



Evaluation of the Financial Impact of Interventions Made by Pharmacy Interns in a Community Hospital



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Background

The role of the pharmacy team in Health-Systems today continues to evolve into an active clinical role. Clinical interns as a pharmacy team member, can play a vital role in improving patient outcomes. Completing medication reconciliation, performing kinetic dosing, and screening for drug interactions are just a few examples of how interns make important interventions in patient therapy.

At Lawrence Memorial Hospital (LMH), clinical interns provide unit coverage for 4 hours each day. In 2010, the clinical pharmacy interns at LMH documented 776 total interventions.

The data estimating the economic value for interventions done by clinical interns has been very limited. A 2002 article¹ linked specific pharmacist interventions in the VA system to estimated cost-savings. These calculated savings included: acquisition cost, pharmacist salaries, and cost to fill an order. At the conclusion of the study, the investigators were able to estimate cost savings for each type of intervention. This poster will utilize the data found by this study and extrapolate those interventions to estimated cost-savings incurred at LMH utilizing clinical interns.

Purpose

To determine the financial impact of clinical pharmacy intern interventions through use of a customized scoring system.

Methods

Inclusion criteria included interventions that:

- Were recorded in access database
- Were performed by a pharmacy intern
- Were completed in 2010
- Involved the seven categories listed in the results table
- Required the use of the intern and supervising pharmacist's clinical judgment

Exclusion criteria included interventions that:

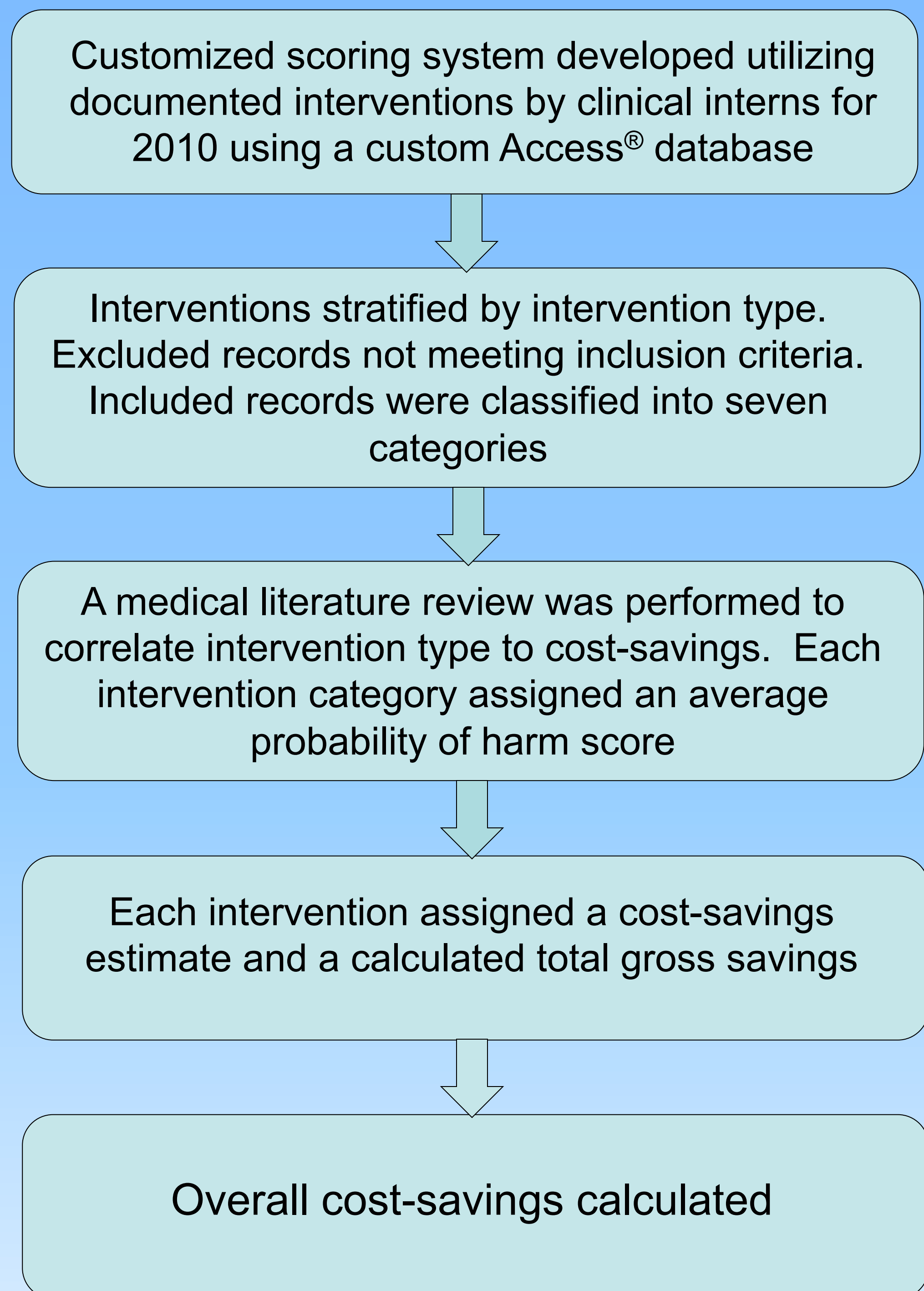
- Were part of an automatic substitution program
- Involved standardized counseling
- Involved medication reconciliation
- Were protocol driven
- Involved the intern and supervising pharmacist acting as the provider (ex. antibiotic dosing and adjustment)

Estimated Cost Savings Equation:

Number of Interventions	X	Average Probability of Harm	X	Published Cost Avoidance	X	Inflation Adjustment
↓						
Documented Clinical Impact of Intervention				Assigned Probability of Harm		
1. Potentially fatal or life threatening				1		
2. Potential to affect major organ function				1		
3. Standard of Care				0.5		
4. Little or no clinical impact				0		

- The assigned probability was averaged for each intervention category to determine the calculated probability of harm.

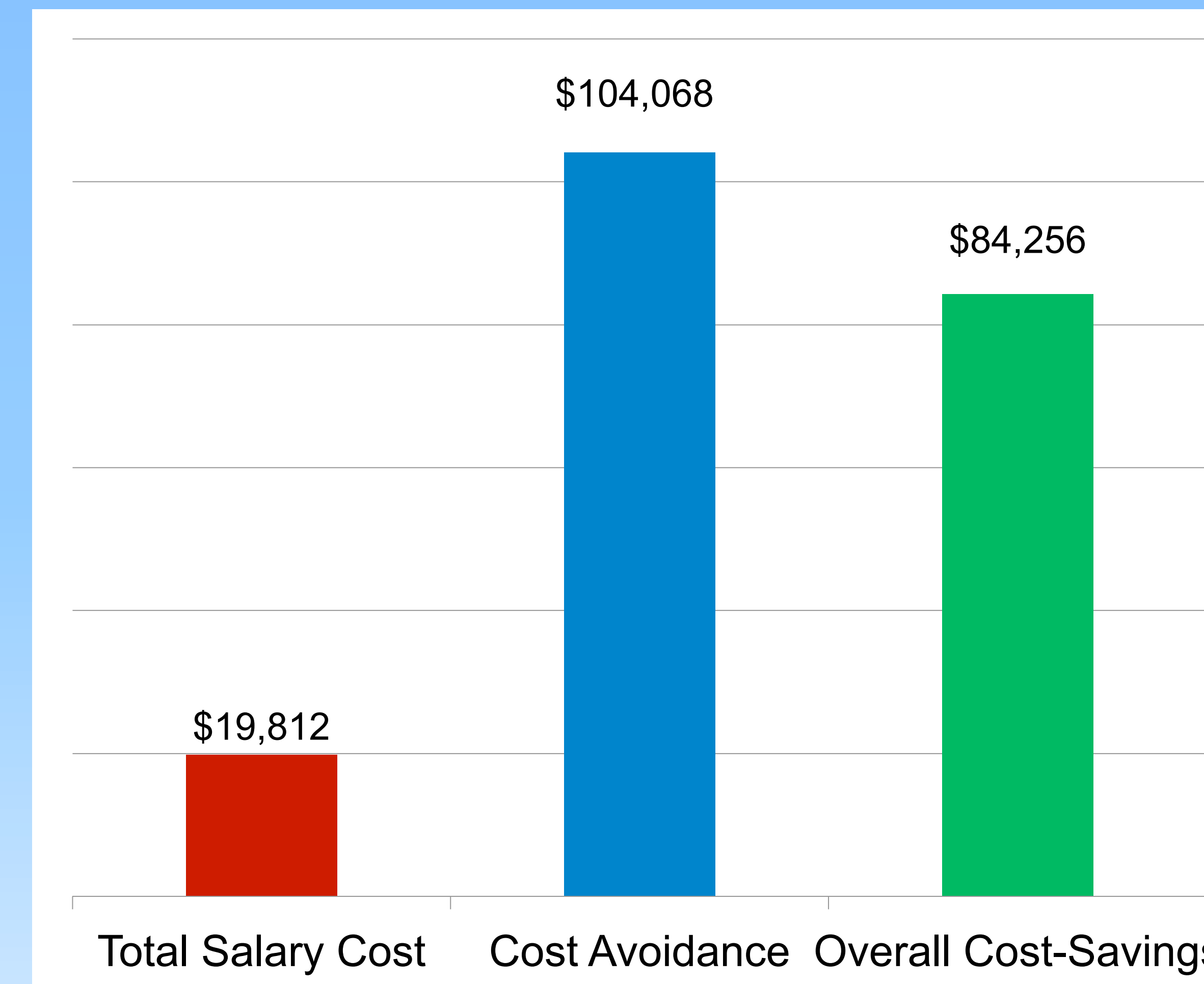
Methods (cont.)



Results

Hours Worked: 1460
Hourly Wage (average) : \$13.57

Annual Cost-Savings



Results

Intervention Type (n=147)	#	Calculated Probability of Harm	Published cost avoided per intervention	Calculated cost-savings adjusted for inflation ² (rounded to the nearest dollar)
Drug Interaction	10	0.5	\$1647	\$9,982
Prevent or manage drug allergy	3	0.5	\$1375	\$2,501
Adjust dosage or frequency	32	0.53	\$1188	\$24,421
Untreated Diagnosis	10	0.5	\$1106	\$6,703
Prevent or manage adverse drug event	79	0.52	\$1098	\$54,673
Drug not indicated	12	0.54	\$724	\$5,687
Duplication of Therapy	1	0.5	\$165	\$101
				Total: \$104,068

Conclusion

Based on the results, there is substantial cost-savings when employing pharmacy interns to perform various patient directed interventions.

Limitations

- Cost-savings are an estimation. Multiple variables could not be accounted for when calculating cost-savings.
- Data was reclassified and sorted by the authors, which may introduce some bias into the data.
- Small sample size.
- Undocumented interventions could not be included.

Discussion

The interventions and subsequent cost-savings benefit the patients, pharmacy department, and hospital as a whole. Implementing a clinical intern program should be considered in all community hospitals that have the necessary resources.

Future Work

This poster excluded other types of documented interventions that could not have a cost-savings value assigned. Further studies are needed to develop a cost-savings scoring system that could be applied to all patient directed interventions performed by pharmacy interns.

References

¹Lee AJ, Boro MS, Knapp KK, et al. Clinical and economic outcomes of pharmacist recommendations in a Veterans Affairs medical center. *Am J Health-Syst Pharm.* 2002;59: 2070-2077.

²http://www.bls.gov/data/inflation_calculator.htm

De Rijdt T, Willems L, Simoens S. Economic effects of clinical pharmacy interventions: A literature review. *Am J Health-Syst Pharm.* 2008; 65: 1161-1172.

Disclosures

Authors have no conflict of interest to disclose in relation to this presentation.