Expanding Guideline-Directed Statin Usage in Diabetic Patients

By: Nirali Patel DO MS, Jared Kozal MD, Elizabeth Darsan MD, Andria Matthews MD MPH, Adelaide Sefah MD, Carli Wallace MD, Aakash Kaushik MD, Christina Corpus DO, Oyinda Tunde-Byass MD, Kenia Mansilla-Rivera MD, Timothy Lishnak MD, Robert Anderson BS, Emil Coman PhD; University of Connecticut/St Francis Family Medicine Residency

Background

Diabetic patients have a 2 to 4-fold increased risk of atherosclerotic cardiovascular disease (ASCVD) and stroke compared to their counterparts without diabetes as well as a 1.5 to 3.6-fold increase in mortality [4][7][8]. According to the American Diabetes Association, ASCVD is the leading cause of morbidity and mortality for individuals with diabetes [2]. Patients with type 2 diabetes have an increased prevalence of lipid abnormalities which contribute to elevated risk for ASCVD [1][3]. In the general population, statins have been shown to improve the outcomes in patients with high baseline risk for ASCVD, however, statin therapy has been shown to be beneficial in diabetics specifically with moderate or low risk for ASCVD [1][5][7]. One meta-analysis of >18,000 patients in 14 randomized trials which demonstrated a 13% reduction in vascular mortality for each mmol/L (39mg/dL) reduction in LDL cholesterol [1][6]. Despite the initiation of national clinical guidelines, not all diabetic patients are on statin medications.

Our project aims to increase the number of diabetic patients who are on statin therapy at our office. We will compile a list of all diabetics between the ages of 40-75 and determine whether or not they are on a statin and more specifically the correct dose. We will develop a standardized diabetic visit template with hard stops encouraging the provider to indicate the patient's statin status and ASCVD risk score prior to submitting the note. Additionally, during didactics, we will present the latest diabetes and statin guidelines to ensure that all office providers and staff are up to date. Furthermore, for diabetic visits, we will create and implement a workflow for nursing staff to specifically look for “statin” while they are reviewing medications with the patient prior to providers coming into the room. If staff notice the patient is not on a statin, the provider will be informed prior to entering the room.

After implementation of new strategies, we will reanalyze the data to compare before and after results. The significance of the results will be calculated through a T-test. We anticipate that there will be a significant increase in statin prescription amongst diabetic patients at Asylum Hill after our interventions.

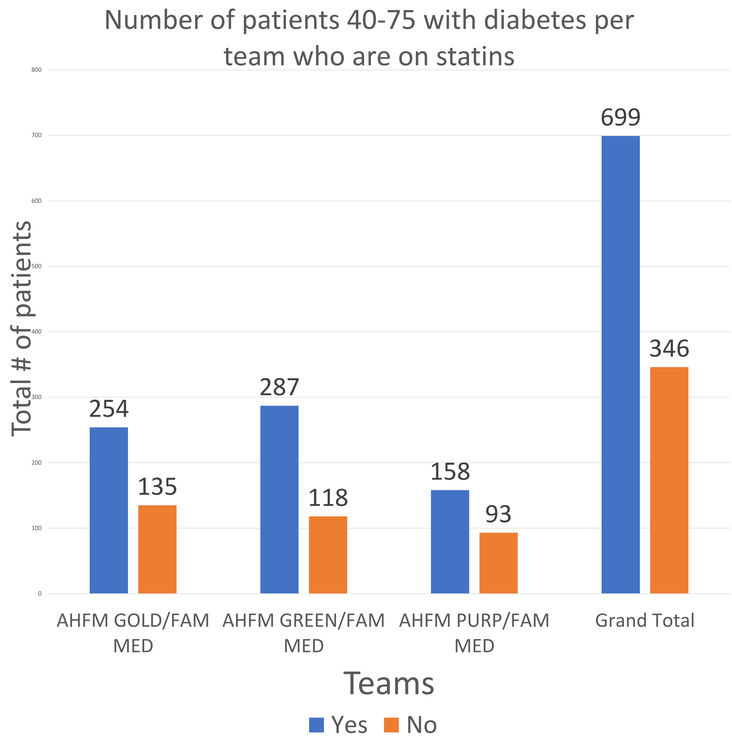
Methods

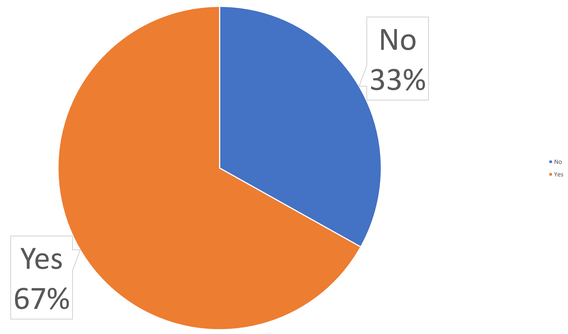
To increase the statin prescription in the number of diabetic patients in AHFM clinic, a presentation on current statin guidelines will be provided to the providers as well as a FAQ sheet on statins. This will allow all providers to have the same knowledge and which patients to focus on. A standardized dot phrase for diabetes visits will also be created that will allow providers to indicate whether patient is on a statin and document if not, document the discussion and whether patient agrees to initiation of statin therapy or not.

Intervention
-Data will be collected to identify all diabetic patients at AHFM between the ages of 40-75 and whether they are on statin therapy and the data will be provided to individual providers
-During didactics, providers will be given a presentation outlining the current statin guidelines for patients with diabetes and the benefits of statin therapy, as well as statin FAQ sheet.
-A standardized smartphrase (dot phrase) will be created for clinicians to utilize during diabetes visits. It will allow clinicians to quickly identify if patients are on statin and if not, discuss initiation
-Clinicians will document any statin refusal by patients under health maintenance

Projected Outcome
This quality improvement will take place in an underserved urban population. The office is divided into three teams consisting of providers and staff. The teams are “Green Team,” “Gold Team,” and “Purple Team.” With our interventions, we project an increase in the number of diabetic patients who are on statin therapy by the end of the academic year across all teams.

Preliminary Results





Pre-intervention results show us that approx. 33% of patients across the practice are not on statins. After intervention we expect this number to increase.

Contact

Aakash Kaushik, MD
[UConn Family Medicine Residency Program]
[Asylum Hill Family Medicine]
[aakash.kaushik@trinityhealthofne.org]

References

[1] American Diabetes Association; 8. Cardiovascular Disease and Risk Management. *Diabetes Care* 1 January 2016; 39 (Supplement_1): S60–S71. doi:10.2337/dc16-S011
[2] American Diabetes Association. 9. Cardiovascular Disease and Risk Management: Standards of Medical Care in Diabetes-2018. Diabetes Care 2018;**41**:S86–104. doi:10.2337/dc18-S009
[3] Baigent C, Keech A, Kearney PM, Blackwell L, Buck G, Pollicino C, Kirby A, Sourjina T, Peto R, Collins R, Simes R; Cholesterol Treatment Trialists' (CTT) Collaborators. Efficacy and safety of cholesterol-lowering treatment: prospective meta-analysis of data from 90,056 participants in 14 randomised trials of statins. Lancet. 2005 Oct 8;366(9493):1267-78. doi: 10.1016/S0140-6736(05)67394-1. Epub 2005 Sep 27. Erratum in: Lancet. 2005 Oct 15-21;366(9494):1358. Erratum in: Lancet. 2008 Jun 21;371(9630):2084.
[4] Bertoluci MC, Rocha VZ. Cardiovascular risk assessment in patients with diabetes. Diabetol Metab Syndr. 2017 Apr 20;9:25. doi: 10.1186/s13098-017-0225-1.
[5] Carter A A, Gomes T, Camacho X, Juurlink D N, Shah B R, Mamdani M M et al. Risk of incident diabetes among patients treated with statins: population based study *BMJ* 2013; 346 :f2610 doi:10.1136/bmj.f2610
[6] Cholesterol Treatment Trialists' (CTT) Collaborators, Kearney PM, Blackwell L, Collins R, Keech A, Simes J, Peto R, Armitage J, Baigent C. Efficacy of cholesterol-lowering therapy in 18,686 people with diabetes in 14 randomised trials of statins: a meta-analysis. Lancet. 2008 Jan 12;371(9607):117-25. doi: 10.1016/S0140-6736(08)60104-X.
[7] Taylor F, Huffman MD, Macedo AF, Moore TH, Burke M, Davey Smith G, Ward K, Ebrahim S. Statins for the primary prevention of cardiovascular disease. Cochrane Database Syst Rev. 2013 Jan 31;2013(1):CD004816. doi: 10.1002/14651858.CD004816.pub5.