

Therapy optimization and clinical interventions within a specialty infusion pharmacy lead to significant direct and indirect cost savings

Authors: Mona Dumais, RPh, MBA; Barbara Prosser, RPh; Bridget Smith, RPh; Christine Miller, PharmD; Mary Woodward; Tim Walton, MHS, CCRP; Todd Hare, RPh – Soleo Health

Background

Immune globulin (IG) spend is significant for both payors and specialty pharmacy providers. IG demand continues to grow approximately 8% annually and remains in payors' top 5 therapeutic categories for cost.¹ Clinical interventions made by pharmacists play a role in reducing high dollar spend, preventing hospitalizations, all without compromising favorable outcomes. Optimal dosing, administration options and minimizing side effects keep patients on therapy, improve patient outcomes and decrease direct and indirect costs.

Purpose

The purpose of this study is to calculate the direct drug cost savings and indirect medical cost avoidance value of pharmacist-led therapy optimization and clinical intervention strategies for IG therapies and analyze patient outcomes.

Methods

A multi-disciplinary team conducted an 8-month retrospective review of patient medical records using a proprietary clinical outcomes program, SoleMetrics®. The review contained pharmacist interventions documented for patients receiving IG therapy and analyzed direct cost savings opportunities, such as dose adjustment and lack of response. Indirect cost savings were determined through evidence-based data indicative of decreased hospitalizations, therapy adherence, increased therapeutic response, side effect reductions, increased well-being, and patient events such as falls and infections. Patient cohorts were divided into neurology and immunology diagnosis groups.

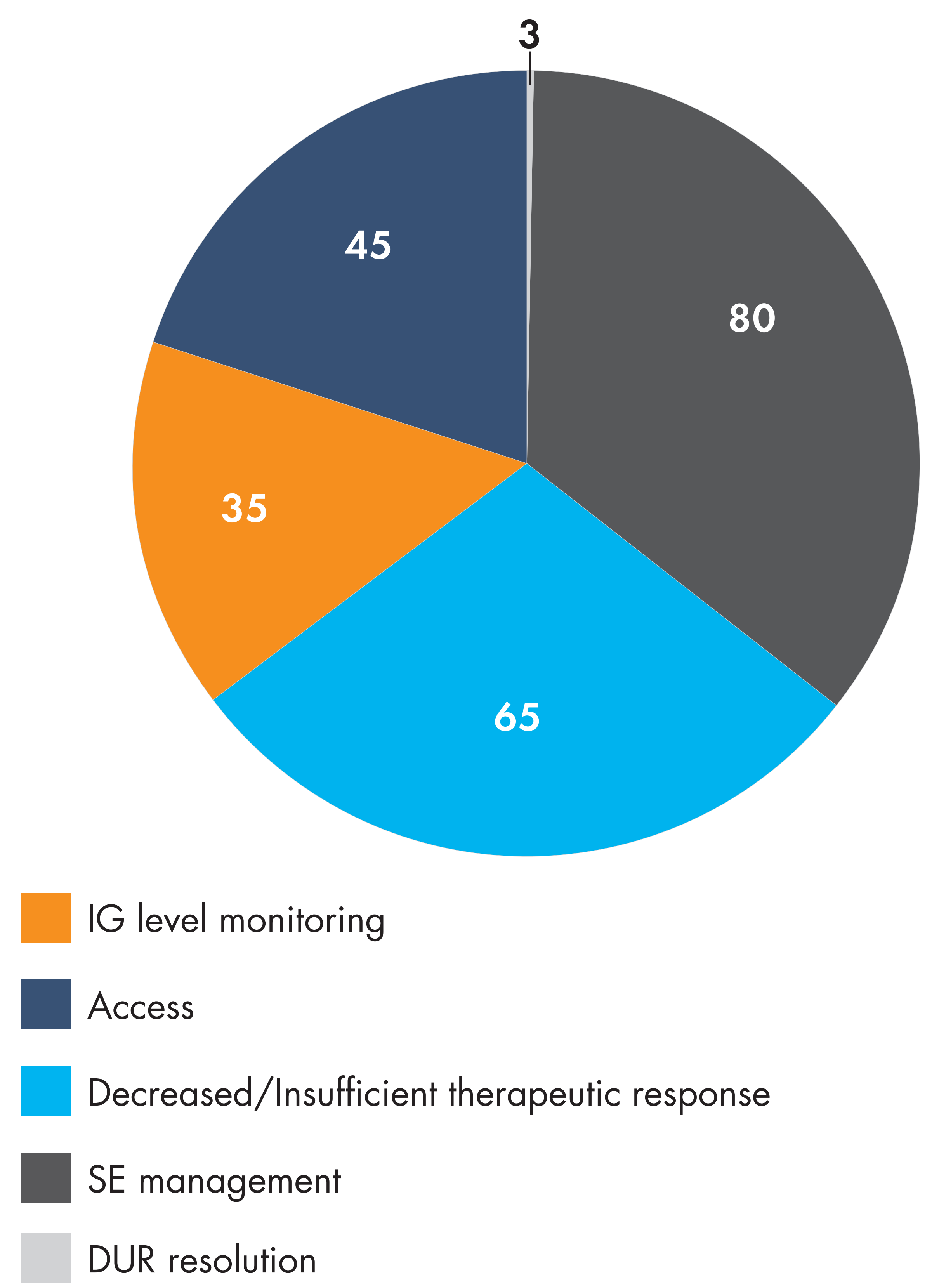
Results

Direct Cost Savings			
Interventions Reviewed = 65			
	Patient Numbers	Mean Cost Savings per patient	Annual Mean Payor Cost Savings
Dosage reductions or drug discontinuations related to positive patient outcomes	3	Dose dependent	\$152,924
Weight based interventions	8	Dose dependent	\$153,130
Total	11		\$306,054

Indirect Cost Savings			
Interventions Reviewed = 1,111			
	Interventions	Patient Numbers	Potential Mean Cost Savings per Patient Annually
POTENTIAL INDIRECT COST SAVINGS			
Interventions related to drug level monitoring, adherence concerns, barriers to care and negative patient outcomes			
Decreased therapeutic response	65	65	
Immune*	32	32	\$55,882 ²
Neuro**	33	33	\$38,636 ³
IG level monitoring	35	33	
Immune*	32	30	\$55,882
Neuro**	3	3	\$38,636
Adherence			
Access	45	45	
Immune*	36	36	\$55,882
Neuro**	9	9	\$38,636
Side Effect (SE) Management	80	80	
Immune*	37	37	\$55,882
Neuro**	43	43	\$38,636
Drug Utilization Review (DUR) Resolution			
Immune*	1	1	\$55,882
Neuro**	2	2	\$38,636
Total	228	226	

Table Footnotes:
 *Immune: Annual spend for a CVID patient after treatment compared to a patient prior to diagnosis is \$55,882. Once treatment is initiated and the patient is therapeutically appropriate, the assumption is that the patient will experience minimal symptoms, fewer MD visits and less treatment for infections. Potential savings per patient is \$55,882 annually with IG.² Mean cost per pneumonia episode in the emergency department visits: \$1,126.90; hospitalization for pneumonia: \$10,962.50.⁴
 **Neurology: The estimated cost of caring for a CIDP patient exclusive of the cost of the therapy was \$77,273 over a 24-month period (\$38,636 annually per patient). Indirect cost savings in patients with positive therapeutic response could be substantially higher with hospital admission avoidance, decreased outpatient visits cost and a decreased need for additional medication regimens.³ The mean cost estimation for a neurology-related hospital admission is \$68,231.⁵

Clinical Interventions Involving Indirect Cost Savings, n=228



Site of Care Interventions			
	Interventions	Patient Numbers	Potential Mean Cost Savings per Patient Annually
INDIRECT COST SAVINGS			
Keeps patients at home in a lower cost setting			
Insurance issues, care coordination, etc.	347	280	\$18,876 ¹
Patient Education (Dosing, Administration training, Caregiver training)	12	12	\$18,876 ¹

Authors of this presentation disclose the following concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation: Nothing to disclose.

Discussion

The economic burden of patients with neurology and immunology diseases is well documented in the literature. Costs related to medications for symptom treatment, hospitalizations, outpatient testing and physician visits are all indirect costs that drive the annual cost of a patient with CIDP, CVID or other diagnosis. Keeping the patient symptom-free could potentially lead to significant cost savings for the payors.

Interventions by the clinical staff keep patients on service at home and decrease the need for inpatient and outpatient services. Site of care also plays a role in the economic burden of caring for the patients. Improving adherence, resolution of patient insurance issues and removing care coordination barriers allowed patients to continue therapy at home in a lower cost setting.

Conclusions

Pharmacy clinicians offer significant value based cost-saving interventions while preventing adverse patient outcomes. Providing clinical follow-up and patient monitoring can keep patients on service and therapeutically stable. Patients receiving IG therapy whose doses were adjusted for changes in weight or therapy discontinued due to lack of response showed significant direct and indirect payor cost savings.

References

- Vaughan L. Managing Cost of Care and Healthcare Utilization in Patients Using Immunoglobulin Agents. Am J Manag Care. 2019 Jun;25(6 Suppl):S105-S111.
- Modell V, Quinn J, Ginsberg G, Gladue G, Orange J, Modell F. Modeling strategy to identify patients with primary immunodeficiency utilizing risk management and outcome measurement. Immunol Res. 2017 Jun;65(3):713-720.
- Divino V, Mallick R, DeKoven M, Krishnarajah G. The economic burden of CIDP in the United States: A case-control study. Plos One. 2018 Oct 23;13(10):e0206205.
- Tong S, Amand C, Kieffer A, Kyaw M. Trends in healthcare utilization and costs associated with pneumonia in the United States during 2008–2014. BMC Health Serv Res. 2018 Sep 14;18(1):715.
- Owens GM. The economic burden and managed care implications of chronic inflammatory demyelinating polyneuropathy. Am J Manag Care. 2018 Sep;24(17 Suppl):S380-384.