



Estimating the value of pharmacist interventions in a specialty pharmacy setting

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STUDY SYNOPSIS

- **Study Design:** retrospective chart review with cost avoidance estimates
- **Study Population:** patients at Ardon Health specialty pharmacy with a documented intervention in their profile during the 2017 year
- **Sample Size:** 4,552 patients
- **Data Collected:** January 1, 2017 to December 31, 2017

BACKGROUND

- The need to demonstrate the value of routine pharmacist (RPh) interventions is necessary to drive the profession and the RPh's clinical role forward
- Previous studies have demonstrated the value specialty pharmacy care can have on clinical outcomes. Tang et al demonstrated this, showing lower relapse rates in multiple sclerosis patients filling their disease-modifying therapy through specialty pharmacies¹
- Financial value of daily interventions from medication therapy management in ambulatory settings or RPh-led anticoagulation is well-established, however, value of daily specialty pharmacy care is less well-elucidated^{2,3}
- Saulles and Chang reported an estimate of the financial impact of 716 RPh interventions in a regional health system specialty pharmacy to be \$299,415, demonstrating the large impact RPh care can have⁴
- At Ardon Health, a workflow process for RPhs to categorize interventions was developed. A way of identifying those interventions (termed Impacts) which directly led to or had a high likelihood to prevent negative outcomes or reduce medical waste

PURPOSE

The aim of this study is to estimate the value of RPh interventions in a specialty pharmacy setting with the goal of aiding in the understanding of the value that high-touch specialty pharmacy care can bring to patients and the health care system.

DISCLOSURES

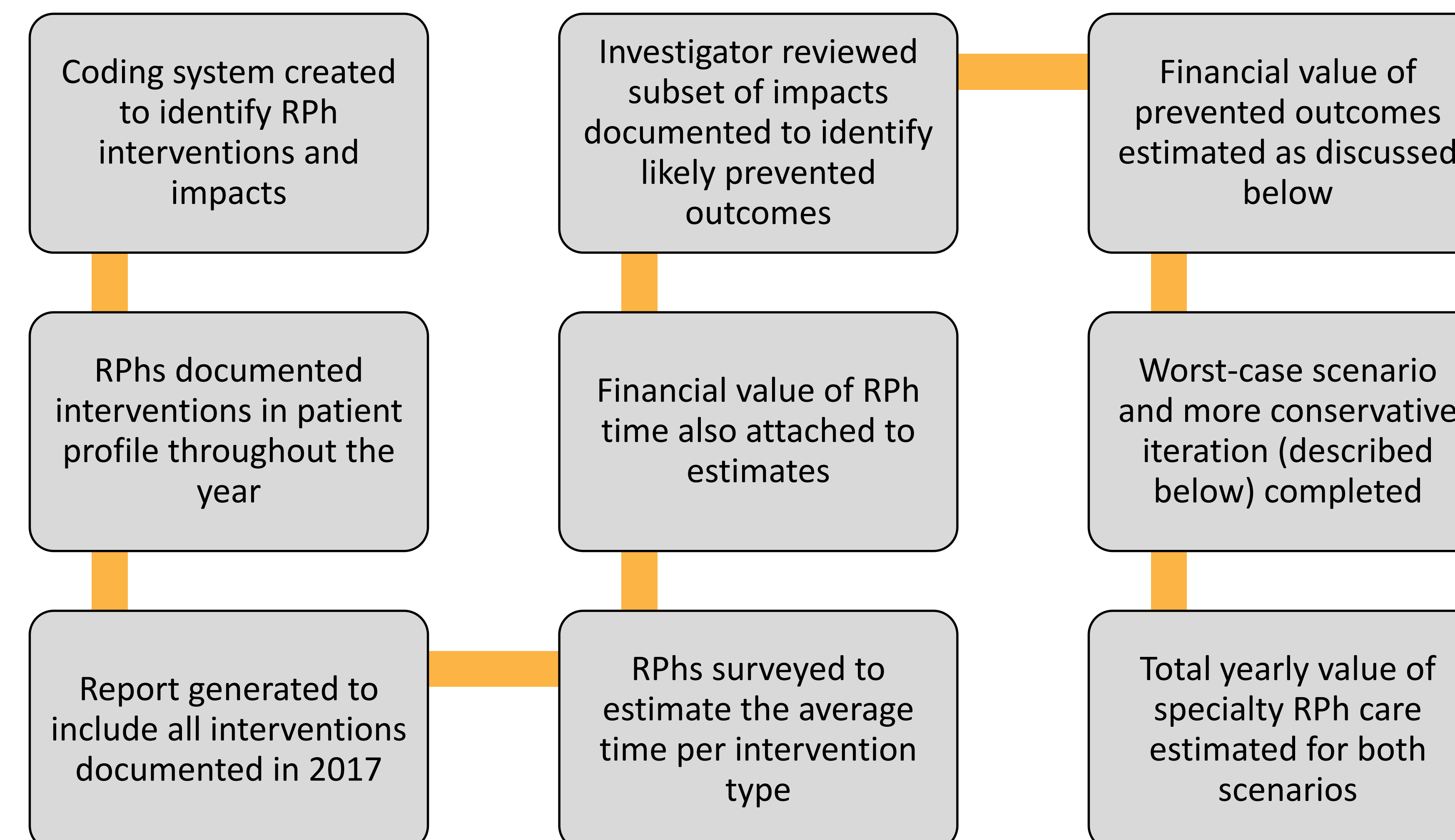
Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have interest in the subject matter

- Craig Riccardo: Nothing to disclose
- Grant Knowles: Nothing to disclose

METHODS

Inclusion Criteria	<ul style="list-style-type: none"> ▪ Patients filling prescriptions at Ardon Health in the 2017 calendar year ▪ Documentation of at least one intervention or impact in the patient profile
Exclusion Criteria	<ul style="list-style-type: none"> ▪ Patients with no documentation of an intervention in the 2017 calendar year

PROCEDURE FOR INTERVENTION



ESTIMATING THE COST AVOIDANCE FROM PHARMACIST IMPACTS

- Unsuccessful Treatment Regimen: cost of unsuccessful treatment (average wholesale price – 17% used for estimating all prescription costs)
- Inadequate Response to Therapy: cost of six months of medication
- Hospital Admissions: 2006 Healthcare Cost and Utilization Project average cost for inpatient stay based off diagnosis (adjusted for inflation)
- Emergency Room (ER) Cost: median ER visit cost as estimated by Caldwell et al in 2013 (adjusted for inflation)
- Liver transplant: cost of liver transplant as evaluated by Rein et al in 2015 (adjusted for inflation)

WORST-CASE VERSUS CONSERVATIVE SCENARIO

- Two iterations of the analysis were completed which include the estimated preventable costs for:
 1. All RPh Impacts
 2. Only 50% of the value of the prevented outcomes due to RPh Impacts (average avoided cost used)

RESULTS

- Total Interventions: 14,441
- Total Impacts Flagged as Cost-Saving : 115

	All Outcomes Prevented	50% of Total Value of Outcomes Prevented
Total Value of RPh Time (Impacts)	\$3,948.33	
Total Value of RPh Time (Interventions)	\$429,577.50	
Total Value of Prevented Outcomes from RPh Impacts	\$4,169,832.56	\$2,084,916.28
Total Value of RPh Impacts and Interventions	\$4,603,358	\$2,518,442
Value per Intervention Made	\$318.75	\$174.38
Value per Rx Dispensed	\$109.48	\$59.89

LIMITATIONS

- A single RPh reviewed impacts and attached an associated avoided outcome
- Data used to estimate hospitalization costs was standardized, but from an older database
- Subjective nature in estimating what outcome an intervention may have prevented

CONCLUSION

- RPh interventions in a specialty pharmacy setting add substantial value (estimated between \$174.38 to \$318.75 per intervention) in terms of prevented prescription and medical costs
- RPhs flagged 115 impacts out of 14,441 interventions. This is likely an underrepresentation of the actual number of interventions associated with cost-savings through waste mitigation/resource reduction

REFERENCES:

1. Tang J, Bailey J, Chang C, et al. Effects of Specialty Pharmacy Care on Health Outcomes in Multiple Sclerosis. *Am Health Drug Benefits*. 2016;9(8):420-429.
2. Hall D, Buchanan J, Helms B, et al. Health care expenditures and therapeutic outcomes of a pharmacist-managed anticoagulation service versus usual medical care. *Pharmacotherapy*. 2011;31(7):686-694.
3. Pellegrin KL, Krenk L, Oakes SJ, et al. Reductions in Medication-Related Hospitalizations in Older Adults with Medication Management by Hospital and Community Pharmacists: A Quasi-Experimental Study. *J Am Geriatr Soc*. 2017;65(1):212-219.
4. Saulles A, Chang J. Clinical and economic impact of a comprehensive specialty pharmacy oral oncology patient management program. *Journal of Drug Assessment*, 2018;7:sup1-3.