

Cost impact analysis of clinical interventions collected via specialty pharmacy reporting tool



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Background

- Clinical pharmacy interventions reduce prescribing errors and can prevent or assist in the treatment of adverse drug events, thereby avoiding costs^{1,2}
- Intervention-associated cost savings vary greatly depending on the setting of the intervention, but limited literature has been published related to specialty pharmacy interventions and outcomes²⁻⁴
- Specialty pharmacy accounts for 50% of all drug expenditures in the United States^{2,4}
- Optum Specialty Pharmacy utilizes an internal reporting system to capture patient demographics, drug information, and clinical data regarding pharmacy interventions

Endpoints

- Average estimated cost savings or avoidance per intervention:** calculated as an average within each category
- Total cost savings or avoidance:** sum of estimated cost savings or avoidance from each category recorded over the study period

Inclusion Criteria

- Single-center, IRB waived, retrospective cohort study
- All completed clinical pharmacy interventions documented between 8/1/2020 – 7/31/2021 in a category identified as potentially cost saving or cost avoiding were included in the initial analysis
- Each intervention category was reviewed for trends and applicability prior to further analysis
- For intervention types identified as **cost saving**: calculations were based on clinician-reported changes, prescription data, and drug average wholesale pricing (AWP); cost savings was calculated for a one-month supply unless duration of therapy or number or refills was known or reasonably assumed (i.e., hepatitis C therapies)
- For intervention types identified as **cost avoidant**: calculations were based on drug AWP, if applicable, Optum hereditary angioedema and oncology clinical management program data, and primary literature
- Statistical analysis consisted of descriptive statistics only

Results

Table 1: Volume of potentially cost saving or cost avoidance interventions over 1 year

	Interventions	% of Total Sample
Prescription Change	3,951	18.8%
Adverse Drug Event Managed	14,025	66.6%
Dose Verification Resulting in Prescription Change	1,688	8.0%
Interaction Management Resulting in Regimen Change	265	1.3%
Financial Assistance	75	0.4%
Prevented Hospitalization/ER visit	79	0.4%
Other: "Should this intervention be reviewed for cost savings analysis?"	978	4.6%
Overall	21,061	100%

Total combined cost savings and cost avoidance estimated from review of 2,868 of these interventions: \$9.66M

Table 2: Cost Savings Category

	Avg. time to complete (mins)	Interventions, n	Avg. cost savings, \$	Estimated Cost Savings
DAW change and/or lower cost alternative	8.6	763	\$2,270.02	\$1,732,027
Resend Prevented	12.4	9	\$9,508.06	\$85,572
Quantity Decreased	12.7	126	\$23,547.4	\$2,966,979
Dose Change	11.2	11	\$16,732.8	\$184,061
Dose Verification	10.2	11	\$58,430.1	\$642,731
Total		920		\$5,611,370

Results (continued)

Table 3: Cost Avoidance Category

	Avg. time to complete (mins)	Intervention, n	Avg. cost avoidance, \$	Estimated Cost Avoidance
Adverse Drug Events (ADE) ⁵	13.6	1,930	\$1,824.39	\$3,521,084
Prevented Hospitalization/ER Visit ^{6,7,8,9}	11.5	4	\$23,835	\$95,340
Interaction Management ^{10,11}	10.3	14	\$30,987	\$433,818
Total		1,948		\$4,050,242

Discussion

- This project successfully quantified cost savings or avoidance associated with 2,868 clinical interventions and identified key trends and areas for future system optimization and research to improve both tracking and quantifying of clinician interventions
- Limitations associated with this study is the manual nature of the documentation system leaving room for duplication or omission of data and estimating cost avoidance based on literature vs. actual medical claims
- Further studies are needed to identify true frequency and financial outcomes associated with clinician interventions in specialty pharmacy

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Disclosures

Authors of this poster have nothing to disclose. For more information, please contact Optum Specialty HEOR: OptumSpecialtyHEOR@Optum.com