Cost Avoidance Associated with Pharmacist Interventions in an Integrated Health-System Specialty Pharmacy Model

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BACKGROUND

- Patients treated with specialty drugs can accumulate substantial drug and non-drug costs.[1,2]
- Pharmacist interventions (e.g., medication dose change, medication discontinuation due to adverse events) in the integrated health-system specialty pharmacy (HSSP) setting have been associated with cost avoidance by prevention of events such as hospitalizations, emergency room (ER) visits, and medication waste.[3,4,5,6]
- Measuring cost avoidance can help demonstrate the potential value of pharmacist-led specialty pharmacy services.

OBJECTIVE

The objective of this study was to estimate cost avoidance attributable to integrated health-system specialty pharmacist interventions across 15 sites.

METHODS

- A retrospective review of pharmacist intervention notes from 2025 was conducted to evaluate patients managed within an integrated health-system specialty pharmacy (HSSP) model across 15 sites in the United States.
- During routine patient touchpoints, pharmacy technicians triaged patients to pharmacists for clinically relevant issues, such as medication changes, adverse events, and medication-related questions.
- Pharmacist self-reported events avoided such as emergency room (ER) visit, physician visit, prescription order, or life-threatening situation (e.g., severe allergic reaction, serious infection concerns, major medication safety issues, and other acute toxicities requiring immediate escalation).
- Cost avoidance was estimated by multiplying the number of pharmacist-reported events avoided in each category by category-specific cost values derived from published literature.[7]

RESULTS

- Using the most recent data available for the study period, pharmacists conducted 18,767 patient interviews and documented 2,403 interventions.
- Patients were, on average, 58 (SD=18.40) years old and 60.45% (n=11,345) were female (Table 1).
- The most common events with estimated costs avoided due to pharmacist interventions were physician visits (n=434; 60.70%), life-threatening situations (n=113, 15.80%), hospital admissions (n=85, 11.89%), and ER visits (n=83, 11.61%) (Figure 1).
- The estimated total cost avoidance was $2,143,066, corresponding to an average of $114 per patient and $2,997 per event avoided.
- Interventions related to hospital admission or life-threatening situations contributed the greatest share (90.78%) of estimated cost avoidance (Figure 2).

Table 1: Demographics

Number of Patients 18,767

Age		Sex, n (%)		Region, n (%)	
Mean	58	Female	11,345 (60.45%)	Midwest	1,507 (8.03%)
Median	62	Male	7,414 (39.51%)	Northeast	9,448 (50.34%)
SD	18.40	Unspecified	8 (0.04%)	West	293 (1.56%)
Range (low-high)	0-112			South	7,518 (40.06%)
				Unknown/Other	1 (0.01%)

Figure 1: Events Avoided, Including Those Without Cost Estimates

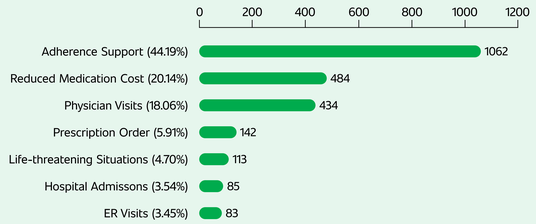
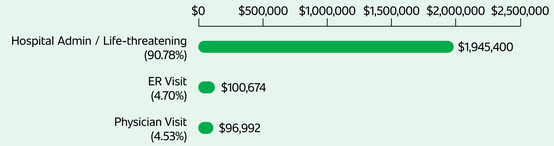


Figure 2: Cost Avoidance by Events Avoided



DISCUSSION

- The findings of this study suggest that routine pharmacist involvement within an integrated HSSP model may contribute to meaningful cost avoidance by identifying potential medication-related problems before they escalate to higher-cost healthcare events.
- Proactive monitoring could have a greater impact on preventing costly acute care utilization.
- Estimated cost avoidance was not reported at the individual health-system level, although substantial variation was observed across included systems. This variability may reflect differences in patient population size, disease severity, therapeutic area distribution, pharmacist documentation practices, and local standards of care. These differences may also highlight opportunities to identify and share best practices among pharmacists across health systems.

LIMITATIONS

- Events avoided are based on pharmacist self-reporting, which depends on the judgement of the reporting individual and may potentially vary between pharmacists.
- Cost avoidance was not included for adherence support, reduced medication costs, and prevention of prescription orders.
- Cost estimates for various events are based on a report accessed in 2023 and may not reflect estimates using more recent cost data.
- No comparator group (e.g., patients managed outside of the integrated HSSP model) for this study exists.

CONCLUSION

Substantial cost avoidance, with the majority due to the prevention of hospital admissions or life-threatening situations, was achieved across 15 sites participating in an integrated HSSP model.

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