Assessing Pharmacogenomics Adoption and Implementation Barriers in Specialty Pharmacy: Results from an NASP Precision Medicine Subcommittee Survey

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BACKGROUND

- Pharmacogenomics (PGx) has demonstrated clinical value in optimizing therapy selection, improving safety, and enhancing outcomes across multiple disease states.[1]
- Specialty pharmacies are well-positioned to operationalize PGx; however, real-world adoption remains inconsistent.
- Understanding current utilization, workflow maturity, and implementation barriers is critical to inform scalable integration strategies.

OBJECTIVE

To understand current PGx implementation in specialty pharmacy settings, assess workflow integration and analytics capabilities, and identify key barriers and opportunities for broader implementation.

METHODS

- A cross-sectional survey was developed by the Precision Medicine Subcommittee of the Clinical Outcomes Committee within the National Association of Specialty Pharmacy (NASP). The questionnaire was organized into four domains:
  - Implementation and Practice Questions
  - PGx Knowledge Assessment
  - Attitudes & Perceptions
  - Demographics and Practice Information
- The survey was disseminated electronically to all NASP members and was open from February to April 2026.
- Eligible respondents were individuals who self-identified as actively practicing specialty pharmacists or working in a setting or role related to specialty pharmacy.
- Descriptive statistics were used to summarize survey responses.

RESULTS

Table 1: Survey Respondent Demographics (N=39)

	N (%)		N (%)		N (%)
Practice Experience (yrs)		**Practice Settings**		**Practice Specialty Role**	
>10	15 (38)	Non-patient-facing	18 (46)	Specialty Pharmacy	31 (82)
8-10	10 (26)	Mixed patient care & administrative	13 (33)	Managed Care/Payer	2 (5)
4-7	8 (21)	Direct patient care	8 (21)	Specialty Pharmacy IT	
1-3	5 (13)			Vendor	2 (5)
<1	1 (3)			Consultant	1 (3)
				Pharma	1 (3)
				Academic/Research	1 (3)

RESULTS

Just 36% of respondents report using PGx in practice

Figure 1: PGx Testing Across Therapeutic Areas (N=39)

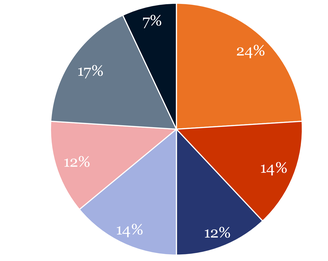


Figure 2: Clinical Timing of PGx Testing (N = 25)

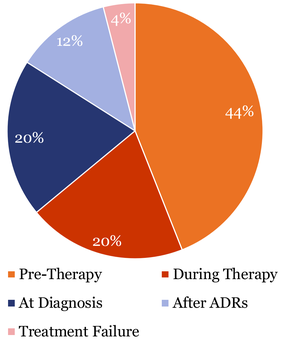


Figure 3: Current Practices for PGx Testing Implementation (N=39)

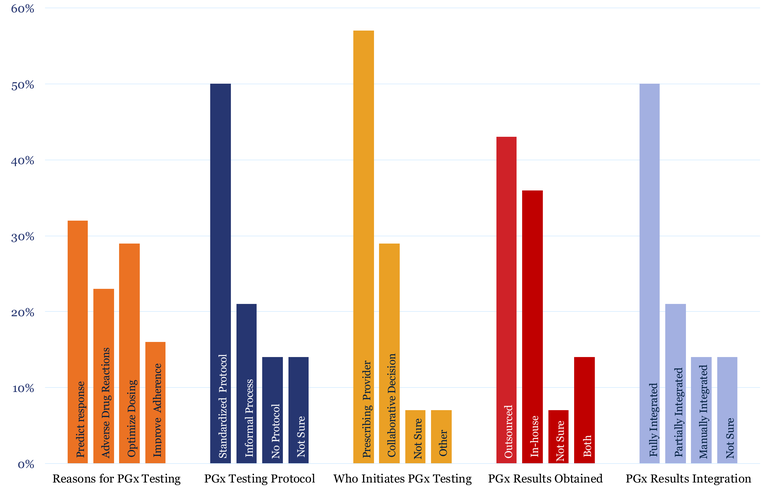


Figure 4: Respondent Knowledge and Confidence in PGx (N=39)

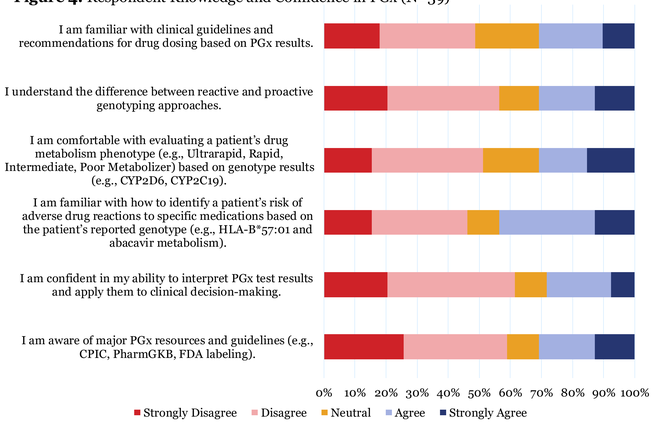


Figure 5: Attitudes and Perceptions Toward PGx in Specialty Pharmacy (N=39)

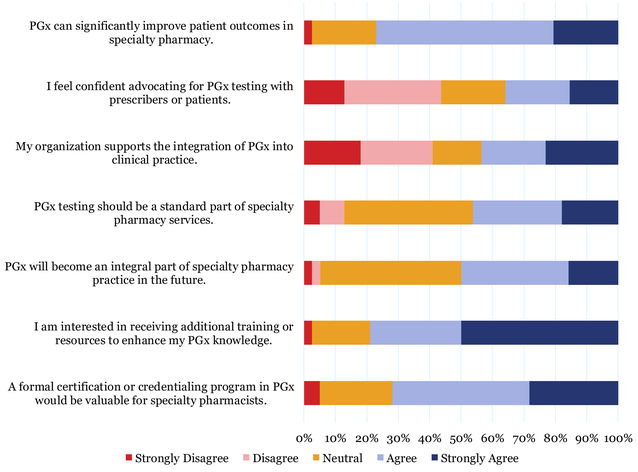
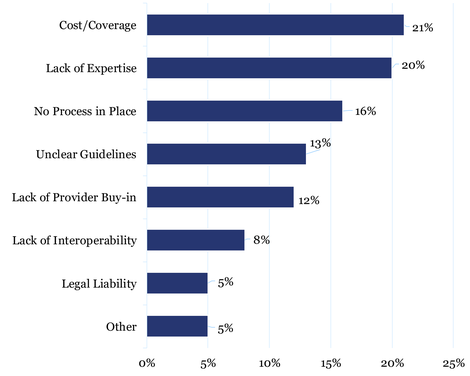


Figure 6: Barriers to PGx Testing Implementation (N = 39)



DISCUSSION & CONCLUSION

- PGx use in specialty pharmacy remains underutilized and largely oncology-focused, consistent with prior reports of low real-world uptake.
- These observations align with a 2020 report from UPMC's Center for Connected Medicine[2] highlighting the challenges that exist in scaling PGx programs, including cost, insurance coverage, and lack of training, guidelines, and integration, implementation of processes.
- Despite growing inclusion in guidelines and payer coverage, persistent gaps in implementation infrastructure suggest that advances in reimbursement, education, and standardized workflows are needed to support broader integration of PGx into routine specialty pharmacy practice.

REFERENCES

1. Hong JJ, et al. Optimizing pharmacogenomic clinical decision support: a usability study of epic's Genomic-Indicators. BMC Pharmacol Toxicol. 2026 Feb 21;27(1):49. PMID: 41723510; PMCID
2. Cipriano, J. Biomarker Testing in Advanced Cancer: Suboptimal Rates Despite Guideline Recommendations and Growing Insurance Coverage., The ASCO Post. July 22, 2015. Accessed April 28, 2026.