



COMPLETED GRANT SYNOPSIS

Evaluation of Enhanced Community Pharmacy Services

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Objectives

The objective of this study was to determine the impact the enhanced services have on clinical and economic outcomes of patients receiving their pharmacy care at a site offering Enhanced Community Pharmacy Services.

Methods

Design	<ul style="list-style-type: none"> The project was an observational study conducted in a rural independent community pharmacy setting offering enhanced services. The focus of the study was individuals enrolled in one health plan and continually eligible for benefits from January 1, 2017 through December 31, 2017. A comparison group was selected from pharmacies with similar demographic, geographic, and plan enrollee characteristics but do not offer the enhanced services. Paired t-tests were used to compare healthcare utilization and costs between the enhanced services pharmacy (ESP) and the traditional care pharmacies. In addition, negative binomial regression analyses were used to assess the impact of enhanced services on health care utilization, and a General Linear Regression (GLM) model with a log-link and gamma distribution was used to assess the impact on costs, controlling for age, gender, and patients' comorbidities as measured by the Charlson Comorbidity Index (CCI). A Markov Cost-Effectiveness model with annual cycles and 10-year time horizon was run. Both a cohort-based analysis and bootstrap simulation were implemented for the incremental cost-effectiveness ratio (ICER) of the ESP group in terms of survival time and patient clinical outcomes.
Study endpoints	<ul style="list-style-type: none"> Average total health care utilization and cost per patient were compared for the intervention (patients using the ESP) and the comparison group (patients using a traditional services pharmacy) using the average treatment effect. Healthcare utilization and cost were calculated based on paid claims data from the health plan.

Results

- A total of 1,003 individuals were identified for the traditional pharmacy group and 722 for the ESP group.
- There were no significant differences in these characteristics between the two groups. The two traditional pharmacies and one ESP were all independently owned, located in rural areas with similar socio-economic characteristics, and participated in the same insurance plans.
- Patients in the ESP group had lower average number of prescriptions during the study period than those who used the traditional pharmacy (15.3 vs. 18.5; $p < 0.05$).
- Average medical costs per patient were \$686 lower and average pharmacy costs per patient were \$106 less in the ESP group.
- The ESP has the potential to extend patient survival time by 0.12 years/person and reduce hospitalizations by 6.9/person over a 10-year period. This results in a \$19,994 savings per person over 10 years.

Conclusion

Compared to the traditional pharmacy cohort, patients who used the expanded services pharmacy had 14% lower average number of prescriptions and 15.9% lower average medical costs during the study period. This study demonstrates the impact a pharmacy offering enhanced services has on healthcare utilization and costs. If a payor offered ESPs a per-member-per-month fee of \$100, the potential return on investment would be 1.6 over 10 years. Additional research needs to be conducted using more patients from multiple pharmacies offering enhanced services to determine the value proposition of enhanced pharmacy services to payors.