

Impact of the 2019 Statin Use in Persons with Diabetes (SUPD) Fax Program on Statin Medication Use in Medicare Members with Diabetes

S.W. Champaloux¹; P.P. Gleason^{1,2}. ¹Prime Therapeutics LLC, Eagan, MN, United States; ²University of Minnesota College of Pharmacy, Minneapolis, MN, United States.

No external funding provided for this research

BACKGROUND

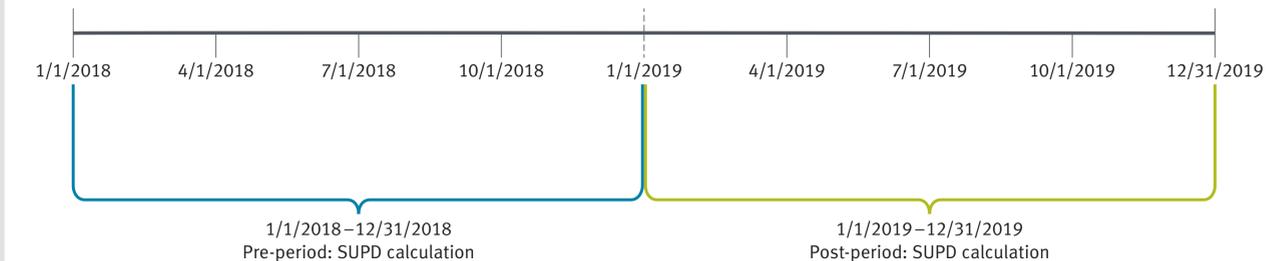
- Statin drug therapy among individuals with diabetes mellitus (aka, diabetes) has been shown to prevent cardiovascular events and reduce health care costs.¹
- “CMS created the Part C & D Star Ratings to provide quality and performance information to Medicare beneficiaries to assist them in choosing their health and drug services during the annual fall open enrollment period.”²
- Statin use in persons with diabetes (SUPD) is one of many metric measures used to calculate a CMS Part C or D single Star Rating; however, the SUPD measure has greater importance as it is triple weighted.²
- To increase statin use in Medicare members with diabetes and potentially improve the plan sponsor's overall Star Rating, Prime Therapeutics began a SUPD prescriber fax program in 2019. The program was designed to identify members with diabetes who did not have a statin pharmacy benefit claim(s) and send a fax to the member's prescriber(s) recommending statin medication therapy.
- Little is known of the independent impact prescriber faxes have on CMS Star measures.

OBJECTIVE

- To assess the impact of the SUPD prescriber fax program on Medicare insured members with diabetes statin use, comparing percentage of statin use among members with diabetes to a concurrent control group during calendar year 2018, prior to program initiation, to 2019 when the program occurred.

FIGURE 1

Analytic Timeline for the Difference-in-Difference Analysis, Pre-Period versus Post-Period



Analytic Timeline compared the pre-period (2018) to post-period (2019). The year-over-year statin use difference for the SUPD prescriber fax group was compared to a concurrent control population. Abbreviations: SUPD: Statin Use in Persons with Diabetes Star measure.

METHODS

- Administrative pharmacy claims and membership eligibility data were used from Prime Therapeutics' database.
- The study design was a retrospective cohort analysis incorporating a difference-in-difference analytic method using a concurrent control group. The pre-period was defined as calendar year 2018, and the post-period was defined as calendar year 2019.
- Members in a Medicare contract that participated in the SUPD prescriber fax program intervention were identified, and a control group was established from members in contracts that did not participate in the SUPD prescriber fax program.
- A yearly percentage of members with diabetes who had a statin claim was defined using CMS Star SUPD criteria; members were required to have one paid claim for a statin during the calendar year.³ The analysis was limited to members with diabetes who qualified in both years for CMS Star SUPD measurement criteria.
- Assessing the improvement of the SUPD program also required statistically adjusting for the presence of medication adherence-related programs that Prime Therapeutics offers for Medicare contracts, as medication adherence-related outreaches may have an influence on the initiation of guideline-recommended statin therapy.
- Therefore, we adjusted for the following programs:
 - Star formularies is a program that lowers cost shares to near zero for generic medications within the Star adherence drug categories including statins.
 - Pharmacist outreach is a program that identified individuals who had a high probability of calendar-year medication non-adherence from a predictive model and rank-prioritized each member for a pharmacist call.
 - Quality Based Networks are pharmacy networks that implement solutions to improve quality, including medication adherence, to CMS Star adherence categories, e.g., statins.

Analytic Population Identification

- 1.4 million Medicare members from Blue Cross Blue Shield plans that contracted with CMS to provide Medicare pharmacy benefits across the United States were initially examined, and 79,754 members met analytic criteria: SUPD prescriber fax group (N=58,237) and control group (N=21,517).
- Members were identified for the analysis using the following criteria:
 - CMS SUPD Star requires that members were age 40 to 75 years and had two diabetes medication paid claims within the calendar year.
 - Members were required to meet the diabetes medication use criteria in both calendar year 2018 and 2019.
 - Members needed to have continuous enrollment for 2018 and 2019.
 - Contracts in the SUPD fax program were required to have at least 25 prescriber faxes during the year.
- From the above criteria, we identified a final analytic population (N=79,754).
- The total count of members utilizing diabetes medication in 2018 and 2019 was 239,181. Member attrition is explained below.
 - Exclusion #1: There were 102,766 members excluded due to not meeting the 2018 and 2019 enrollment and two diabetes medication claims in 2018 and 2019.
 - Exclusion #2: There were 54,926 members excluded due to age not within 40 to 75 years.
 - Exclusion #3: There were 1,734 members excluded because they were in contracts with fewer than 25 prescriber faxes sent.
- After members were identified, statin use in calendar year 2018 and 2019 was measured using CMS SUPD criteria. The criteria required one paid claim for a statin medication during the calendar year. Statins were identified from the Pharmacy Quality Alliance drug list.⁴

- A difference-in-difference study was conducted to assess the improvement in yearly statin use among members with diabetes in contracts that participated in the SUPD fax program in calendar year 2019 versus baseline calendar year 2018 compared to a concurrent control group⁵ (Figure 1).

Outcomes Measurement

- Year-over-year percentage point change in statin use among members with diabetes aged 40-75 from calendar year 2018 to 2019.

Statistical Analysis

- SAS 9.4 (SAS Institute Inc., Cary, NC) was used for all analyses.
- Descriptive statistics of the statin use fax program and control group were completed (Table 1). A t-test was used to compare the mean unadjusted 2018 to 2019 percentage point difference in the SUPD fax group versus the control group.
- Generalized estimating equation models with logistic regression were fit to estimate year-over-year statin use for fax program contracts compared to control contracts that did not implement the statin use fax program, adjusting for gender, age, ZIP code-derived socioeconomic factors, other concurrent medication quality improvement programs such as pharmacist member outreach, and plan type (Medicare Advantage versus Prescription Drug Plan-only).
- Odds ratios (OR) and 95% confidence intervals (CI) were generated.
- A p-value of less than 0.05 was considered statistically significant for all analyses.
- Potential interactions were examined and then stratification occurred to account for the interactions with year-over-year statin use.

RESULTS

- Of the 1.4 million total Medicare members, 79,754 met inclusion criteria: SUPD prescriber fax group of 58,237 members and control group of 21,517 members. After baseline characteristics were examined, an outlier contract with 4,213 members out of the 21,517 member control group was identified and removed from analysis leaving 17,304 members in the control group and a total analytic population of 75,541 members.
- The statin use prescriber fax group had a higher percentage of MAPD members and a higher percentage of contracts in the star formularies program compared to the control group.
- There was a statistically significant unadjusted year-over-year 0.8 percentage point larger increase (p<0.01) in statin use among contracts with the fax program compared to controls.

- A significant positive statistical interaction was found between the pharmacist outreach program and the SUPD prescriber fax program indicating the effect of statin use was amplified by contracts that had both the SUPD prescriber fax program and pharmacist outreach program.

- Due to the interaction, stratification was performed on the two programs. The largest year-over-year improvement was found in contracts that had both the SUPD prescriber fax program and the pharmacist member outreach program with a 1.2 percentage point larger increase compared to controls, p<0.01, followed by contracts that participated in the SUPD prescriber fax program but not the pharmacist member outreach program at a 0.6 percentage point larger increase compared to controls, p<0.01 (Table 2).

- Among contracts without a pharmacist member outreach program, there was a 5 percent higher adjusted odds of statin use from 2018 to 2019 for the prescriber fax program contracts versus controls, Odds Ratio 1.05 (95% CI 1.01-1.08) (Table 3).
- Among contracts with a pharmacist member outreach and the SUPD prescriber fax program, the odds of year-over-year statin use was a 9 percent higher odds of statin use from 2018 to 2019, Odds Ratio 1.09 (95% CI 1.05-1.13) (Table 3).

- The Star formularies program that provides a near zero cost share benefit for members who are utilizing generic Star adherence medications did not appear to impact year-over-year SUPD prescriber fax program performance.

TABLE 1

Descriptive Statistics: SUPD Prescriber Fax Program and Controls*

Characteristics (at a member level)	SUPD fax program (N = 58,237 diabetes members) (% or +/- Standard Deviation, Range)†	Control Group (N = 17,304 diabetes members) (% or +/- Standard Deviation, Range)‡
Statin Use (year-over-year increase)	1,923 (+3.3% pts)	426 (+2.5% pts)
Statin Claim Present 2018	45,839 (78.7%)	13,604 (78.6%)
Statin Claim Present 2019	47,762 (82.0%)	14,030 (81.1%)
Mean Age, years (as of 12/31/2019)	70.0 (±5.3, 40-75)	70.0 (±4.6, 40-75)
Gender (% Female)	28,301 (48.6%)	8,146 (47.1%)
ZIP code Related Factors		
Percentage with High School Degree	86.9% (±7.8, 33% – 100%)	85.7% (±11.5, 29% – 100%)
Percentage Non-Hispanic White	74.7% (±20.6, 0% – 100%)	73.9% (±19.5, 0% – 100%)
Plan Type (2019)		
MAPD	45,083 (77.4%)	8 (0.1%)
PDP	13,154 (22.6%)	17,296 (99.9%)
Star Formularies (2019)¶		
Yes	25,485 (43.8%)	0 (0.0%)
No	32,752 (56.2%)	17,304 (100.0%)
Pharmacist Outreach (2019)¶¶		
Yes	19,014 (32.7%)	0 (0.0%)
No	39,223 (67.3%)	17,304 (100.0%)
Quality Based Networks (2019)¶¶		
Yes	47,843 (82.1%)	8 (0.1%)
No	10,394 (17.9%)	17,296 (99.9%)

Abbreviations: % = Percentage, SUPD = Statin Use in Person with Diabetes, MAPD = Medicare Advantage, PDP = Prescription Drug-only

* Compared descriptive statistics of the SUPD fax program vs. concurrent control group: assessing the impact on statin use comparing calendar year 2018 to 2019. All characteristics are adjusted for in multivariate analysis.

† Program Descriptions: 1) Star formularies is a program that lowers cost shares to near zero for generics within the Star adherence drug categories including statins. 2) Pharmacist Outreach is a program that identified individuals who had a high probability of calendar-year non-adherence from a predictive model, and rank-prioritized each member for a pharmacist call. 3) Quality Based Networks are pharmacy networks that implement solutions to improve quality.

‡ Categorical variables were examined using percentages and continuous variables with standard deviation and range.

TABLE 2

Unadjusted Percentage of Diabetes Members with a Statin, Stratified by Pharmacist Outreach Program and SUPD Prescriber Fax Program

	N	2018 (Pre)	2019 (Post)	Unadjusted % Points Change	% Points Increase vs. Control	p-value
Pharmacist Outreach + SUPD Fax	N = 19,014	78.5%	82.2%	3.7% pts	1.2% pts‡	p < 0.01
SUPD Fax Only	N = 39,223	78.8%	81.9%	3.1% pts	0.6% pts‡	p = 0.01
Control Group	N = 17,304	78.6%	81.1%	2.5% pts	Control	Control

Unadjusted change in statin use measures, calendar year statin use in 2018 vs. 2019, SUPD = Statin Use in Person with Diabetes, % = percentage, Pts = point.

‡ A positive statistical interaction was identified and, when stratified, a 1.2 percentage point year-over-year increase was identified with contracts that participated in both the pharmacist outreach and SUPD prescriber fax program compared to controls, and a 0.6 percentage point year-over-year increase was identified for SUPD prescriber fax only compared to controls.

TABLE 3

Adjusted Difference-in-Difference Odds Ratio Estimates, SUPD Prescriber Fax Group with and without Pharmacist Outreach Program

Analytic Population	N	Adjusted Statin Use Change 2018 (Pre) to 2019 (Post) Odds Ratio (95% CI)	Adjusted Statin Use Difference-in-Difference Odds Ratio (95% CI)
Pharmacist Outreach + SUPD Prescriber Fax Programs	19,014	1.26 (1.23 – 1.30)	1.09 (1.05 – 1.13)*
SUPD Prescriber Fax Program Only	39,223	1.22 (1.20 – 1.24)	1.05 (1.01 – 1.08)*
Control Group	17,304	1.17 (1.14 – 1.20)	Control

95% CI = 95% confidence interval, SUPD = Statin Use in Person with Diabetes

General Estimating Equations: logistic binomial analysis adjusting for gender, age, year, sociodemographic variables, 2019 Tier 6 benefit design, Quality Based Networks, and Medicare Advantage vs. Prescription Drug Plan. Statistical significance was set at p < 0.05. Difference-in-Difference analysis in bold.

* Among contracts without a pharmacist member outreach, there was a 5 percent statistically significant higher adjusted odds of statin use from 2018 to 2019 for the opted-in prescriber fax program contracts versus opted-out contracts, OR 1.05 (95% CI 1.01 – 1.08). Among contracts with both programs, we see a 9 percent statistically significant higher adjusted odds of year-over-year statin use, OR 1.09 (95% CI 1.05 – 1.13).

LIMITATIONS

- It is unknown what other programs that the health insurer plans are running to improve statin use independently of Prime Therapeutics.
- Due to our reliance on claims data, the prescriber fax information could have been inaccurate.
- The difference-in-difference analysis only provides the ability to examine members who were eligible members with diabetes in both the pre-period (2018) and post-period (2019). As such, it is unknown how statin use differs for members newly initiating diabetes drug therapy in 2019.
- Cohort restrictions may lead to a variation in year-over-year statin use, and these restrictions limit the findings generalizability.
- There is potential for misclassification bias due to inability to identify members paying cash for their medication or members receiving medication from pharmaceutical manufacturer patient assistance programs.
- All contracts that participated in pharmacist outreach also participated in the SUPD prescriber fax program, making it difficult to identify specific individual program associations.

CONCLUSIONS

- The SUPD prescriber fax program was associated with statin use improvement in members with diabetes.
- Statin medication initiation and adherence is an “all hands on deck” effort, which makes it challenging to estimate the impact of a specific program while adjusting for all other existing programs.
- A positive interaction was identified between the pharmacist outreach program and SUPD prescriber fax program, suggesting that the combination of the programs may have a positive synergistic effect on statin initiation among individuals with diabetes.
- The results suggest that the SUPD prescriber fax program independently improved statin use for members with diabetes. The statistically significant 5 percent higher odds of statin use in the prescriber fax group translates into a number needed to treat (i.e., fax) of 20, to result in one additional member with a statin claim compared to the control group.
- Targeting both the member with a pharmacist outreach and the prescriber with the SUPD fax showed the greatest year-over-year increase in statin use.
- Medicare plans should consider the SUPD prescriber fax and pharmacist outreach interventions to improve their SUPD Star measure.

REFERENCES

- American Diabetes Association. Chapter 10. Cardiovascular Disease and Risk Management: Standards of Medical Care in Diabetes – 2021. *Diabetes Care* 2021 Jan; 44(Supplement 1):S125-S150. https://care.diabetesjournals.org/content/44/Supplement_1/S125.
- CMS. Center for Medicare and Medicaid Services. Medicare 2021 Part C & D Star Ratings Technical Notes. Updated Oct 1, 2020. <https://www.cms.gov/files/document/2021technotes20210101.pdf>.
- CMS. Centers for Medicare and Medicaid Services. Trends in Part C & D Star Rating Measure Cut Points. <https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/Downloads/2017-Trends-in-Part-C-and-D-Star-Ratings-Cut-Points.pdf>.
- Pharmacy Quality Alliance (PQA). Statin Use in Persons with Diabetes (SUPD).
- Weiss, R.E. Modeling Longitudinal Data. New York, New York: 2005.