Utilization of Psychiatric Pharmacogenomic Testing by Primary Care Physicians and Advanced Practice Providers: Confidence and Implementation Barriers

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Background

- Pharmacogenomic (PGx) testing identifies individual genetic variation that may inform medication treatment.
- Clinician perceptions of the cost and utility of PGx testing, as well as confidence in its utilization, may limit routine implementation.
- Here we compare confidence in utilizing PGx testing and barriers to implementation by type of provider and treatment condition as identified in a survey.

Design

- Healthcare providers were targeted in the primary care setting between November 2022 and February 2023 via the Medscape Members paid market research program.
- The survey included 5 demographic, 5 multiplechoice, and 4 multicomponent five-point Likert scale questions to assess PGx sentiments, use, and education in mental health (e.g., depression) and primary care (e.g., cardiovascular disease) conditions.
- Responses were descriptively compared.

Results

• 305 U.S. providers responded (33.1% Physicians, 43.6% Advanced Practice Providers, and 23.3% Other) (Table 1).

Familiarity with PGx Testing for Informing Treatments in

Table 1. Participant Demographics

Total Respondents

Uses PGx testing

Mental Health Conditions

Does not use PGx testing

Physicians (MDs/D0s)

Nurse Practitioners

Physician Assistants

Registered Nurses

Primary Practice Setting

Academic Medical Center

Integrated or Collaborative Care

Specialty Care (e.g., behavioral health)

Pharmacists

Primary Care

Long Term Care

United States Region

Advanced Practice Providers

Have never heard of PGx testing

Uses PGx testing, but not for mental

Demographic

- The perceived major barriers to adopt PGx testing were similar for mental health and primary care conditions yet differed by provider type (Figures 1 and 2).
- Figure 1. Barriers: Mental Health

N (%)

305

140 (46%)

67 (22%)

86 (28%)

12 (4%)

101 (33.1%)

133 (43.6%)

123 (40.3%)

10 (3.3%)

71 (23.3%)

65 (21.3%)

6 (2.0%)

155 (51%)

46 (15%)

27 (9%)

14 (5%)

7 (2%)

56 (18%)

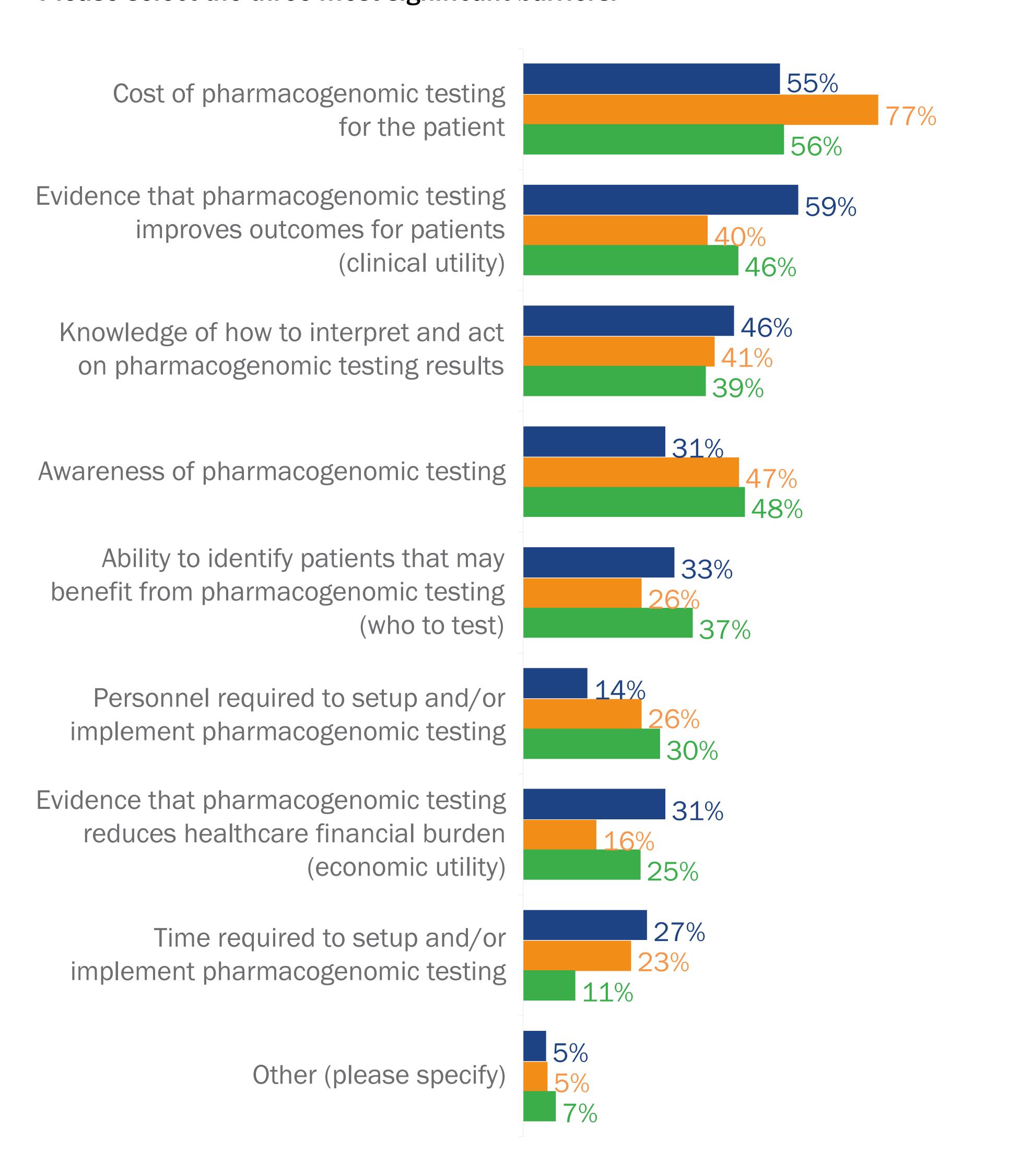
102 (33%)

73 (24%)

65 (21%)

65 (21%)

For mental health conditions such as depression, anxiety, or ADHD, what are the major barriers for you to adopt pharmacogenomic testing? Please select the three most significant barriers.



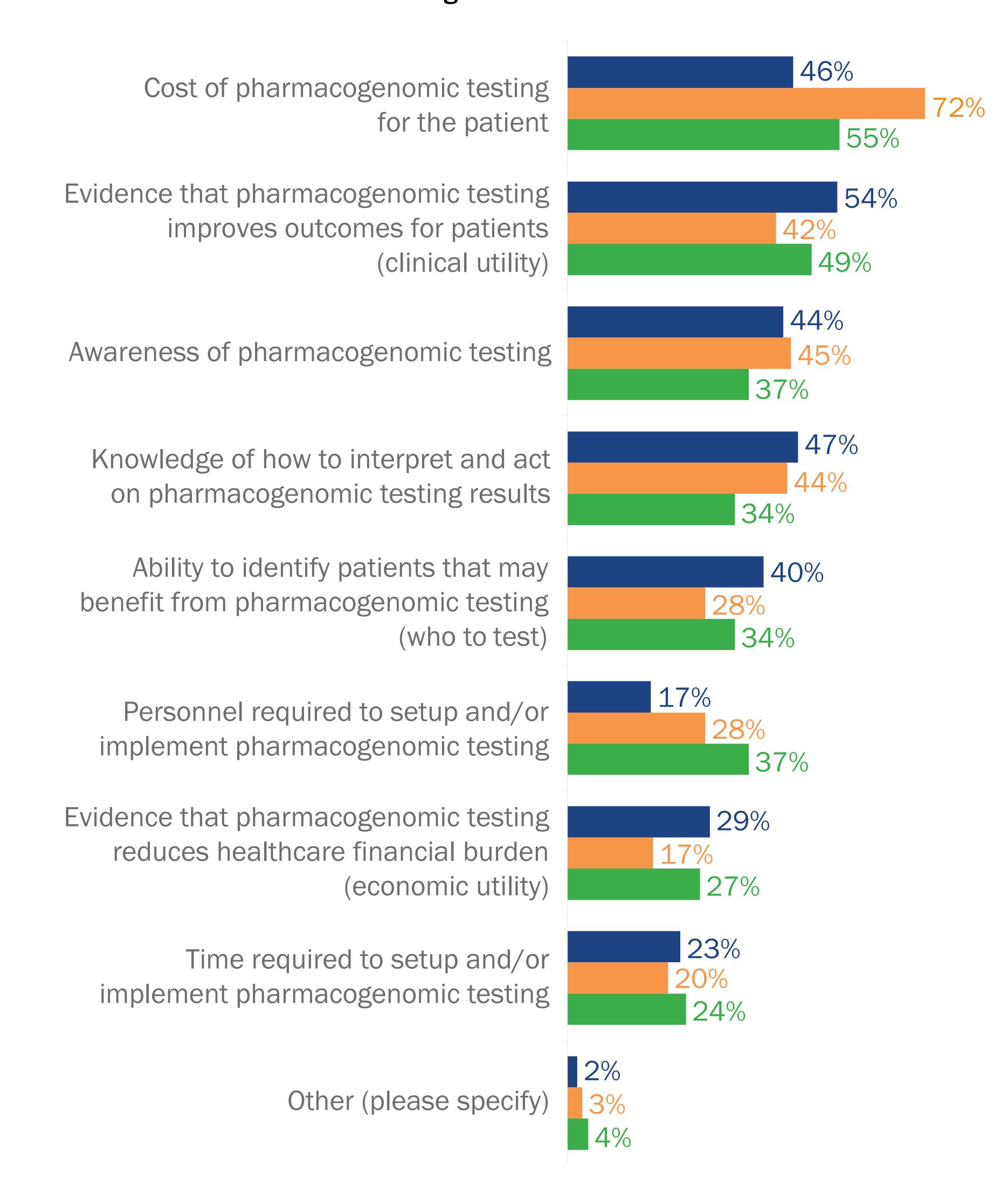
N=101 Physicians N=133 Advanced Practice Providers N=71 Other

than Physicians (46-55%), whereas Physicians were more concerned with evidence of clinical utility (54-59%) than Advanced Practice Providers (40-42%) (Figures 1 and 2).

Advanced Practice Providers (72-77%) were more concerned with patient cost

Figure 2. Barriers: Primary Care

For conditions commonly encountered in primary care such as cardiovascular disease or pain management, what are the major barriers for you to adopt pharmacogenomic testing? Please select the three most significant barriers.



N=101 Physicians N=133 Advanced Practice Providers N=71 Other

 In respondents who use PGx testing, Physicians reported slightly more confidence utilizing PGx than Advanced Practice Providers. For both groups, confidence in using PGx for mental health conditions was somewhat greater than for non-mental health conditions (Table 2).

Table 2. PGx Testing Confidence in Those Who Use PGx Testing

Table 2. PGX Testing Confidence in Those who use PGX Testing				
	Primary Care Conditions		Mental Health Conditions	
Question	Physician Average Response (N=32)	Advanced Practice Provider Average Response (N=49)	Physician Average Response (N=29)	Advanced Practice Provider Average Response (N=42)
1. Interpreting a PGx test report	3.53	3.27	3.86	3.50
2. Ordering a PGx test offered by your health system or embedded in your EMR/EHR	3.41	3.31	3.59	3.36
3. Ordering a commercial PGx test through a separate online portal	3.41	3.12	3.79	3.26
4. Using PGx testing to inform treatment of a patient with	_	_	_	_
a. Tramadol or other analgesics in primary care	3.53	3.22	N/A	N/A
b. Clopidogrel or statins in primary care	3.19	3.22	N/A	N/A
c. SSRIs in mental health conditions	N/A	N/A	3.69	3.64
d. Atomoxetine or stimulants in mental health conditions	N/A	N/A	3.38	3.26
Overall average	3.41	3.23	3.66	3.40

Questions scored on a 5-point Likert scale, where 1=Not at all confident and 5=Very confident.

Conclusions

- These data illuminate the perceived implementation barriers and confidence levels of clinicians utilizing PGx testing.
- Increasing awareness around patient cost and evidence of clinical utility for PGx testing may improve utilization.