blood administered non-emergently, Brigham and Women's Hospital (BWH) had additional requirements that were not as easily met. We undertook a number of measures to improve in this area.

Methods

Nursing Informatics at BWH worked with report writers on a report to identify non-compliance with blood documentation. The blood compliance report was run at intervals to monitor elements that were required by blood policy. The results of the blood compliance report were shared with the care units for follow up action. As part of that follow-up, documents for best practice and tip sheets for blood administration were developed to assist with the education. Additional educational presentations on the correct documentation procedure were presented at unit-based practice councils, Super User sessions, Department Expert meetings and during unit rounds providing one-on-one support. The following changes were implemented in the BPAM build in PeC Epic for all Partners Entities: 1) Blood volume documentation in BPAM window; 2) Blood Administration Report in the Blood Flowsheet; 3) Blood Running Banner and Nurse Manager Quality Safety Dashboard Report; 4) Interruptive actionable Blood Best Practice Alert; 5) "Blood running" indicator on the patient list

Results

The build changes resulted in improvement in two of the monitored results of the blood compliance report (Table 1). The BPAM build changes that had an impact were intuitive and within the user's workflow and required minimal education. Education that was delivered as a reminder to users utilizing tip sheets at departmental meetings was ongoing during the reporting period, but resulted in little impact in improving blood documentation. In the Blood Donor Center, which had a high volume of blood transfusions, we supplied one-on-one at-the-elbow training and support, which resulted in a marked, continued improvement in that area.

Table 1

Date	Trans Stopped	Volume	
8.3.17	84%	80%	
10.10.17	92%	86%	**Blood Banner, Blood PAF Column 10/4/2017**
4.30.18	96%	85%	**One on one Training for the Blood Donor Center 4/10/2018**
1.27.19	99%	90%	**Interruptive Actionable Blood BPA 1/16/2019**
3.4.19	100%	92%	

Discussion/Conclusion

There have been several changes to the BPAM which improved blood documentation. Trended data from the report over time shows that improvements to the BPAM and focused, directed one-on-one training had significantly more impact than continued follow up with reporting and passive staff education.

References

1. Starmer J, Lorenzi N, Pinson CW. The Vanderbilt EvidenceWeb –developing tools to monitor and improve compliance with evidence-based order sets. AMIA Annu Symp Proc 2006: 749-53