

Using a Multidisciplinary Team in the ED for Initiation of Anticoagulation: A Study to Reduce Stroke at ED Discharge

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Background

- PINNACLE Registry August 2016
 - 40% of patients with atrial fibrillation (AF) and an intermediate to high risk of stroke were treated with Aspirin only by cardiologists⁴
- Emergency departments (ED) play a substantial role as a **safety net** for the management of AF quality measures for hospitals.
- AF is the most prevalent sustained arrhythmia encountered in the ED¹.
 - AF accounts for 3.6 to 7% of general emergency visits¹
- Anticoagulation is prescribed in less than 55% of eligible patients²
 - Barrett³ reported preliminary data from an ongoing prospective cohort of ED patients with symptomatic AF and flutter in which 3% (13/506) experienced a stroke within 30 days
 - 4 of these patients experienced a stroke within 5 days of their ED visit

Purpose

- **Primary Outcome**
 - Establish a transition of care protocol to help maintain the 2016 ACC/AHA Clinical Performance and Quality Measure for Adults with NVAF
 - Prescription for oral anticoagulant (OAC) for stroke prophylaxis upon discharge, regardless if discharged home or admitted, using a multidisciplinary team approach to maintain these guidelines

Purpose

- **Secondary Outcomes**

Readmission at 30 days comparing Guideline-based managed AF patients (Intervention) to Baseline AF patients discharged (Control)

Readmission at 6 months comparing Guideline-based managed AF patients (Intervention) to Baseline AF patients discharged (Control)

Compliance at 30 days in OAC treated NVAF patients verses warfarin treated NVAF

Compliance at 6 months in OAC treated NVAF verses warfarin treated NVAF

Warfarin INR at Emergency Department encounter

Adverse Events at 2 days, 14 days, 30 days and 6 months

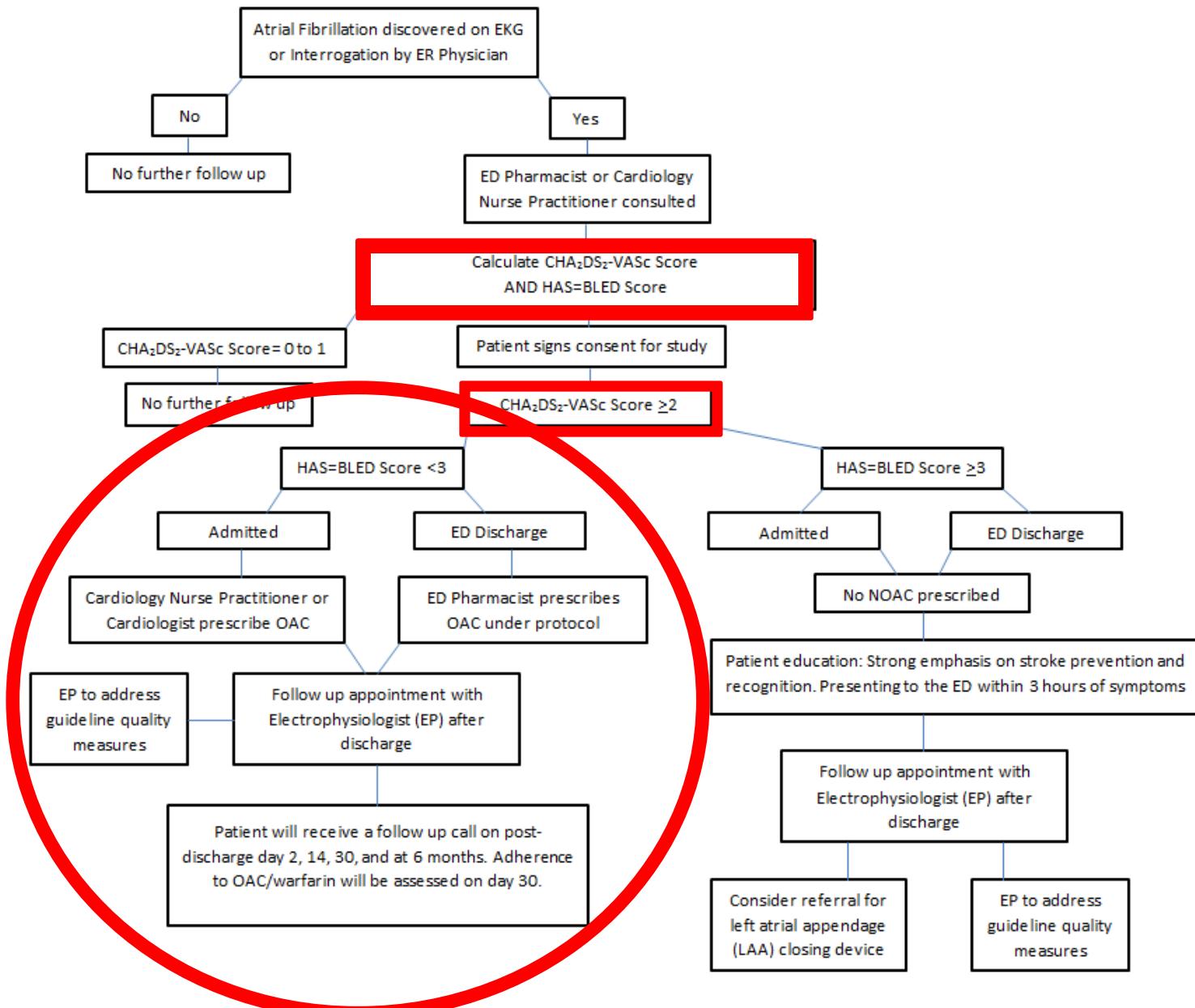
Study Design

- Observational, prospective cohort study with standardized data collection carried out at Sharp Chula Vista Emergency Department with the goal of stroke prophylaxis in NVAF patients who are not currently on OAC therapy

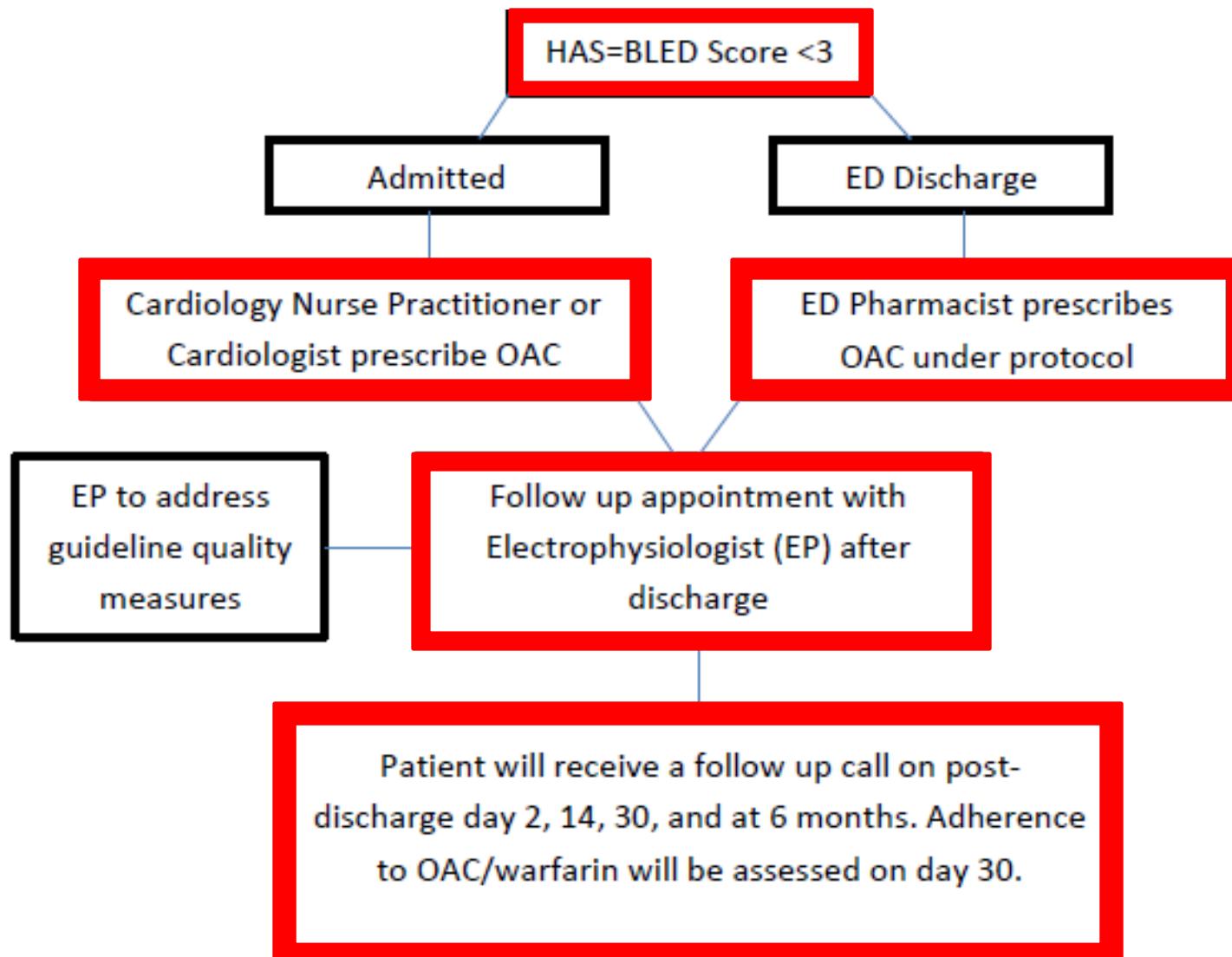
Study Design cont.

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none">• > 18 years of age admitted to SCV Emergency Department• Admitted with a primary diagnosis of NVAF or co-morbid NVAF• Physician considered demonstrated atrial fibrillation necessary for clinical evaluation	<ul style="list-style-type: none">• Receiving oral antithrombotic therapy for an indication other than NVAF• Enrolled in a clinical trial• Current stroke (ischemic or embolic)• Valvular AF• Hemodynamic instability• Hospital admission or surgical admission in the last 6 months

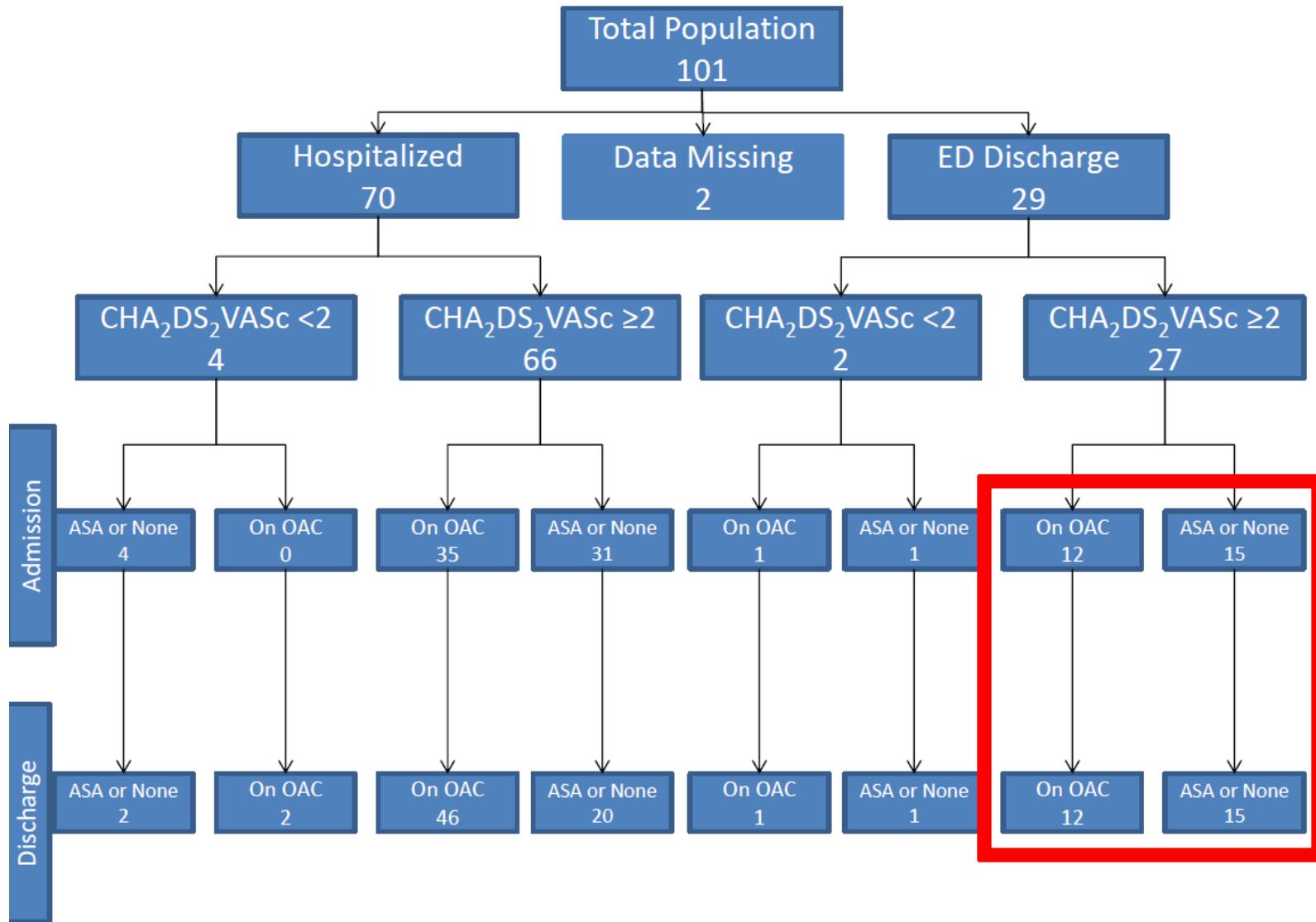
Sharp CV Transition of Care Protocol for NVAF



Sharp CV Transition of Care Protocol for NVAF

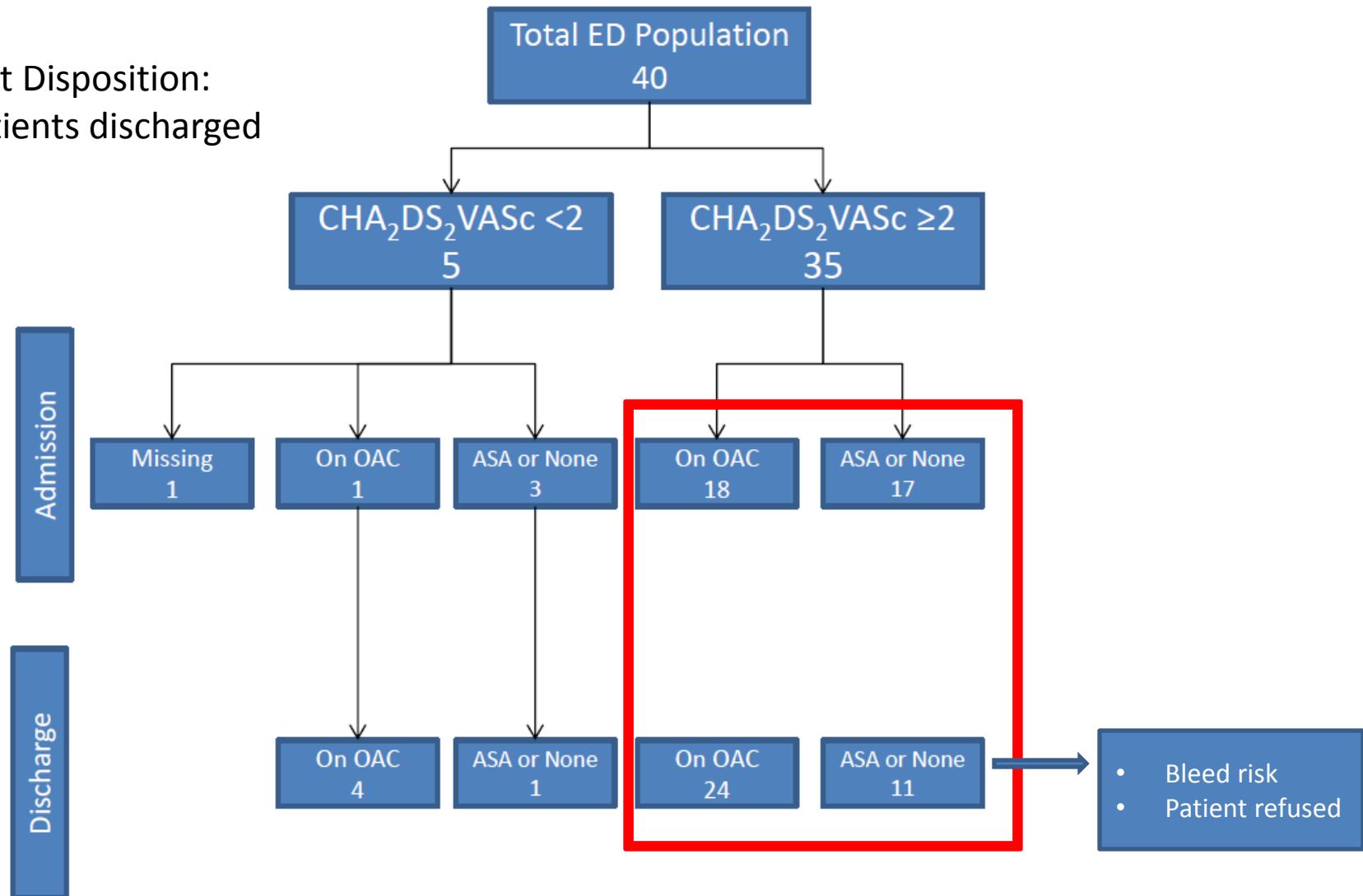


Baseline ED Cohort



Multidisciplinary Team Cohort

Patient Disposition:
All patients discharged



Baseline Cohort

	ED Discharge	Hospital Stay
Number	29	70
Female	14 (48.3%)	37 (52.9%)
Age (SD)	78 (11.6)	73.8 (12.5)
CHA ₂ DS ₂ -VASc Score	4.4 (1.8)	4.7 (2.1)
HASBLED Score	2.6 (0.9)	2.6 (1.2)
Anticoagulation at Admission	12/27 (44%)	35/66 (53%)
CHA ₂ DS ₂ -VASc Score \geq 2		
Anticoagulation at Discharge	12/27 (44%)	46/66 (70%)
CHA ₂ DS ₂ -VASc Score \geq 2		
No Therapy or ASA at Discharge	1/2 (50%)	2/4 (50%)*
CHA ₂ DS ₂ -VASc Score <2		

*Other 2 were on anticoagulation

Multidisciplinary Team Cohort

	ED Discharge
Number	40
Female	22 (56.4%)
Age (SD)	74 (15)
CHA ₂ DS ₂ -VASc Score	3.7 (1.9)
HASBLED Score	2 (1.1)
Anticoagulation at Admission	18/35 (51.4%)
CHA ₂ DS ₂ -VASc Score \geq 2	
Anticoagulation at Discharge	24/35 (68.6%)
CHA ₂ DS ₂ -VASc Score \geq 2	
No Therapy or ASA at Discharge	1/5 (20%)
CHA ₂ DS ₂ -VASc Score <2	

*Others on anticoagulation

Hospitalized Patients (Control Group)

	On OAC	Not on OAC
Admission	35	31
Discharge	46	20

McNemar Chi-Square statistic is 2.9221

p-value= 0.08738

Patients Discharged From ED* (Intervention Group)

	On OAC	Not on OAC
Admission	18	17
Discharge	24	11

McNemar Chi-Square statistic is 1.195

p-value= 0.2743

* Due to small numbers → the Fisher's Exact Test p-value= 0.067703

Results

- In the Baseline ED Cohort, 70.7% (70/99) of patients were hospitalized with 29.3% (29/99) being directly discharged to home.
- In patients on warfarin on ED admission and INR values available, the Time in Therapeutic Range (TTR) were:
 - INR 2-3 = 33.3% (12/36)
 - INR 1.8-3.1 = 55.6% (20/36)
- In the Baseline ED Cohort (BEDC) vs. the Multidisciplinary Team Cohort (MTC) with CHA₂DS₂-VASc Score ≥ 2 (eligible for, but not currently anticoagulated) and discharged:
 - 0% (0/15) received anticoagulation (BEDC)
 - 35.3% (6/17) received anticoagulation (MTC)

Discussion

- Provider/ER physician hesitancy in prescribing OACs due to lack of awareness/education. No ER guidelines.
- MD/provider “ping pong”

Future

- ACC to collaborate with ED organizations to create ED specific guidelines
- ER/provider education-improvement in quality with Medicare outcomes
- Electrophysiologist referral with call schedule
- Referral to outpatient clinic for monitor and follow up
- Discussion and direction for primary MD, Cardiologist, and Electrophysiologist

References

1. Coll-Vinent B, Martín A, Malagón F, HERMES-AF Investigators, et.al. Stroke prophylaxis in atrial fibrillation: searching for management improvement opportunities in the emergency department: the HERMES-AF study. *Annals of emergency medicine*, 2015;65(1), 1-12.
2. Lane DA, Lip GY. Use of the CHA2DS2-VASc and HAS-BLED scores to aid decision making for thromboprophylaxis in nonvalvular atrial fibrillation. *Circulation*, 2012;126(7), 860-865.
3. Barrett, TW, AB Storrow, and CA Jenkins. "The AFFORD Clinical Decision Aid to Identify Emergency Department Patients with Atrial Fibrillation at Low Risk for 30-day Adverse Events." *Am J Cardiology*, 06 Jan. 2015. Web. 13 Oct. 2016.
4. PINNACLE Registry Aug 2016. *J Am Coll Cardiol*. 2016; 67 (25):2913-2923.