

ANTICOAGULATION STEWARDSHIP: PROFILES IN PROGRESS

Hospitals throughout the United States have developed and implemented successful Anticoagulation Stewardship Programs. These programs have a positive financial impact and improve clinical outcomes for patients with thrombotic and hemostatic conditions. (All clinical outcomes presented are statistically significant)

The Johns Hopkins Hospital Baltimore, Maryland

Stewardship Model

- Implemented a multidisciplinary Hemostatic and Antithrombotic Stewardship program with a three-phase toolkit¹
- Examples of interventions include fixed-dosing of PCCs, rFVIIa dose minimization, preferential use of aPCC for hemophilia patients with inhibitors, and continuous infusion FVIII, FIX, and VWF administration¹

Impact

- **\$3 million** estimated cost avoidance over two years¹
- rFVIIa was the CFC product associated with the greatest cost avoidance¹

North Carolina Medical Center Chapel Hill, North Carolina

Stewardship Model

- Developed a blood clotting factor stewardship program focused on optimization of product selection, dosing regimens, and infusion frequencies²
- Key steps included:
 - Narrowing blood clotting factor formulary
 - Established blood clotting factor prescribing guidelines
 - Instituted ongoing education of clinical staff

Impact

- Exceeded **\$4 million** in cost savings annually²
- **45% ↓** in blood clotting factor doses annually²

Jackson Memorial Hospital Miami, Florida

Stewardship Model

- Implemented a full-service stewardship program with a PGY-1 resident transition of care service³

Impact

- **\$270,000** cost savings over 8 months³
 - \$128,000 from argatroban monitoring³
 - \$151,000 from transition of care service³
- **1.4 day ↓** in LOS³
- **37%** of patients were inappropriately on argatroban with 70% of those changed to an appropriate agent³

Brigham and Women's Hospital Boston, Massachusetts

Stewardship Model

- Implemented a Hemostatic and Antithrombotic stewardship program to ensure appropriate use of DTIs in patients with HIT⁴

Impact

- **\$250,000** cost savings in diagnosis and management of HIT⁴
- Duration of DTI use ↓ from 6.6 to 5.2 days⁴
- **45.7% ↓** in HIT tests performed and **28.6% ↓** in patients evaluated for HIT⁴

Tufts Medical Center Boston, Massachusetts

Stewardship Model

- Implemented a multidisciplinary blood clotting factor stewardship program focused on dispensing blood clotting factors from the pharmacy rather than the blood bank⁵

Impact

- **\$100,000** cost savings over 6 months
 - Due to ↓ PCC and rFVIIa dispensing⁵

Rochester General Hospital Rochester, New York

Stewardship Model

- Implemented an inpatient anticoagulation team that oversaw anticoagulants, high-cost reversal agents, and HIT management⁶
- Intervention categories included PK/PD optimization, anticoagulation therapy optimization, and monitoring⁶

Impact

- **\$1 million** cost savings annually⁶
- **10%** of anticoagulation cases resulted in improved care⁶
- **53.2% ↓** in inappropriate PCC orders⁶
 - Resulting in \$385,000 cost savings annually⁶

The University of New Mexico Hospital Albuquerque, New Mexico

Stewardship Model

- Implemented an inpatient pharmacy-driven anticoagulation management service and hospital reference laboratory to reduce HIT antibody testing through pharmacist intervention and the 4T pretest probability score⁷

Impact

- **\$75,000** cost savings⁷ or 62% per patient exposed to heparin⁷
- **81% ↓** in HIT Abs ordered and processed with no increase in ADEs⁷
- ↓ average length of DTI therapy per patient from **7.4 to 5.1 days**⁷

Hackensack University Medical Center Hackensack, New Jersey

Stewardship Model

- Developed a pharmacist-driven anticoagulation reversal program focused on appropriateness of reversal agents based on clinical scenario, optimization of selection, and avoidance of unintended consequences⁸

Impact

- **52%** of cases had interventions⁸
- **\$1 million** total cost avoidance⁸
- Initial reversal agent requests were modified in 45% or denied in 13% of cases⁸
- **84%** hemostatic effectiveness⁸

Acronyms:

ADEs = adverse drug events; aPCC = activated prothrombin complex concentrate; CFC = clotting factor concentrate; DTI = direct thrombin inhibitor; FIX = Factor IX; FVIII = Factor VIII; HIT = heparin-induced thrombocytopenia; HIT Abs = heparin-induced thrombocytopenia antibody; LOS = length of stay; PCC = prothrombin complex concentrate; PGY-1 = post graduate year 1; PK/PD = pharmacokinetics/pharmacodynamics; rFVIIa = recombinant activated factor VIIa; VWF = Von Willebrand Factor.

To learn more about how you can help advance anticoagulation stewardship visit <https://acforum.org/web/education-stewardship.php>, scan the QR code to the right, or email info@acforum.org.

