Beth Israel Lahey Health
Beth Israel Deaconess Medical Center

Optimization of the Ordering and Dispensing of Coagulation Factors

TAP TO GO BACK TO KIOSK MENU

Introduction/Problem

- Coagulation factors and anticoagulation proteins (factors) had historically been ordered and dispensed through the BIDMC Blood Bank
- It was recognized that admixing products for intravenous infusions outside of a cleanroom environment posed an increased risk for contamination
- Variations in ordering and dispensing of coagulation factors increased the potential for waste, particularly with an increase in volume and utilization

Aim/Goal

- The goal of transitioning the management of coagulation factors to the Pharmacy Department was to:
  - Optimize and standardize the ordering and dispensing process
  - Promote computerized provider order entry (CPOE) indication directed dosing
  - Ensure regulatory compliance and dose preparation in a USP compliant cleanroom
- A Clinical Review and Approval Process was developed in collaboration with Transfusion Medicine to ensure safe and appropriate utilization of Coagulation Factors

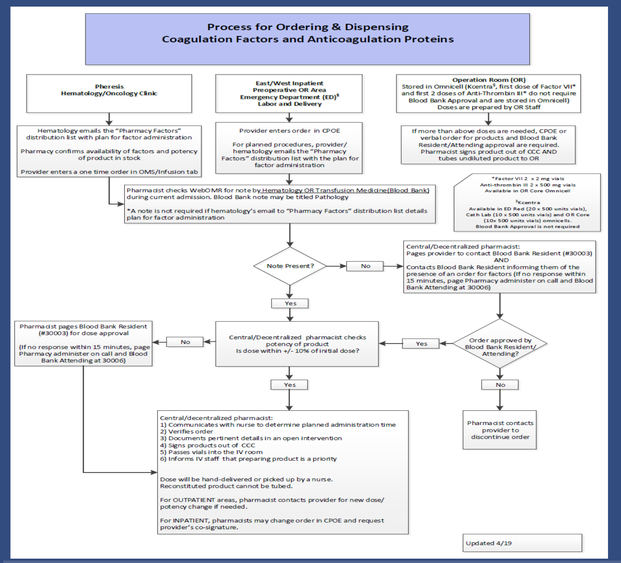
The Team

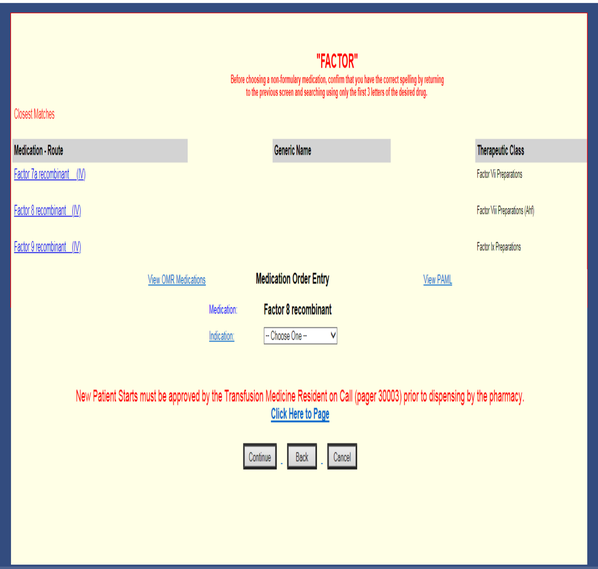
- **Mary Eche, PharmD, BCPS, BCCCP, CACP; Pharmacy**
- **Katherine Cunningham, MHA, PharmD, BCPS; Pharmacy**
- **Sarah Warack, PharmD; Pharmacy**
- **Wendy Chen, PharmD; Pharmacy**
- **Denise Arena, RPh; Pharmacy**
- **Peggy Stephan, MS, RPh; Pharmacy**
- **Monique Mohammed; Blood Bank**
- **Kerry O'Brien, MD; Transfusion Medicine**
- **Barbara Donovan, RN; Nursing**
- **Transfusion Medicine and Hematology Team**
- **Pharmacy Purchasing Team**
- **Pharmacy IS Team**

The Interventions

- A multidisciplinary group was convened to develop a process and timeline for implementing the transition
- Potential barriers and the impact of the practice change were identified
- Intravenous administration guidelines and cleanroom dispensing procedures were developed
- Decision support and a dosing calculator was incorporated within CPOE
- Following dissemination of the new process through Nursing, Pharmacy, Transfusion Medicine, and Hematology meetings, pharmacy took over the responsibility for coagulation factor dispensing in November 2017

Results





Workflow improvements included: Development of a Transfusion Medicine approval process, implementation of Clinical Decision Support and CPOE ordering

For more information, contact:

Mary Eche, PharmD, Clinical Coordinator - Critical Care; ieche @bidmc.harvard.edu

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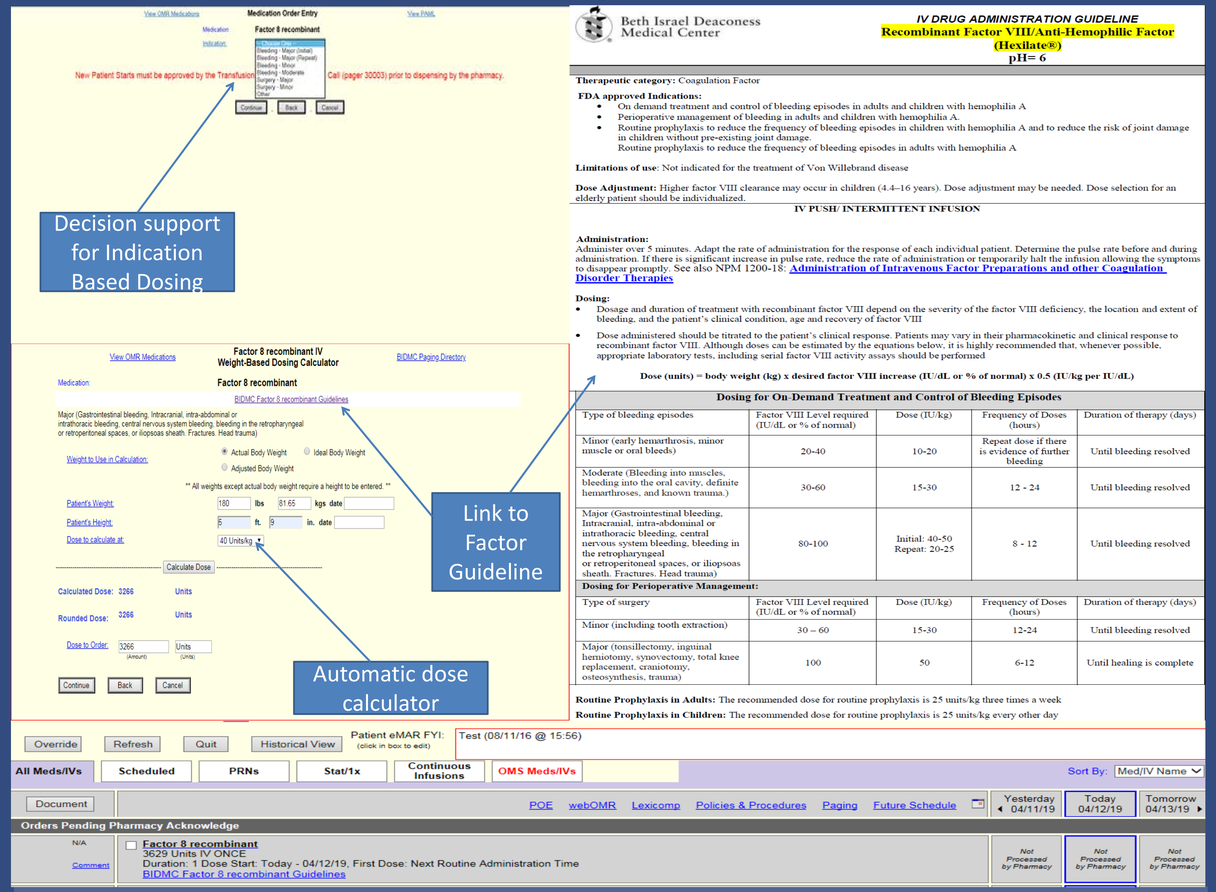
Results/Progress to Date



Workflow improvements included: implementation of clinical decision support (indication based dose calculator, imbedded guidelines); prospective order review by a pharmacist; development of guidelines for intravenous administration, and documentation in the electronic medication administration record (eMAR)

Results

Metric	Percent Compliance (%)
Hematology/Transfusion Medicine approval	95.8*

Pharmacist Intervention	Number of doses n = 120 (%)
No change	**95** (79.17)
Vial size rounding	**18** (15)
Incorrect dose	**3** (2.5)
Both rounding & incorrect dose	**4** (3.33)

Urgent Order Metrics	Average (min.)	Min	Max
Time from POE order entry to RPh verification	**13.2**	3	30
Time from RPh verification to eMAR documentation	**47**	19	76

- The majority of factor orders were approved by transfusion medicine and/or hematology.
- Pharmacist intervention was required for vial size rounding or incorrect dose
- Purchasing of factor products within the pharmacy resulted in increased financial stewardship and cost savings

Lessons Learned

- Successful transition of coagulation factor dispensing from the blood bank to pharmacy required multidisciplinary effort, planning and education
- Development of administration guidelines, CPOE Decision Support, and dose preparation in a USP compliant cleanroom have led to improved safety and efficiency of the ordering and dispensing process

Next Steps

- Ongoing review of the ordering and dispensing process for areas of improvement and adjustment
- Ongoing multidisciplinary education on the new process
- Identification of opportunities for clinical guideline development in collaboration with providers

For more information, contact:

Mary Eche, PharmD, Clinical Pharmacy Coordinator - Critical Care ; ieche @bidmc.harvard.edu