



THE HEALTH CARE IMPROVEMENT FOUNDATION
Building Partnerships For Better Health Care



Institute for Safe
Medication Practices

a nonprofit organization

Health Care Improvement Foundation

Collaborative for High Alert Medications

Best Practices on the Safe Use of Anticoagulants

Presented by the Institute for Safe Medication Practices

Program Summary July 2008

The mission of the Health Care Improvement Foundation (HCIF) is to support innovative efforts to improve health services through the promotion of best practices in community health and patient safety in the Delaware Valley. Consistent with this commitment, HCIF requested expert assistance from the Institute for Safe Medication Practices (ISMP) in creating a collaborative project known as “Best Practices on the Safe Use of Anticoagulants.”

The goal for this project was to reduce the potential for medication errors and patient harm with these drugs, through the identification and implementation of standardized best practices around the safe use of unfractionated heparin, low molecular weight heparin and warfarin, including those cited by the National Quality Forum (NQF), and the Institute for Healthcare Improvement (IHI). The Joint Commission’s proposed National Patient Safety Goal anticoagulation safety was also incorporated into the program.

Each participating hospital was asked to form an interdisciplinary team to conduct the project. Team membership should minimally include a pharmacist, nurse, physician and the patient safety officer who will champion the project in the facility. These team members would also participate in scheduled phone calls with ISMP and gather and submit project related data through a web-based tool provided by ISMP. The collaborative project consisted of four phases.

Phase I: Identify Goals, Outcome Metrics and Assessment of Demographic Information.

ISMP identified several areas of risk exposure that would be discussed and for which high-leverage strategies would be provided to improve medication safety and reduce the potential for error. Best practices were identified for assessing the patient, prescribing and monitoring the effects of anticoagulants, product storage, and for dispensing and administering anticoagulants. Several safety tools were developed to assist hospitals in eliminating patient harm associated with these medications.

Each facility was provided with access to a secure URL at ISMP for the purpose of completing and submitting a confidential demographic survey and they were provided with data collection tools that enabled them to assess the storage and distribution of anticoagulants in their facility.

Another tool offered to help identify safe practices around the use of anticoagulants was the ISMP Medication Safety Self Assessment[®] for Antithrombotic Therapy in Hospitals. Hospitals could opt to complete the self-assessment and anonymously submit their results to ISMP.

Phase II: Presentation of Goals, Tools and Metrics for the Safe Use of Anticoagulants

ISMP presented a half-day live educational session to the multidisciplinary team members from each participating facility. The presentation explained the goal for the program and outlined specific strategies that could be implemented in each organization to achieve this goal. ISMP reviewed the metrics and data collection methodology that would be used for the program. Each organization was encouraged to collect some pre-program or baseline data for comparison with information collected post-program.

The educational session focused on:

- Current knowledge of anticoagulant-related errors
- Best practices and metrics
- Tools to help implement and measure achievement
- Barriers to goal implementation

Participants also learned about the system-based causes of error and the related human factors including:

- Forcing functions and fail-safes
- Constraints
- Redundancies
- Standardization and simplification
- Differentiation
- Alerts and reminders
- Patient Monitoring

Program participants received a variety of resource tools and materials to guide implementation including a list of core and target safe practices for anticoagulant use. The core and target safe practices were also presented in a self-assessment format where hospitals could review the current level or implementation of these practices in their organization and a crosswalk document, linking ISMP best practices to the IHI 5 million lives campaign and proposed Joint Commission National Patient Safety Goal.

ISMP created a webpage for participants that included all of the tools, handouts, and data collection forms. Throughout the collaborative additional tools were posted as they were developed. References for articles currently appearing in the medical literature related to anticoagulation therapy as well as a compilation for previous published articles on this topic

were also posted on the webpage. Additionally, protocols, forms and algorithms shared by participating hospitals were posted on the webpage for review.

All of the materials posted on the webpage have been included as an attachment to this report.

Phase III: Implementation

During phase III, ISMP moderated four, 60 minute conference calls for program participants. During these calls participants learned about the group results for the self-assessment of core and target safe practices. Physician focused best practices for the safe use of anticoagulants were presented and discussed as well as current articles related to patient care and monitoring of anticoagulation therapy. Members also shared experiences in their facilities, discussed protocols, algorithms and practices they utilized as well as progress with the removal of barriers to implementing best practices.

Heparin protocol forms used to manage anticoagulation for patients based on diagnosis were shared for posting on the webpage. Other members provided algorithms with guidelines for reversing supratherapeutic anticoagulation (warfarin) using vitamin K. These were posted on the webpage for all to share and use as a template for creating similar tools.

Phase IV: Project Completion

Member hospitals were asked to review the measurement and data collection plan document that provided general outcome measures and inpatient process measures for anticoagulation care. Use of this document could assist hospitals reach the following targets:

- (1) reduce the percent of bleeding in patients on anticoagulants by 50% in 9 months
- (2) reduce the initial time for reaching target anticoagulation levels by 25% in 9 months without increasing the risk of bleeding
- (3) reduce the risk of process errors associated with anticoagulants by 50% in 9 months

ISMP recommended that participants use this document to measure progress as they continue to implement the best practices identified during the collaborative.

Hospitals were asked to report on two inpatient process measures:

- Percent of patients on heparin with a baseline hemoglobin, hematocrit, serum creatinine, and platelet count prior to initiation
- Percent of patients on enoxaparin with renal impairment (specify test parameters) who do not have a dose reduction

The program concluded in the late spring of 2008 with a final audio call to evaluate the program's format, content, methods of communication and applicability. Input from the group indicated that the program provided valuable and timely resources to assist hospitals in strengthening medication safety and complying with The Joint Commission's National Patient Safety Goal addressing anticoagulation therapy.