Reviewer's report

Title: Risk Factors for Medication Non-Adherence among Atrial Fibrillation Patients

Version: 0 Date: 25 Nov 2018

Reviewer: Supriya Shore

Reviewer's report:

In this manuscript, Dr. Reading et al describe risk factors for medication non adherence in a cohort of patients with atrial fibrillation. The strength of this manuscript is the large cohort size. However, I have some additional comments tabulated below:

Major comments

1. Which medications are the authors assessing adherence to? Were these questions assessing adherence specifically to medications related to atrial fibrillation or were they generic questions enquiring about all medications prescribed. This is important to clarify since if these questions were not with regards to atrial fibrillation medications (Anticoagulants/anti-arrhythmics/rate control medications), could the authors please clarify how this manuscript differs from prior work related to predictors of medication adherence among patients with cardiovascular disease.

2. In their definition of non-adherence, cut offs based on answers to questions 1 to 3 are not consistent. Not taking medications once per week would still imply an adherence rate >85%.

3. Since the dataset used is within an integrated healthcare system, is it possible to calculate adherence based on prescription refill data? The reported non-adherence rates are extremely low suggesting lack of sensitivity in identifying non-adherent patients.

4. How do the authors explain hypertension as a risk factor for better medication adherence?

5. Patients with a CHADS2 score of 0 were more likely to be non-adherent. However, these patients are unlikely to be on anticoagulants for atrial fibrillation implying this refers to adherence to other medications related to coexisting medical comorbidities. This again would not be specific to patients with atrial fibrillation. Also, instead of CHADS2 score can the authors provide more commonly used CHADSVASc score?
6. Can time from diagnosis of atrial fibrillation be included in the model? Most literature suggests that adherence rates decline with time.

7. Do the authors have data on how many medications were prescribed per patient? Polypharmacy is another proposed risk factor for non-adherence and should be included in the model if possible.

Minor comments

In introduction, para 2 line 45 - the authors state "complexity of dosing may increase or decrease adherence." How does complex medication dosing increasing adherence?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes

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I am able to assess the statistics

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