

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 systems¹⁻⁵
- 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%

DON'T READ THIS IF YOU'RE NOT READY TO CHANGE

TRANSFUSIONS CAUSE INFECTIONS
Each unit of RBC transfusion increases the rate of HAIs (Hospital-Acquired Infections) by **50%**

DO YOU KNOW? America uses more blood than any industrialized nation.
The cost of transfusing a patient is **5X** the cost of blood

On average, ONE RBC unit costs us \$761

Evidence-based medicine supports a more conservative approach to save lives. LESS IS MORE!

The GIFT that keeps on GIVING
Transfused blood attacks healthy tissue, like nerves, lungs and heart, and WBC lines can live in a recipient for decades

The best available evidence indicates that a more conservative approach improves patient outcomes and saves lives.

INTRIGUED? CHALLENGED? READY TO CHANGE?
Call the CME department at 540-924-8101 (external 78101).

CARILION CLINIC

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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