Improving Patient Safety:
Implementing a Clinical Pharmacist-led Anticoagulation Clinic

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Objective

Standardize anticoagulation management by utilizing a clinical pharmacist to improve patient safety.

Background

- Blood thinners, i.e. warfarin, are high risk medications due to their narrow therapeutic ranges, multiple drug interactions, serious potential side effects, and complex dosing.
- Management of anticoagulation medications is time-consuming and requires extensive medication knowledge.
- Pharmacists are well suited to provide standardized anticoagulation management with their in-depth knowledge of medications and drug interactions, and have been successfully managing anticoagulation programs for decades.
- The Joint Commission recognizes the risk of anticoagulation therapy with their creation of NPSG 03.05.01: Reduce the likelihood of patient harm associated with the use of anticoagulation therapy.

Planning and Implementation

Plan:
- Hire clinical pharmacist with experience in anticoagulation management
- Procure point of care meter and supplies
- Prepare office space
- Build anticoagulation clinic infrastructure in electronic medical record

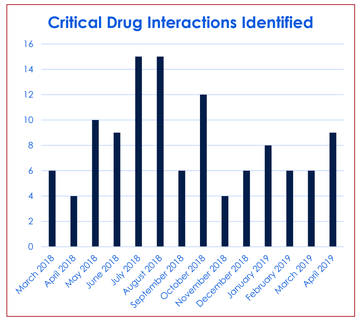
Implementation:
- Hired initial clinical pharmacist in September 2016 and second clinical pharmacist in Sept 2017
- Interdisciplinary team established: clinical pharmacist, clinic manager, chief medical officer, physicians, lab manager, nurse manager, admissions
- Collaborative practice agreement as well as anticoagulation clinic policy and procedures created and approved by medical staff.
- Warfarin educational handout and return to clinic cards created.
- Physician support by transfer of patients to the anticoagulation clinic for management
- Quality assessment reports built to measure outcomes

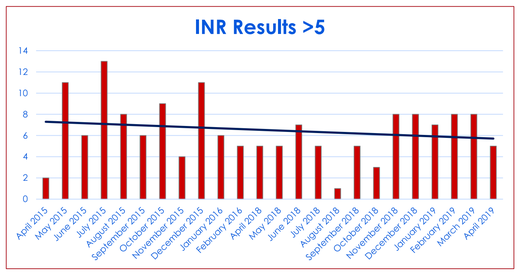
Safety Initiative Goals:
- Educate all new patients on warfarin
- Maintain anticoagulation clinic patient roster to avoid patients lost to follow up
- Routinely screen for warfarin drug interactions
- Monitor inpatients on warfarin

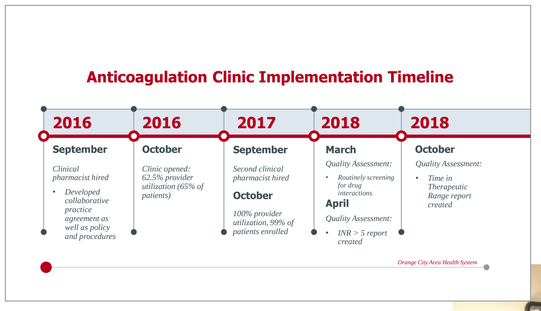
Other Goals:
- Improve patient satisfaction: immediate results with POC meter, consistent anticoagulation provider
- Standardize care
- Decrease workload burden for physicians and nurses

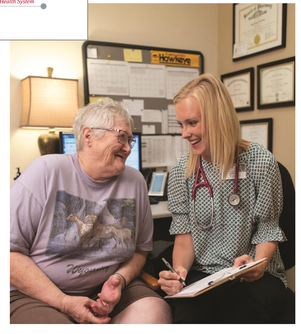
Data Collection

- INR results > 5
- Percent of patients enrolled in the anticoagulation clinic
- Number of critical drug interactions addressed per month









Analysis

- INR results > 5 decreased with anticoagulation clinic implementation
- 116 critical drug interactions identified from March 2018 to April 2019
- 99% of patients enrolled in the anticoagulation clinic as of April 2019

Additional benefits of adding clinical pharmacist to healthcare team:
- Resource for staff and patients for medication questions and cost issues
- Completion of medication reconciliation
- Review indications for warfarin and assist with discontinuing therapy or adjusting INR goal as indicated
- Liaison for warfarin interruption guidance for scheduled procedures
  - Create bridging schedules and order enoxaparin when necessary
- Evaluate appropriateness for home meter monitoring and assist with ordering and training for home meter

Next Steps

- Utilize time in therapeutic range report for quality assessment
- Program Expansion:
  - Inpatient anticoagulation management
  - Direct Oral Anticoagulant (DOAC) monitoring

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