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Assessment of Guideline Recommended Anti-Coagulation Rates for Atrial Fibrillation in an Outpatient Resident Clinic

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Introduction

- Atrial fibrillation is one of the most common arrhythmias with the propensity to cause a functionally debilitating or fatal stroke.1
- Guidelines recommend using the CHA2DS2-VASc risk score to calculate a patient’s annual stroke risk. This score is based on a patient’s past history of and risk factors for cardiovascular disease. Systemic anticoagulation is recommended for a value greater than or equal to 2.2
- We hypothesize that physician adherence with the anticoagulation guidelines in patients with atrial fibrillation is low in the Beaumont Outpatient Internal Medicine Resident Clinic.

Objectives and Methods

PRIMARY OBJECTIVE: to assess the anticoagulation rates in patients with atrial fibrillation in the Beaumont Outpatient internal medicine resident clinic.

SECONDARY OBJECTIVES:
1. Calculate the stroke risk using the CHA2DS2-VASc score to identify patients not on anticoagulation in whom it may be indicated.
2. Compare the percentage of patients with atrial fibrillation on anticoagulation in the Beaumont clinic to the national estimate of anticoagulation rates for atrial fibrillation.
3. Implement a plan-do-study-act (PDSA) quality improvement (QI) intervention to improve anticoagulation rates and reduce annual stroke risk for our clinic patients.

STUDY DESIGN: retrospective cohort and prospective PDSA-QI intervention.

SETTING: Outpatient internal medicine resident clinic, Beaumont Hospital, Royal Oak, MI.

PATIENTS: individuals ≥18 years of age who had at least one encounter in the resident clinic with the diagnosis of atrial fibrillation who were not on anticoagulation. (See flowsheet)

TIME PERIOD: January 2014-December 2018

CHA2DS2-VASc scores were calculated based on the medical history and problem list in their electronic medical record (Table 1).

INTERVENTION:
- Investigators sent letters to resident physician primary care providers informing them that their patient may be eligible for anticoagulation if CHA2DS2-VASc score ≥2.
- The impact of the intervention was assessed by evaluating if anticoagulation was prescribed to this population after 6 months.

Results

- The anticoagulation rate in patients with atrial fibrillation is 56.2% (387 of 688 patients) in the Beaumont resident clinic (Figure 1).
- 240 out of 301 eligible patients, or roughly 79.7%, have a CHA2DS2-VASc score of 2 or greater and may qualify for anticoagulation treatment (Figure 2).
- The anticoagulation rate in patients with atrial fibrillation at the Beaumont Outpatient internal medicine clinic is higher than the national average (56.2% vs. 44.9%) (Figure 3).3
- After the intervention, 12 out of 301 patients who were not on anticoagulation previously were found to now be on anticoagulation (Figure 4), 11 of whom had a CHA2DS2-VASc score ≥2.

Discussion

- A significant portion (79.7%) of patients in the resident clinic with a diagnosis of atrial fibrillation who are not on anticoagulation may qualify for it.
- The rate of anticoagulation in patients with atrial fibrillation nationwide and at the Beaumont outpatient resident clinic is suboptimal.3
- Our quality improvement intervention only minimally improved the rate of anticoagulation in our study population.

STUDY STRENGTHS:
- Study sample included all eligible patients.
- Low risk of ascertainment bias.

STUDY LIMITATIONS:
- The problem list, medical history, and medications of some patients may not have been updated in their electronic medical record at the time of data collection.
- Ascertaining the reasoning for why certain patients were purposely not placed on anticoagulation was not logistically possible given the constraints of the study.

References