Assessing the impact of targeted pharmacist intervention in patients with multiple sclerosis at high-risk for nonadherence at a large mail-order specialty pharmacy

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Background

In patients with multiple sclerosis (MS), optimal adherence to disease modifying therapies (DMT) decreases risk of relapse, reduces frequency of hospital visits, and increases quality of life.[1,2] Predictive analytics involves using historical data to extrapolate and predict future trends or events.[3] Optum Specialty Pharmacy has developed a proprietary suboptimal adherence predictive analytics model with targeted clinician outreach to support MS patients.

The purpose of this study is to evaluate the impact of proactive pharmacist intervention addressing barriers to adherence and offering targeted intervention, such as enrollment into Schedule My Fill (SMF), Clinical Management Program (CMP) or adherence texting, while utilizing a predictive analytics model.

Endpoints

Primary endpoint: Patient adherence calculated by proportion of days covered (PDC) with optimal adherence defined as ≥80%.

Secondary endpoints: Gap days, days on therapy (DOT), participant enrollment into clinical and refill programs, missed dose and side effect reporting, enrollment of additional resources offered.

Methods

Study design: Single-center, observational, retrospective, cohort

Study population: MS patients receiving fills 1-7 of a disease modifying therapy (DMT) at Optum Specialty Pharmacy

- **Participant =** patient who completed pharmacist intervention call.
- **Control =** patient who did not complete pharmacist intervention call

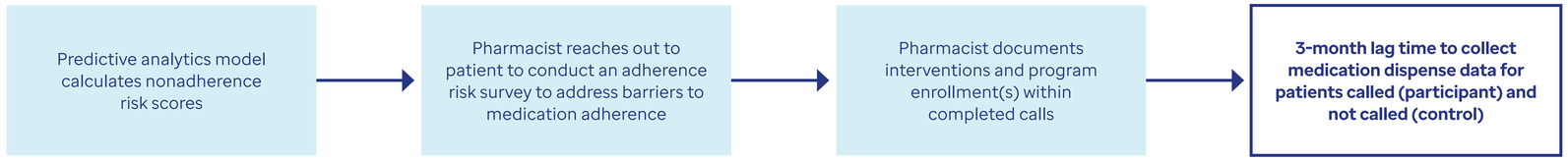
Inclusion criteria: Patients with a nonadherence score calculated by the predictive analytics model to be ≥ 70 out of 100 (a higher number indicates that a patient is more likely to have suboptimal adherence)

Data source: Demographic, clinical, and transactional data was collected from pharmacy prescription processing system

Study time frame: Pharmacist intervention occurred between 10/31/2023 - 12/31/2023. Three-month lag time from 1/1/2024 – 3/31/2024 collect medication dispense data

Statistical analysis plan: Propensity score matching (PSM) and non-parametric Wilcoxon signed rank test. Alpha was set at 0.05 with a p value of <0.05 considered significant

Figure 1. Clinical service model



Results

Table 1. Demographics

Patient demographic post PSM	Control (N=47)	Participant (N=47)	P-value
Median age, years	50.0	46.0	0.43
Gender, female (%)	68.1	78.7	1.00
Median adherence risk score	85.0	85.0	1.00

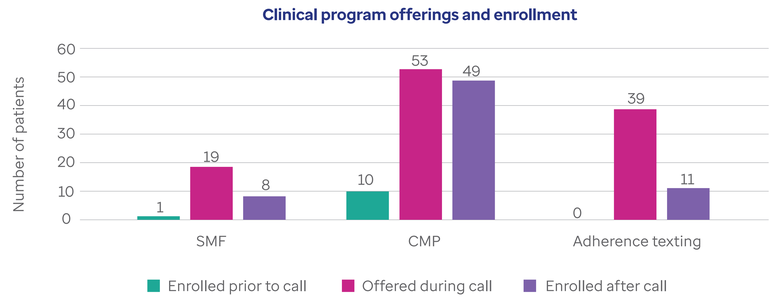
Table 2. Primary endpoint

Primary endpoint	Control (N=47)	Participant (N=47)	P-value
Median PDC, %	94	100	0.09

Table 3. Secondary endpoints

Secondary endpoints	Control (N=47)	Participant (N=47)	P-value
Median DOT, days	97.0	102.0	0.46
Total gap days, days	5.0	0.0	0.09
Average gap days per fill, days	1.7	0.0	0.10

Figure 2. Pharmacist intervention (participants)



Discussion

- PDC increased by 6% and total gap days decreased by 5 days in the participant group
- The pilot increased patient enrollment into clinical programs offered and increased utilization of additional resources provided to patients
- Findings were not statistically significant, likely due to low volume and short time frame

Limitations

- Study population is limited to patients serviced by Optum Specialty Pharmacy
- Only one clinician call was made. Additional calls throughout therapy may further improve adherence and persistence
- A larger sample size is needed to meet power, and a short duration of 3 months limited the ability to calculate patient outcomes such as persistence

Next steps

- Implementation of the predictive analytics model into oncology and other disease states
- Integration of documentation into therapy management system

References
1. Hauser SL, Cree BAC. Treatment of multiple sclerosis: A Review. Am J Med. 2020;133(12). doi:10.1016/j.amjmed.2020.05.049
2. Kołtuniuk A, Chojdak-Łukasiewicz J. Adherence to Therapy in Patients with Multiple Sclerosis-Review. Int J Environ Res Public Health. 2022 Feb 15;19(4):2203. doi: 10.3390/ijerph19042203.
3. Batko K, Ślęzak A. The use of Big Data Analytics in Healthcare. J Big Data. 2022;9(1). doi:10.1186/s40537-021-00553-4

Disclosures/contact
Authors of this presentation have the following to disclose: Nothing to disclose
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