

May 6, 2019

# Improving Physician Office Quality Measures by Evaluating Statin Prescribing in Type 2 Diabetic Patients

Choniece Phillips

Kathleen Dawson

Lindsay Roberts

Jamie McConaha

Megan Bookser

Follow this and additional works at: <https://dsc.duq.edu/urss>

Part of the [Other Pharmacy and Pharmaceutical Sciences Commons](#), and the [Pharmacy Administration, Policy and Regulation Commons](#)

---

Improving Physician Office Quality Measures by Evaluating Statin Prescribing in Type 2 Diabetic Patients. (2019). Retrieved from <https://dsc.duq.edu/urss/2019/proceedings/7>

This Paper is brought to you for free and open access by Duquesne Scholarship Collection. It has been accepted for inclusion in Undergraduate Research and Scholarship Symposium by an authorized administrator of Duquesne Scholarship Collection.

# **Improving Physician Office Quality Measures by Evaluating Statin Prescribing in Type 2 Diabetic Patients**

Kathleen Dawson, Choniece Phillips, Lindsay Roberts, PharmD Candidates 2020;

Megan Bookser, PharmD; Jamie McConaha, PharmD

## **Abstract**

### **Objective**

The focus of this study was to evaluate the impact of pharmacist' intervention on quality metrics focusing on patients with a diagnosis of diabetes mellitus type II (T2DM) not currently prescribed statin therapy.

### **Methods**

This retrospective cohort investigational study was conducted in four lowest performing office locations of a nineteen regional primary care physician group practice. Inclusion criteria were diagnosis of T2DM without active statin therapy. Data was excluded from analysis for patients younger than age 40 or older than age 75, or if the most recent LDL documented was less than 70 mg/dL. Recommendations for initiation of statin therapy were sent electronically to the patient's primary care physician via EMR software.

### **Results**

Preliminary screening in March 2018 demonstrated a total of 2206 patients diagnosed with T2DM, for which 790 patients were not actively prescribed statin therapy. 468 patients were identified as eligible for statin therapy. Endpoint analysis in November 2018 showed that of the initial 468 patients who were eligible for a statin, 74 had been prescribed a statin, and 23 patients fell out of study criteria.

### **Implications**

The efficacy of statin interventions is supported by the practice entity's improvement in STAR ratings for the Medicare Advantage populations, in which two major payer groups saw increases in statin

use in diabetes measures. Standard of care combined with pharmacist-led interventions correlated to a 4-STAR rating for the practice entity as of October 2018. Pharmacists can play an important role in helping physicians meet these quality metrics.

## **Background**

The Centers for Medicare & Medicaid Services utilize “star ratings” to measure how beneficiaries utilize their individual health plans and the healthcare system. Star ratings are on a 5-star system, with a 5/5 possible stars representing a high percentage of patient utilization and fulfillment across various measures. Several pharmacy-based measures are included in star ratings, such as medication adherence, medication safety, and utilization of disease state-determined medications. Pharmacists can assist with meeting these measures by monitoring and intervening on patients with open “gaps” during the patient care process. Medicare insurance plans have begun to hold pharmacies and physician practices accountable to increase star ratings, which improves the quality of patient care. By increasing star ratings, physicians and pharmacists decrease Medicare costs, which increases reimbursements and potentially additional incentives to physician practices and pharmacies.<sup>1</sup>

One specific quality measure that pertains to this study is Statin Use in Persons with Diabetes (SUPD). This quality marker measures the percentage of beneficiaries age 40-75 years old, who received at least two fills for a diabetes medication and received statin therapy at any point during the measurement period.<sup>2</sup> In order to be rated a 5 star in this measure, 83% of patients enrolled in a health plan, at a doctors’ office or pharmacy must have at least two fills of diabetes medications and received a statin. For a 4 star, 80% is required, 3 star 76% is required, 2 star is 72% and a 1 star is <72%. This measure is triple weighted under the Centers for Medicare and Medicaid. The SUPD rating, as well as other ratings, is just one of the ways that pharmacies and physician practices can be measured on their performance relative to prescribing guidelines, patient safety, and medication adherence.

Type 2 diabetes mellitus (T2DM) impacts multiple organ systems, including the cardiovascular system. Patients with diabetes are two times more likely to develop heart disease or have a stroke.<sup>3</sup> Given this increased risk, statin medications are recommended for use in patients with diabetes in order to prevent potential cardiac events. At the time of this study, the 2013 American College of Cardiology and American Heart Association guidelines on the treatment of blood cholesterol recommended to initiate statin therapy for diabetic patients with the following characteristics: 40-75 years old, LDL-C (low-density lipoprotein) 70-189 mg/dL, and calculated 10-year ASCVD risk score to determine statin intensity.<sup>4</sup> Calculated 10-year ASCVD risk score determines the likelihood of a patient to have cardiac event in the next 10 years. This score considers the patient's history of hypertension, blood pressure medication use, cholesterol medication use, cholesterol levels, age, race, sex, diabetes diagnosis and smoking status. 10-year ASCVD risk scores less than 7.5% indicate a patient should be taking at least a moderate-intensity statin, whereas a score greater than or equal to 7.5% suggest a high-intensity statin be utilized.<sup>5</sup> Given the background, training, and familiarity with medications, pharmacists are well-positioned to work collaboratively with other members of the health care team to impact the appropriate prescribing of statins.<sup>6</sup>

### **Purpose and significance of the study**

The prescribing of statins is a standard recommendation for patients diagnosed with type 2 diabetes mellitus. The prescribing of moderate intensity statins is a Class I recommendation per the 2013 ACC/AHA guidelines, and the prescribing of high intensity statins is a Class IIa recommendation. Statin medications can help to prevent complications in these patients, including cardiovascular events, vascular death, and all-cause mortality.<sup>7</sup> Pharmacists, especially in the primary care setting, can impact the prescribing of statin medications and assist with patient adherence to the medication, positively contributing to the quality measures associated with statin use in patients with diabetes.<sup>8</sup> The focus of this

study was to evaluate the impact of pharmacists' intervention on quality metrics focusing on patients with a diagnosis of Type 2 diabetes mellitus (T2DM) not currently prescribed statin therapy.

## **Methods**

This was a retrospective cohort investigational study. The study population included adults with a diagnosis of type II diabetes mellitus (T2DM) at four office locations of a regional primary care physician practice group in Pittsburgh, PA, between March 2018 and November 2018. Patients were included based on a diagnosis of type II diabetes mellitus and age 40 to 75 years old. The patients were identified based off of the current guidelines for the treatment of blood cholesterol at the time of the study, which were the 2013 American College of Cardiology and American Heart Association guidelines. Patients were excluded if their most recent LDL-C level  $< 70$  mg/dL, as these patients did not qualify to receive a statin medication. Patient recruitment and identification were determined by the electronic medical record.

Patient data containing T2DM diagnoses and concurrent statin use status was obtained from a report generated from the practice group's electronic medical record (Centricity™) and population health software (Enli CareManager™). Data collected included: patient age, ASCVD risk score, most recent LDL-C, total cholesterol, HDL, diagnosis of type II diabetes Mellitus, medication list and history, allergies, smoking status, race, and if they are currently on hypertension treatment. If the ASCVD risk score was not reported, this was calculated by the pharmacist using the American College of Cardiology risk calculator. Information needed for this calculation can be found in the EMR software, including blood pressure, race, age, gender, diabetes diagnosis, smoker, total cholesterol, LDL cholesterol, and treatment for hypertension. Once the patients were identified as eligible for inclusion, each patient was individually screened for exclusion criteria, and their ASCVD risk score was evaluated. If the patient had an ASCVD risk score  $>7.5\%$ , he or she was qualified for a high intensity statin (e.g. atorvastatin 40-80mg, rosuvastatin 20-40mg). If the patient had an ASCVD risk score of  $<7.5\%$ , he or she qualified for a moderate intensity statin (e.g. atorvastatin 10-20mg, rosuvastatin 5-10, simvastatin 20-40 mg,

pravastatin 20-40 mg). The pharmacists' recommendation was individualized per the patient characteristics. Data related to rationale of statin prescribing was obtained from pharmacist-led review of patient charts in the EMR.

### **Data Analysis**

The rationale for prescribing was determined using a standardized key which was then reviewed by the pharmacist. This included identifying if a patient fell into a moderate or high intensity statin group. The pharmacist sent requests to primary care physicians to add statin therapy to a patient's medication regimen through the electronic medical record using a note in the individual patient's chart. The request included a specific statin agent and dose intensity to coincide with patient health characteristics. Other rationales for prescribing identified by the standardized key included; office visit, annual wellness visit, non- diabetes mellitus group, hospital discharge and "other". The "other" rationale included patients who were prescribed statin therapy without a definitive rationale that could be identified using the standardized key.

The preliminary screening included 2206 patients with a diagnosis of T2DM in March 2018. At this time, 790 patients with T2DM were not currently being prescribed a statin medication, and 468 of these patients met the inclusion criteria. The endpoint analysis took place in November of 2018. Of the 468 eligible patients who met inclusion criteria during the preliminary screening, 74 patients were prescribed a statin medication. 371 eligible patients without a statin remained and 23 fell out of study criteria. Of the 74 patients that were prescribed a statin medication, the breakdown of statin prescribing rationales is shown in Table 1.

Office Visit	43
Annual Wellness Visit	7
Direct Pharmacist Intervention	5
Non-DM Benefit Group	7
Hospital Discharge	5
Other	7

**Table 1.** Patients initiated on statins (74 patients).

## **Discussion**

The efficacy of statin interventions is supported by the practice entity's improvement in SUPD star ratings in the Medicare Advantage populations. With pharmacist interventions included in the effort to increase statin prescribing in patients with type II diabetes, the practice entity's SUPD ratings increased from a 2-star rating to a 4-star rating. Pharmacists can play an important role in helping physician groups meet these quality metrics associated with statin use in diabetes. By including this type of intervention into the pharmacist's work effort, primary care practices are able to justify the inclusion of an embedded pharmacist on the care team. Pharmacists are able to identify eligible patients, clinically evaluate the patient and the appropriateness of statin therapy, and communicate with patients and providers to ultimately fulfill quality metrics and enhance the quality of care provided to the patient.

## **Limitations**

One limitation of this study was the pharmacists' availability for direct statin prescribing interventions. There are 1.5 full-time equivalent pharmacists for 19 physician practices, so the pharmacist

was not always available for these direct interventions based on their other work efforts. Another limitation was that patients fell out of study criteria. Some examples of patient fall out include T2DM diagnosis removal from the problem list, an LDL-C decreasing to less than 70 mg/dL during the study period, and turning 76 years old.

### **Future studies**

Future studies should be done to determine the appropriateness of prescribed statin intensity based on patient characteristics and statin benefit group. Another determinate could be the cost-effectiveness of statin prescribing interventions of an embedded primary care pharmacist. Further considerations should be given to impact of pharmacist interventions across larger patient populations to determine the efficacy of a population health approach to SUPD fulfillment.

In conclusion, pharmacists' intervention on prescribing can increase the ratings of the quality metrics and improve patient medication regimens and overall health. The SUPD star ratings were evaluated to find that pharmacists can intervene in a variety of ways to increase the prescribing of statin medications in patients with type 2 diabetes mellitus. Pharmacists are in a prime spot to evaluate the quality metrics and develop programs to improve these metrics in primary care practice settings. While the findings of this study are not generalizable, further studies should be done to evaluate and support the implementation of ambulatory care pharmacists into physician offices to increase various star rating measures, patient adherence, and prescribing of recommended medications.

## References

1. Medicare 2019 Part C & D Star Ratings Technical Notes. *Center for Medicare and Medicaid Services*. Sep 2018.
2. Medicare 2019 Star Rating Threshold Update. *Pharmacy Quality Solutions*. October 2018
3. Diabetes Quick Facts. Centers for Disease Control and Prevention.  
<https://www.cdc.gov/diabetes/basics/quick-facts.html>. Published May 11, 2018. Accessed January 14, 2019.
4. Stone, Neil J., et al. "2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines." *Journal of the American College of Cardiology* 63.25 Part B (2014): 2889-2934.
5. Grundy SM, Stone NJ, Bailey AL, et al. 2018  
AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol. *Journal of the American College of Cardiology*. 2018.  
doi:10.1016/j.jacc.2018.11.003.
6. Tsuyuki, Ross T., et al. "A randomized trial of the effect of community pharmacist intervention on cholesterol risk management: the Study of Cardiovascular Risk Intervention by Pharmacists (SCRIP)." *Archives of internal medicine* 162.10 (2002): 1149-1155.
7. Zoungas S, Patel A. Cardiovascular outcomes in type 2 diabetes: the impact of preventative therapies. *The New York Academy of Sciences*. Nov 2010;1212 (1).  
<https://doi.org/10.1111/j.1749-6632.2010.05837.x>
8. Tsuyuki, Ross T., et al. "A randomized trial of the effect of community pharmacist intervention on cholesterol risk management: the Study of Cardiovascular Risk Intervention by Pharmacists (SCRIP)." *Archives of internal medicine* 162.10 (2002): 1149-1155.