

# Initial Results of a Multi-Faceted Continuing Medical Education Intervention Designed to Reduce Unnecessary Blood Transfusions

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## Background

- Red blood cell (RBC) transfusions are risky for some patients, as evidenced by:
  - Patient outcomes
  - Needless use of valuable resources
  - Unnecessary cost to patients and healthcare systems<sup>1-5</sup>
- A gap exists between clinical practice and evidence-based medicine
- Research Question: can a multi-faceted Continuing Medical Education (CME) intervention impact physician transfusion practices?

## Methods

- Study Period: Aug 2015 – Aug 2017
- Implemented a multi-faceted CME intervention:
  - Didactic presentations
  - Educational material online and hard copy
  - Posters
  - Electronic medical record clinical decision support
- Collected baseline (12 months), intervention (12 months), and post-intervention follow-up (6 months) data detailing transfusions ordered by Internal Medicine residents
- Collected feedback from physicians about quality and effectiveness of CME intervention
- Analyzed data using descriptive statistics and explored cost savings

## Results

- 55 Internal Medicine (IM) Residents participated
- Transfusion orders were reduced by 69% for a six month period during year one
- Appropriate documentation of indications for transfusion orders increased by two-fold
- Education materials were rated favorably
- Reduction of \$168,550 in the cost of transfusing packed red blood cells
- Decreased patient exposure to inherent risks associated with excessive transfusions

### Which Educational Intervention Motivated You to Change Your Transfusion Practices the Most?

Didactic Presentation	36.96%
Online education materials	19.57%
Hard copy education materials	10.87%
Informational posters	6.52%
EPIC changes	2.17%
My practice was unchanged	23.91%



### Sample Knowledge Test Questions

WHAT IS THE AVERAGE COST OF A RED BLOOD CELL UNIT IN THE UNITED STATES?

- A. Unknown
- B. \$397
- C. \$550
- D. \$761
- E. \$940

WHICH OF THE FOLLOWING IS/ARE NOT A COMPLICATION(S) ASSOCIATED WITH BLOOD TRANSFUSION?

- a) Development of auto-immune diseases
- b) Multiple organ failure
- c) Increased length of hospital stay
- d) New onset cancer
- e) Neuropathy
- f) Tumor recurrence

## Discussion

Intervention impacted IM resident physician practice with regard to RBC transfusion, thus limiting patient exposure to risks associated with unnecessary RBC transfusions, preserving resources, and reducing costs

## Conclusions

- A multi-faceted, targeted CME intervention was well-received and had a dramatic impact on the RBC transfusion practices of the IM resident physicians.
- Achieved both increased clinical documentation and reduction in ordering of excessive transfusions
- Further study is needed to determine long-term impact of CME intervention on physician practice and associated patient outcomes

## References

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