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Flipped Classroom for Clinical Nurses Continuing Education: How It Worked for a Blood Administration Course

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ABSTRACT

A gap in the education of blood administration was recognized when a Midwest regional medical center experienced an increase in blood administration errors. A root cause analysis identified that there was a lack of understanding of the blood dual verification process. The current course content was reviewed so gaps could be addressed. Currently the course is four hours long and focuses on the documentation of blood products in the electronic medical record. The first hour consists of a lecture that covers pre-transfusion requirements, blood verification process, nursing interventions during a blood administration, and identifying signs and symptoms of a reaction. Following lecture there is a hands on portion completed alongside the instructor on documenting a unit of blood in the electronic medical record that includes how to place a proper order. The EMR documentation process takes approximately forty-five minutes. There is a fifteen-minute break then the final two hours of the course are self-paced and staff can leave once they complete all of the following: a ten-minute dual checkoff with an instructor, a computer based learning module quiz, and documentation on their own in the electronic medical record on a unit of blood with an instructor present for questions that may arise. The proposed solution is to eliminate classroom time with staff sitting through a lecture and move to a flipped classroom approach with simulations.

Changing to a flipped style class, nurses will complete pre-course requirements before coming to a simulation based class. The pre-course requirements will consist of a 30-minute lecture video on the organization’s policy and procedure followed by six online interactive modules that guide staff through the documentation of administering blood. Class time will then focus on hands on learning that will begin with a simulation that includes a dual verification bedside check of the blood product, followed by documentation in the electronic medical record at the bedside. The simulation will consist of one nurse acting as the primary nurse while the other is the second verifier. This will reinforce the policy of having 2 licensed professionals being at the bedside. An audit tool will be completed during every blood transfusion to ensure all safety measures have been taken to verify the correct patient and the blood product. This audit tool also serves as a guide to ensure all documentation has been completed properly. There will be post-course follow ups at thirty, sixty, and ninety days by the department educator in the department during the nurse’s normal shift. An annual mandatory competency check of the bedside dual verification process will also be completed by the department educator.

Lesson Plan

The lesson topic: The Blood Administration course will provide nurses with comprehensive education related to administering blood products that includes: an online lecture review of the transfusion policy, six interactive CBL's reviewing the ordering and documentation process in the EMR, as well as a simulation of the dual verification process at the bedside, IV pump and tubing usage, and documentation in the EMR.

Competency statements:

1. At the end of this course the learner will be able to demonstrate thorough documentation in the blood navigator in the electronic medical record.
2. At the end of this course the learner will be able to demonstrate the proper bedside dual verification process with a second licensed professional.
3. At the end of this course the learner will be able to explain the process of emergent and massive blood transfusion and documentation.

Teaching strategies: Video lecture on the policies and procedures of blood administration, role-play during simulation for hands on experience of the dual verification and documentation processes, and discussion during and after the simulation to facilitate questions and answers that will enhance the learning experience.


Learning objectives for the competency statement: At the end of this course the learner will be able to demonstrate the proper bedside dual verification process with a second licensed professional.

1. The nurse can identify three licensed professionals who are able to complete the dual verification as the second licensed professional.
2. The nurse can identify the three patient identifiers utilized during the dual verification.
3. The nurse can discuss each of the blood verification components that are to be checked.
4. The nurse can identify the location in the EMR for the second licensed professional to sign off of the dual verification.

Key concepts include:

1. Gain an understanding that the dual verification must be completed at the bedside.
2. Identify that the licensed professionals that are able to complete the second check while at the bedside are RN's, LPN’s and Paramedics.
3. Identify the three patient identifiers: Name, DOB, and medical record number.
4. Understands that the blood sticker on the front of the bag is from the Red Cross and only contains information from the donor.
5. Understands that the sticker on the tie tag contains patient information from Parkview Health’s blood bank.
6. Understands that the Red Cross sticker is to be checked with the blood bank sticker to ensure blood type matches or is compatible and has correct patient name and mrn.
7. Understands that the blood contents must be checked for proper color and consistency.
8. Identifies the two correct barcodes on the blood bag that need to be scanned in the EMR.
9. Identifies that the correct action in the EMR is “Dual Verify” to populate the correct sign off screen for the second verifier.
10. Understands that all pre-transfusion requirements are met and documented before signing off.

Methods for evaluating success will include an end of course survey completed on a 5-point likert scale and the 30-60-90 day follow up evaluation by the department educator. Rogers 5-step change theory will be used as part of the decision making process. This change theory gives the flexibility to make the process reversible; therefore, if initially rejected it can later be implemented or if initially implemented it can later be rejected. The success of this course can then be modeled for other courses in the organization.
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Keywords:
Bedside dual verification, Blood Administration Course and Flipped Classroom

References:


Abstract Summary:
A root cause analysis at a Midwest regional medical center identified that a lack of understanding of the blood dual verification process was contributing to an increase in blood administration errors. This project looked to redesign the existing blood administration education to emphasize the dual verification process.

Content Outline:
I. Introduction
   a. Recognizing education gap
   b. Root cause analysis conducted
   c. Review of current course content
d. Proposed plan to change course to flipped style classroom

II. Addressing the Gap
a. Four-hour course changed to flipped classroom
b. Dual verification simulation time doubled
c. Simulations reinforce policy of 2 licensed professionals at the bedside
d. Mandatory audit tool with 2 nurse’s signatures
e. 30-60-90 day follow up check-offs at the bedside

III. Lesson Plan
a. Lesson Topic
b. Competency statement
c. Teaching strategies
d. Required materials
e. Learning objectives
f. Key concept

IV. Methods for evaluating success

V. Decision making process

VI. Successes

VII. References

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**Professional Experience:** I have been a clinical nurse educator for 3.5 years. I am currently a member of my organization's blood administration team and teach the blood administration courses for my organization. I attend monthly meetings where we discuss needs as they arise.

**Author Summary:** LaToshia has been a registered nurse for 16 ½ years; obtaining her Associates in
nursing from Rhoades State College. Her nursing career began as a pediatric nurse, then continued on a med/surg unit. She transitioned to a shift supervisor role and a staff RN in an emergency department. LaToshia completed her BSN through IWU and is currently the clinical nurse educator for a community hospital; she recently completed her MSN in nursing education from WGU.