



Digital Technology Intervention Impact on Staff Productivity in a Health System Specialty Pharmacy

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1. Shields Health Solutions
2. MedStar Specialty Pharmacy



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BACKGROUND

Health system specialty pharmacies (HSSPs) support the complex requirements of specialty medications, including prior authorizations and timely medication refills, however they require significant staffing infrastructure to ensure timely refills and positive patient outcomes. Technology, including workflow automation, AI-enabled prior authorizations, and digital patient engagement tools, can facilitate time-consuming processes in HSSPs.¹⁻³

MedStar Specialty Pharmacy, a HSSP with a volume of approximately 300 prescriptions a day, is supported by 16 technicians dedicated to adherence calls and refill coordination. In response to opportunities identified to improve refill completion rates, a series of interventions involving digital technology, including a text messaging application for refills, an automated test claim platform, and workflow enhancements were implemented (Figure 1). The objective was to measure the impact of technology-based and refill technician workflow interventions on HSSP staff productivity.

Figure 1: Quality Improvement Interventions



Test Claim Platform

Automatically runs test claims to reduce manual prescription scrubbing

March 2025



Text Messaging Application

Sends refill questionnaires to patients via text

March 2025



Workflow Optimizations

Proactive outreach ensures multiple weekly patient contact attempts

August 2025

METHODS

Study Design: Retrospective, observational analysis of all MedStar Specialty Pharmacy specialty medication prescription fills within the following time periods:

- **Baseline Period:** January 1, 2025 to March 31, 2025
- **Follow up Period:** January 1, 2025 to March 31, 2026

Primary Outcome: Technician weekly productivity rate (average number of patients with completed refill tasks/hour) for specialty medications only. Refill tasks include all activities required by URAC and ACHC specialty pharmacy accreditation.

Secondary Outcomes: Medication adherence, measured by the adjusted proportion of days covered (PDC); employee satisfaction with the innovations

Employee Satisfaction Measurement: Refill technicians were asked the following questions in February 2026:

- Has the test claim platform helped your overall workflow? (Yes/No)
- Has the text messaging application helped you complete more refills? (Yes/No)

Analysis:

- **Weekly Productivity Rate:** calculated by determining the number of patients with completed refills per week divided by the number of hours worked
- **PDC:** Number of days of medication covered divided by adjusted days of therapy for patients with ≥ 3 fills

RESULTS

At the end of March 2026, 68% and 44% of patients were enrolled in the text messaging application and test claim platform, respectively. **Figure 4** displays weekly productivity rate in the baseline and follow-up time periods.

Figure 2: Enrollment Rate (March 2026)

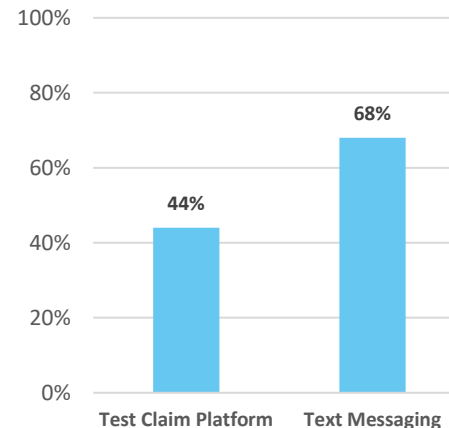


Figure 3: Patient and Prescription Fill Volume

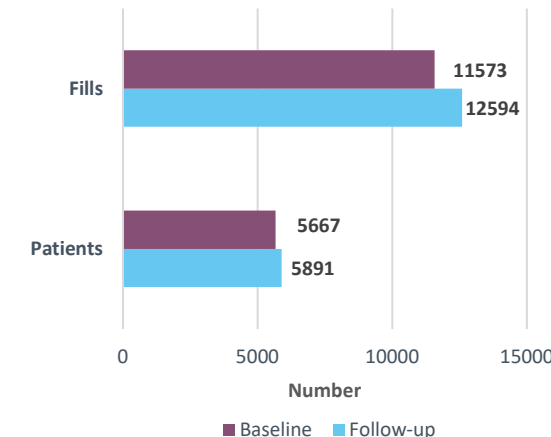


Figure 4: Average Weekly Productivity Rate

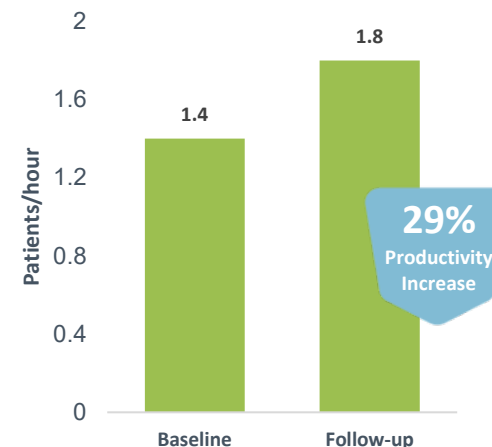


Figure 5: Medication Adherence (PDC)

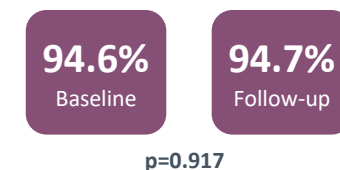
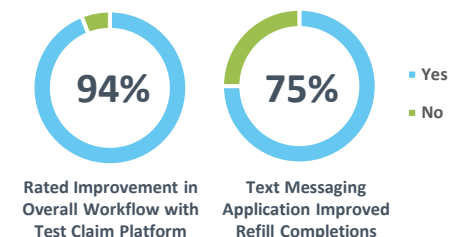


Figure 6: Employee Satisfaction (N=16)



CONCLUSIONS

Increasing adoption of technology improves both productivity and the patient experience. Higher enrollment enables pharmacy teams to serve more patients efficiently without adding staff, allowing pharmacists and technicians to focus more time on clinical care and complex patient needs. Ultimately, higher technology adoption creates a more efficient, scalable pharmacy model that benefits both patients and care teams.

References

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