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# Evaluation of a two-way, HIPAA-compliant text-messaging platform in a health system specialty pharmacy

DJ Clark, PharmD; Adam Saulles, PharmD, CSP, BCACP; Tara Berkson, PharmD, BCACP

## Background

- Specialty medications represent a growing proportion of prescription drug expenditures in the United States. In 2018, specialty medications represented 37.4% of medication spending, but accounted for only 1.9% of medication dispenses.<sup>1</sup>
- Increased utilization of specialty medications for maintenance therapy is especially apparent in the population of patients living with Multiple Sclerosis (MS).
- A 2017 study demonstrated that only ~50% of patients with MS are adherent to prescribed regimens when initiating disease-modifying therapy.<sup>2</sup>
- Prior to July 2019, the health system specialty pharmacy only contacted MS patients via phone call to perform refill coordination and pharmacist follow-up.
- In July 2019, a HIPAA-compliant messaging platform was implemented. With this program, patients can respond to refill inquiries at their convenience and provide typed responses to medication-related safety, adherence, and efficacy follow-up questions sent by specialty pharmacists.

## Purpose

To determine the impact of the implementation of a HIPAA-compliant text-messaging platform on patient adherence, engagement, and satisfaction

## Objectives

**Primary Outcome:** Time between pharmacy technician outreach and medication refill

**Secondary Outcomes:**

- Medication possession ratio (MPR)
- Proportion of patients enrolled in the specialty pharmacy's patient management program
- Patient satisfaction assessed by in-application surveys
- Specialty pharmacy phone-call volume

## Methodology

**Data Collection Period:** February 2019 – March 2020

**Study population:** ≥18 years old with a diagnosis of MS and ≥2 dispenses of disease-modifying medications

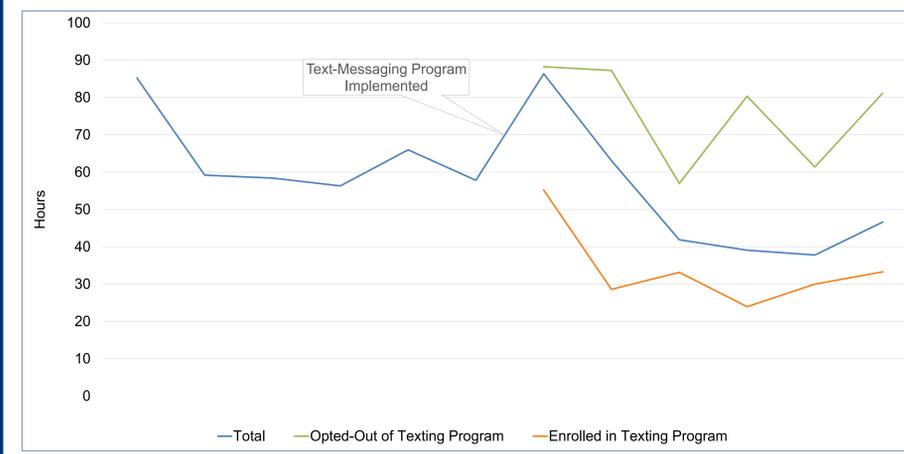
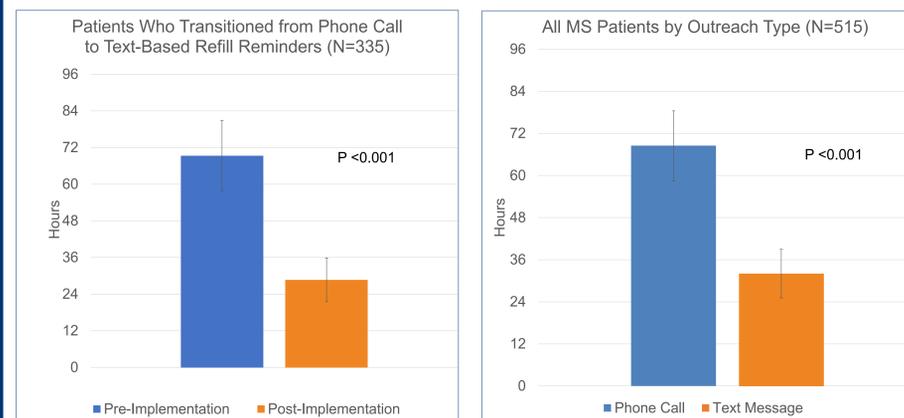
- Institutional Review Board-approved
- Single-center, retrospective analysis
- Data was collected via the electronic health record, the implemented text messaging application, and pharmacy phone system records.
- Outreach and medication refill date/time were collected for the 5 (or total available if <5) most recent fills before and after opt-in to the text-messaging platform.
- MPR was calculated based on dispense dates.
- Results are described using simple descriptive statistics and T-tests, where applicable.

## Patient Characteristics

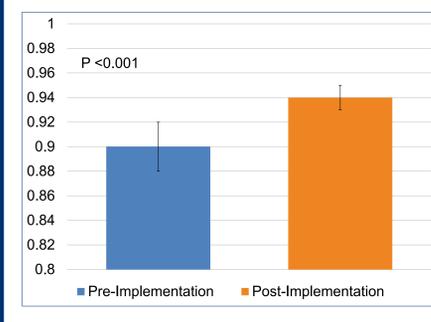
Patients (N=515)	
Average Age	51.8 years
Female	403 (78%)
Medication	
Aubagio® (teriflunomide)	58 (11%)
Avonex® (interferon beta-1a)	64 (12%)
Betaseron® (interferon beta-1b)	4 (<1%)
Copaxone® (glatiramer acetate)	55 (11%)
Dalfampridine <i>generic</i>	12 (2%)
Gilenya® (fingolimod)	63 (12%)
Glatiramer acetate <i>generic</i>	60 (12%)
Glatopa® (glatiramer acetate)	3 (<1%)
Plegridy® (peginterferon beta-1a)	19 (4%)
Rebif® (interferon beta-1a)	25 (5%)
Tecfidera® (dimethyl fumarate)	153 (30%)

## Results

### Mean Time to Medication Refill



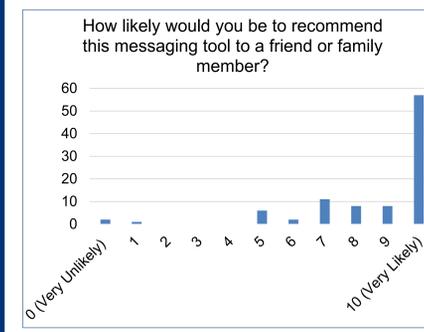
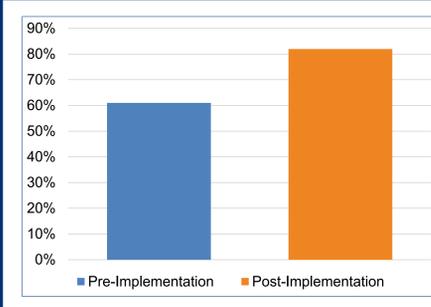
### Medication Possession Ratio (MPR)



### Patient Satisfaction Surveys



### Patient Management Program Enrollment



## Discussion

### Patient Enrollment Status:

	Enrolled in Patient Management Program	Opted-Out of Patient Management Program
Enrolled in Text-Messaging Program	358 (70%)	11 (2%)
Opted-Out of Text-Messaging Program	63 (12%)	83 (16%)

### Outcomes:

- Response to pharmacy caregiver outreach via text-message was significantly faster than response to traditional phone-call outreach overall.
- Patients who switched enrollment from phone-call outreach to utilizing a text-message based platform experienced a significant reduction in response time to pharmacy outreach.
- Improved response time also translated into improved overall medication adherence. Patients utilizing the text-message based platform demonstrated a significantly improved MPR.
- A 21% increase in the specialty pharmacy's patient management program enrollment was realized following 7.5 months of utilization of the implemented text-messaging platform. Enrollment in this management program allows for comprehensive follow-up and increased clinical monitoring by a specialty pharmacist.
- Satisfaction surveys reveal that enrolled patients are highly satisfied with the implemented platform.
- Pharmacy phone-call volume did not change significantly post-implementation of the text-messaging platform, although this result may be confounded by the consistently increasing prescription volume in the specialty pharmacy. Furthermore, patients with MS represent only ~10% of the population served by the specialty pharmacy. Patients with many other disease states continue to require phone call outreach. Future expansion of the text-messaging option to additional disease states is expected to reduce total pharmacy call volume in the future.

### Study Limitations:

- Only the five most recent dispenses were analyzed pre- and post-intervention.
- Results of satisfaction surveys may be subject to selection bias. Patients who are comfortable utilizing the text-messaging platform are more likely to respond to satisfaction surveys submitted through the platform itself.

## Conclusion

The health system specialty pharmacy has utilized a HIPAA-compliant text-messaging platform to successfully improve patient response time, treatment adherence, and overall engagement with clinical pharmacy services, while delivering a positive patient experience.

## Next Steps

These results will be pivotal in expanding use of a text-messaging platform to patients filling medications for other conditions at the specialty pharmacy.

## Disclosures

DJ Clark: Nothing to disclose, Adam Saulles: Nothing to disclose, Tara Berkson: Nothing to disclose

## References

- James, D. Specialty Drug Spending Grows While Traditional Medicine Spending Drops. *Pharmacy Times*, 2018.
- Munsell M, et al. An evaluation of adherence in patients with multiple sclerosis newly initiating treatment with a self-injectable or an oral disease-modifying drug. *Patient preference and adherence*, 2017