

Challenges Faced by Rural Primary Care Providers Caring for Parkinson's Disease Patients

in Neighbor Islands of Hawai'i

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Background

- Parkinson's Disease (PD) is a chronic neurodegenerative disease
- Severity and type of symptoms (motor and non-motor), and disease progression rate varies among PD patients
- PD care is complex and multifaceted
- Access to ancillary services and specialist care are limited in rural areas
 - Ex. Bruno et. al. (2022)
 - 2013-2018 → 3 neurologist prescribed PD meds in rural HI
 - In urban HI, ~75% of PD meds prescribed by neurologists
 - In rural HI, ~25% of PD meds prescribed by neurologists

Objective



To understand the challenges and barriers faced by rural providers in Hawai'i for Parkinson's Disease (PD) care.

Methods

National Medicare
Provider Utilization &
Payment Data: Part D
Prescriber (Public
files)

- Prescribed PD meds (carbidopa/levodopa, pramipexole, ropinirole) in HI
- Between 1/2017 and 12/2019
- 252 providers

5 excluded

- Having been convicted or elicited illegal acts
- Provider no longer practiced in HI
- Unknown mailing address

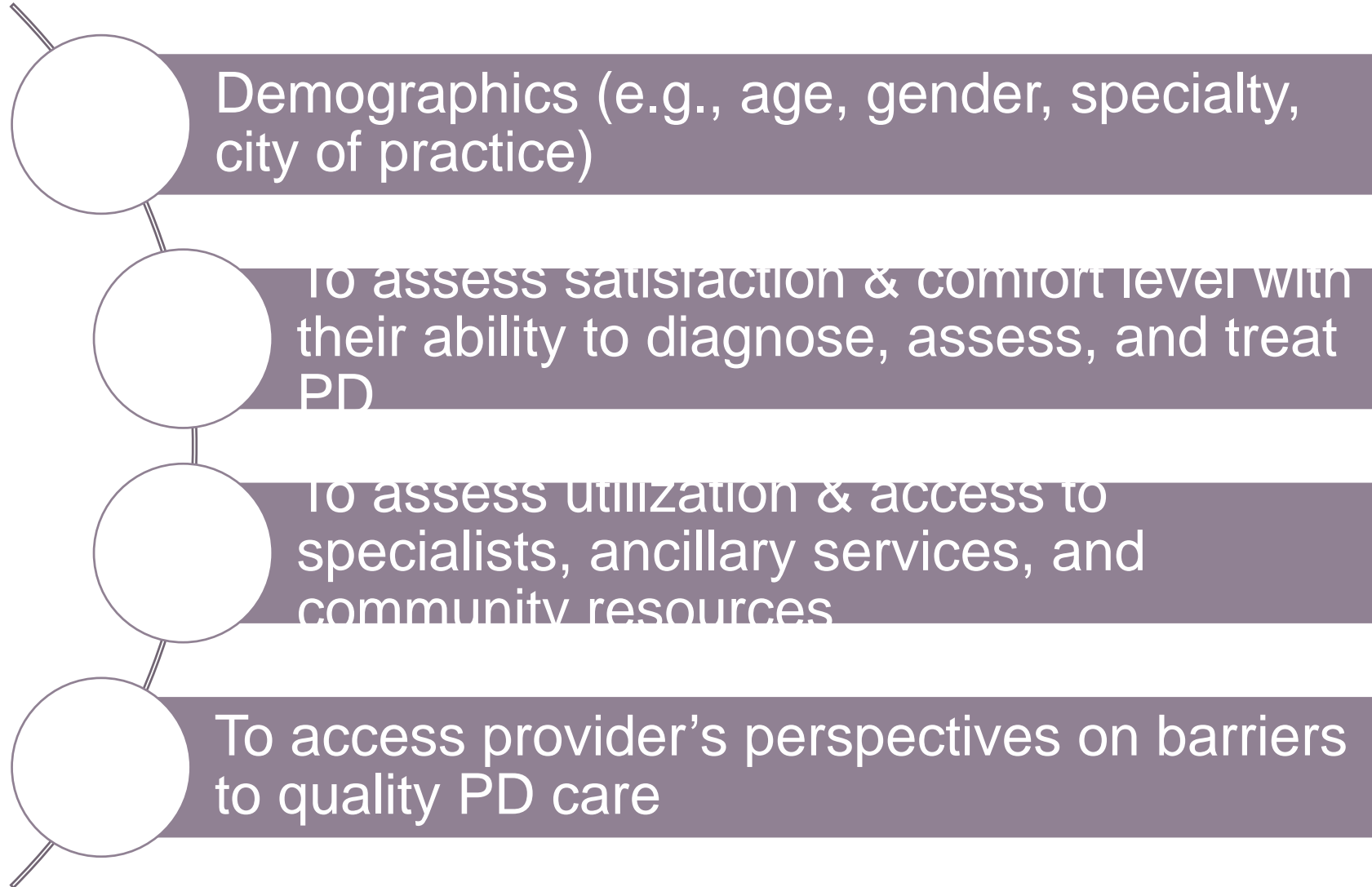
Sent mail (info sheet, self-administered 20 item survey, & stamped return envelope) to eligible providers

- 247 providers
- Response rate = 12.6% (31 surveys)
 - Within 1 month

31 responses included in final sample

- Submission of survey served as consent
- Anonymity kept

Survey Design



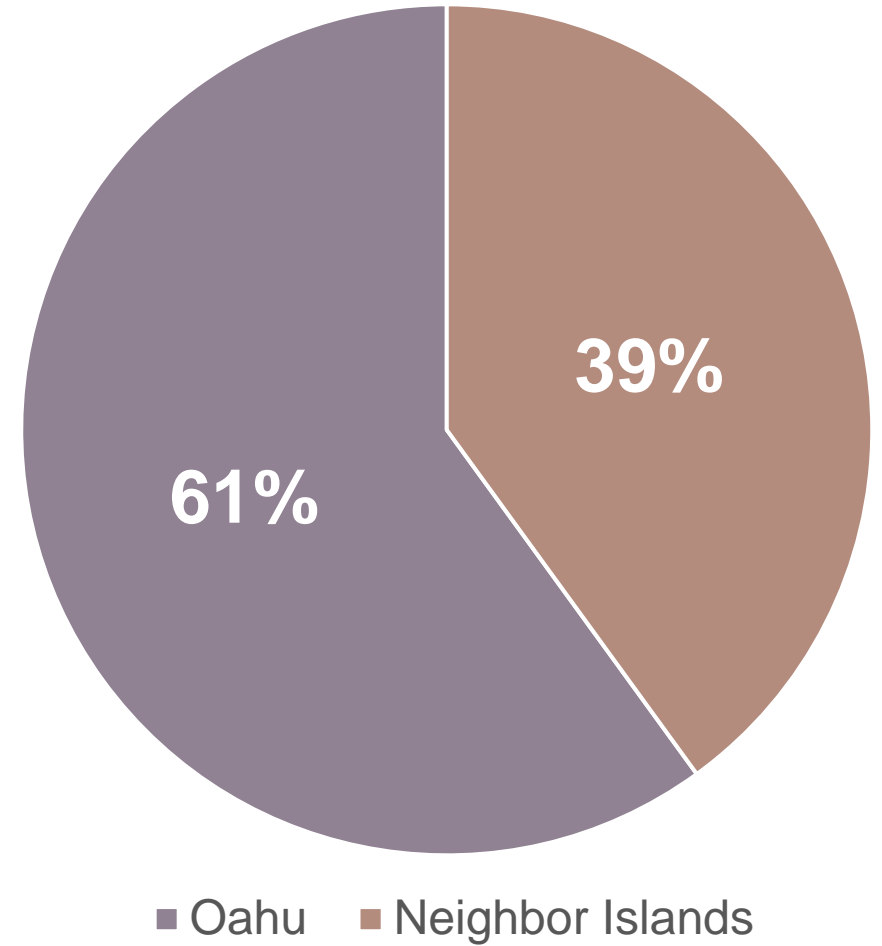
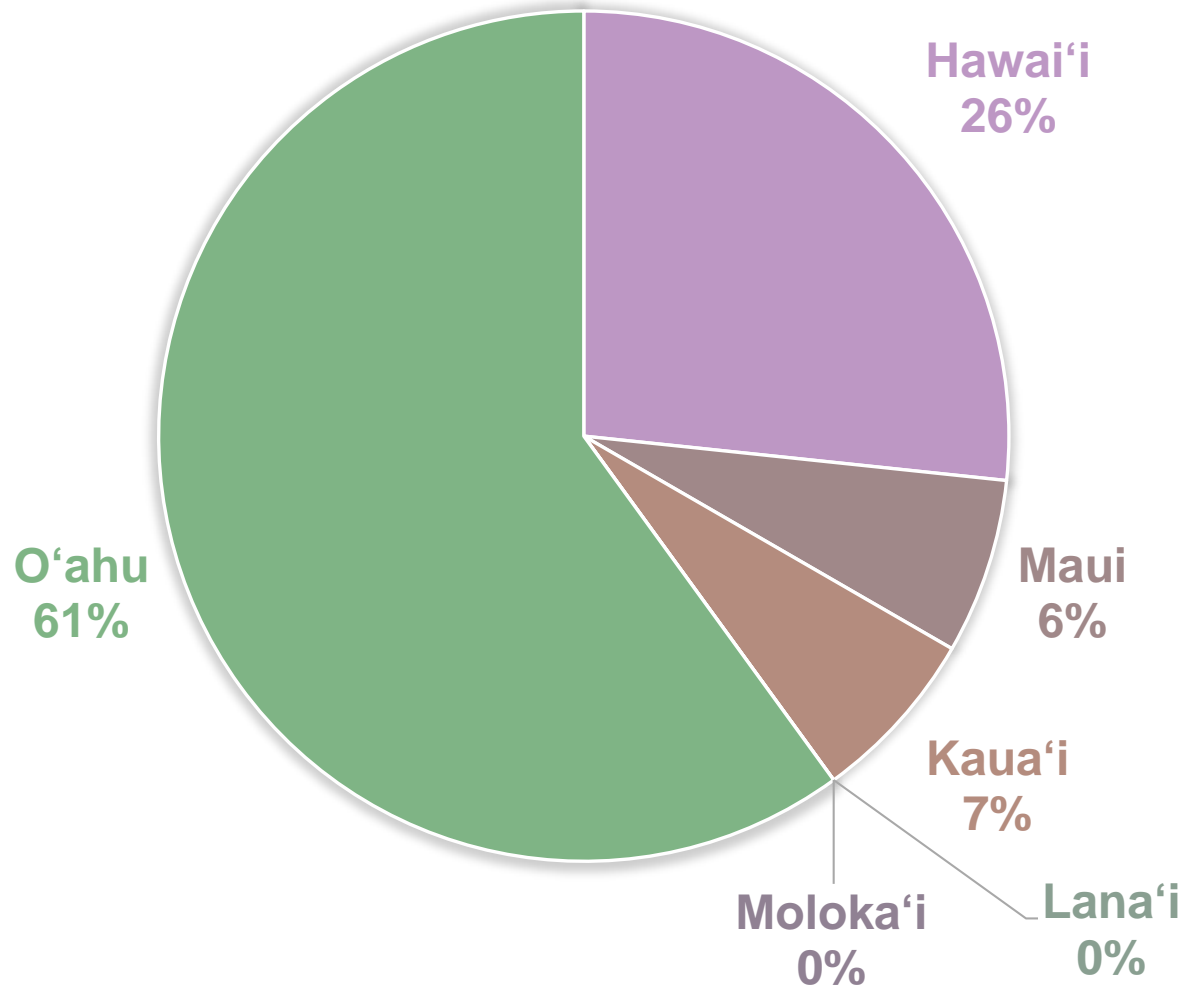
Statistical Analysis

- 2 Comparison groups: O'ahu providers & neighbor island providers
 - Neighbor island = Islands of Hawai'i, Kaua'i, & Maui
- Survey responses stored in Excel
- Descriptive statistics (e.g., frequencies and percentages)
- Fisher Exact Test via R Studio
- Unpaired T-tests via Excel

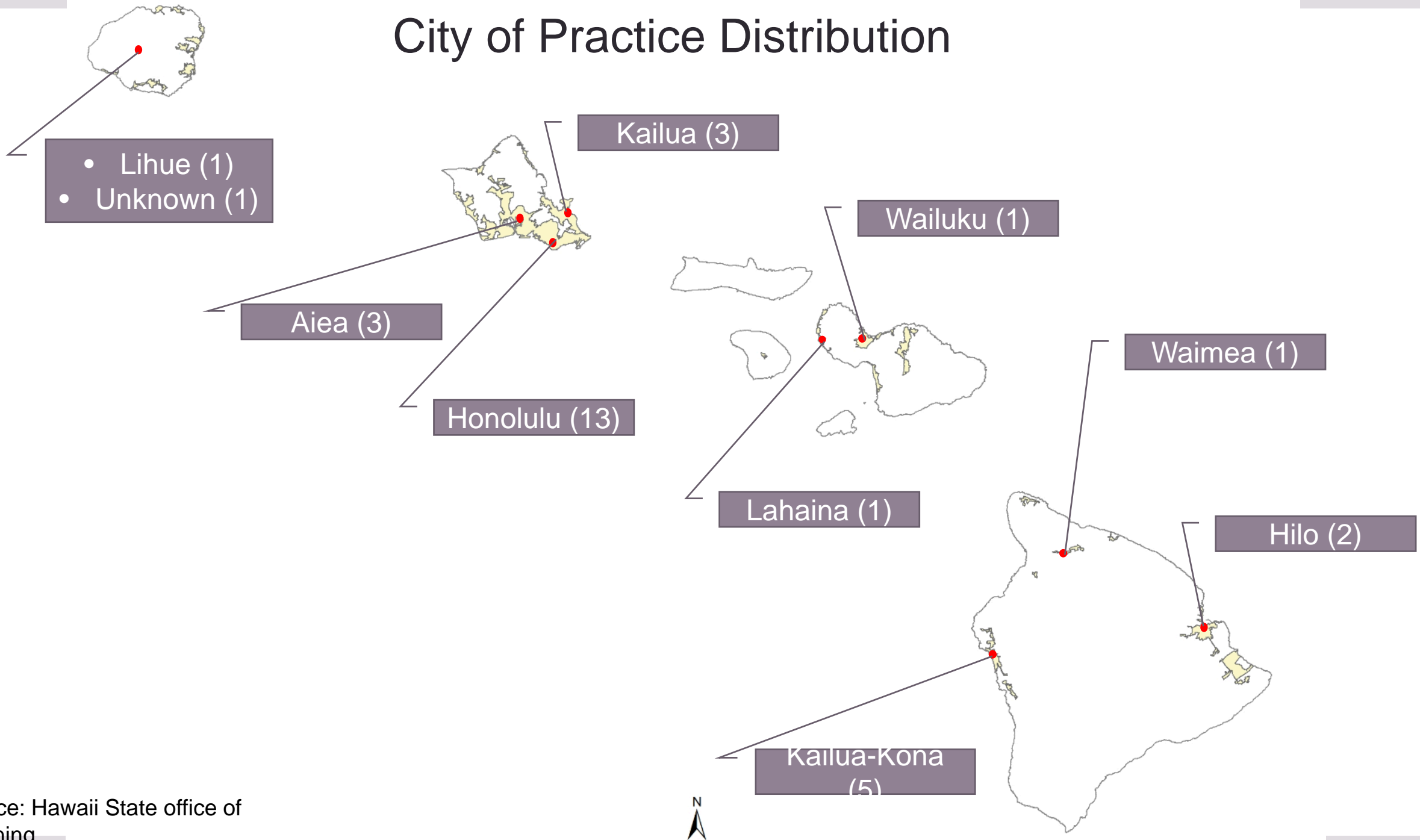
RESULTS & DISCUSSION



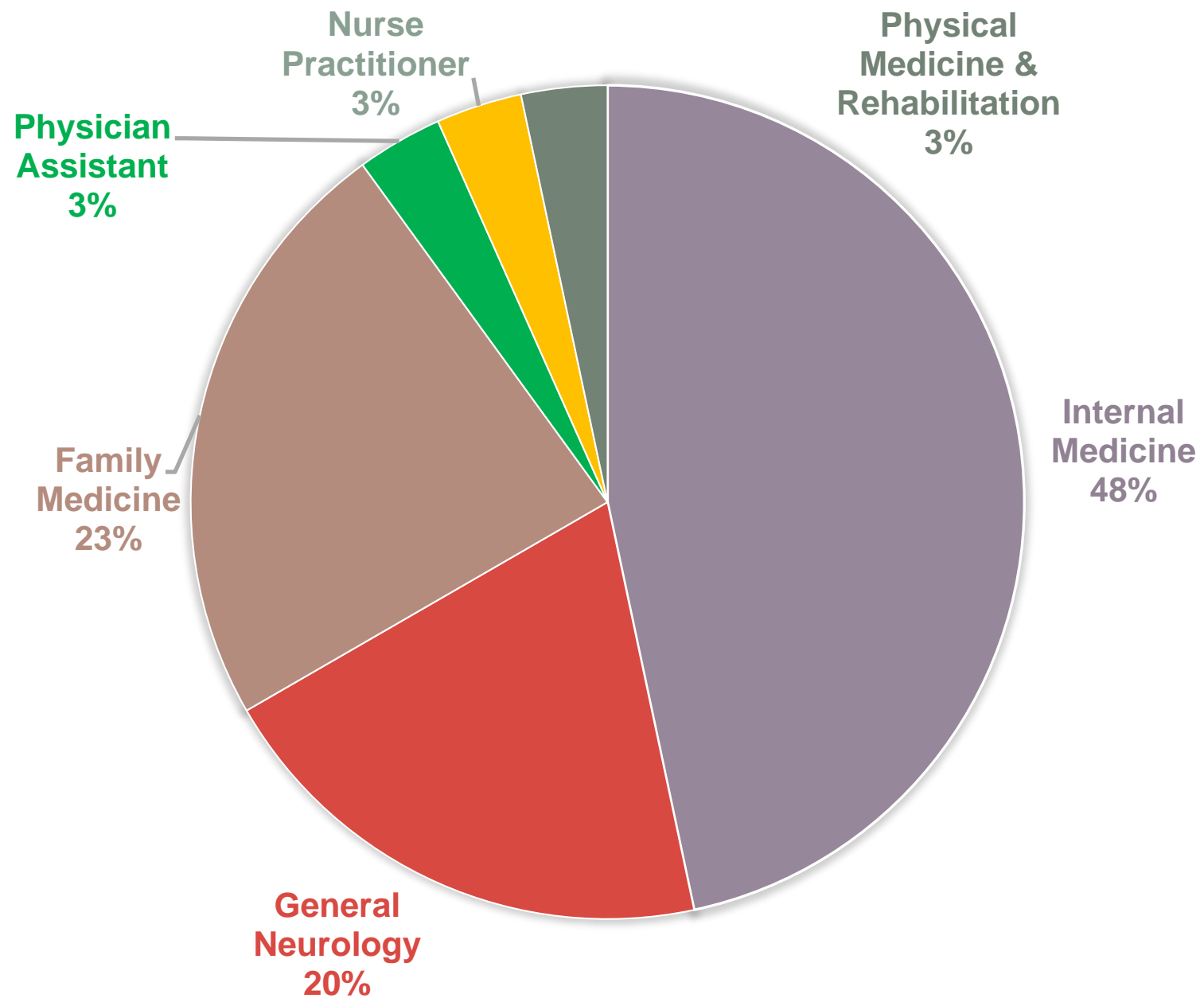
Demographics: Island of Residence



City of Practice Distribution

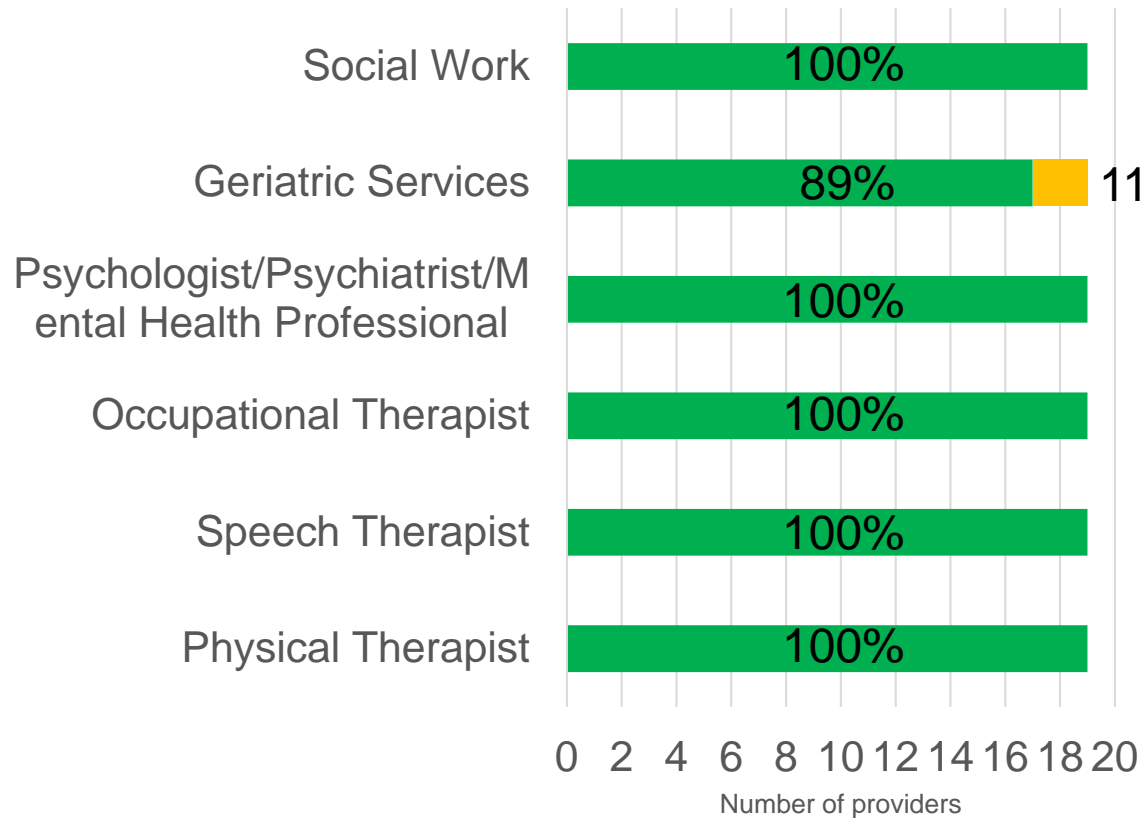


Overall Specialty Distribution



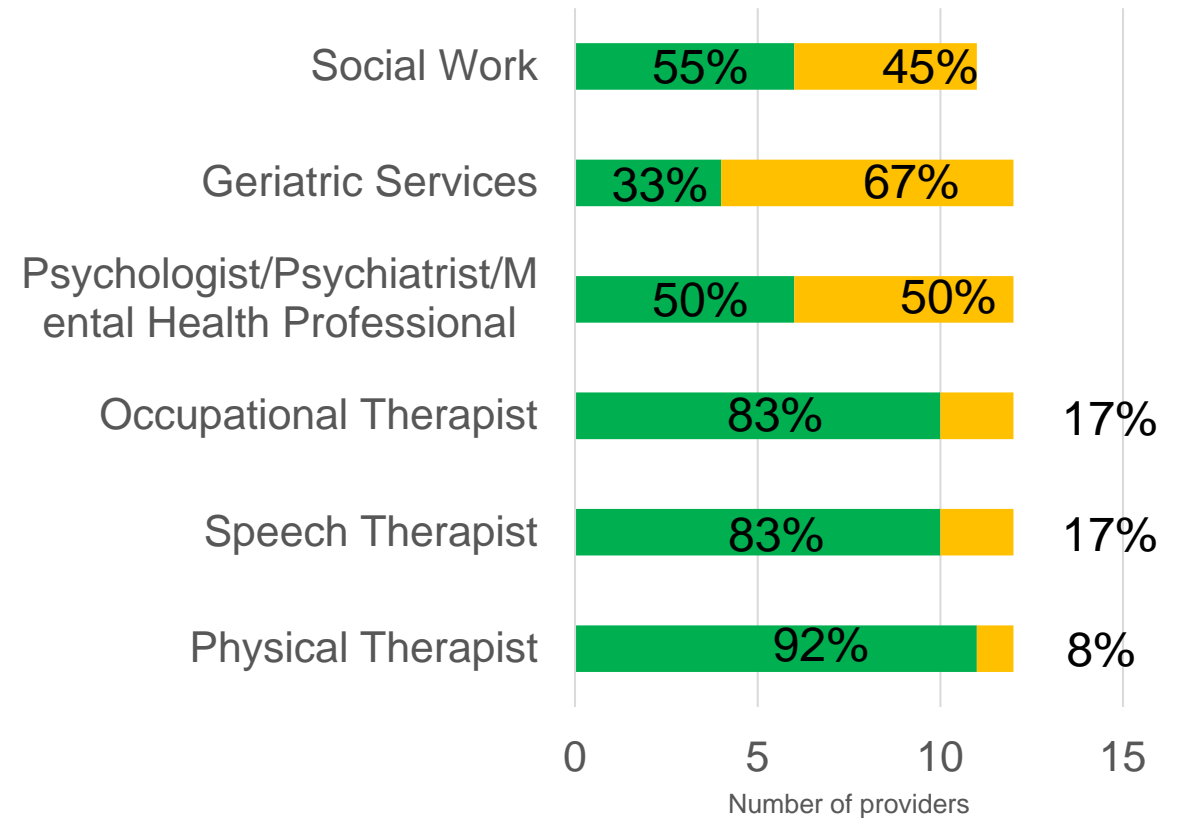
Are the following ancillary services accessible to your patients?

Oahu
(Out of 19)



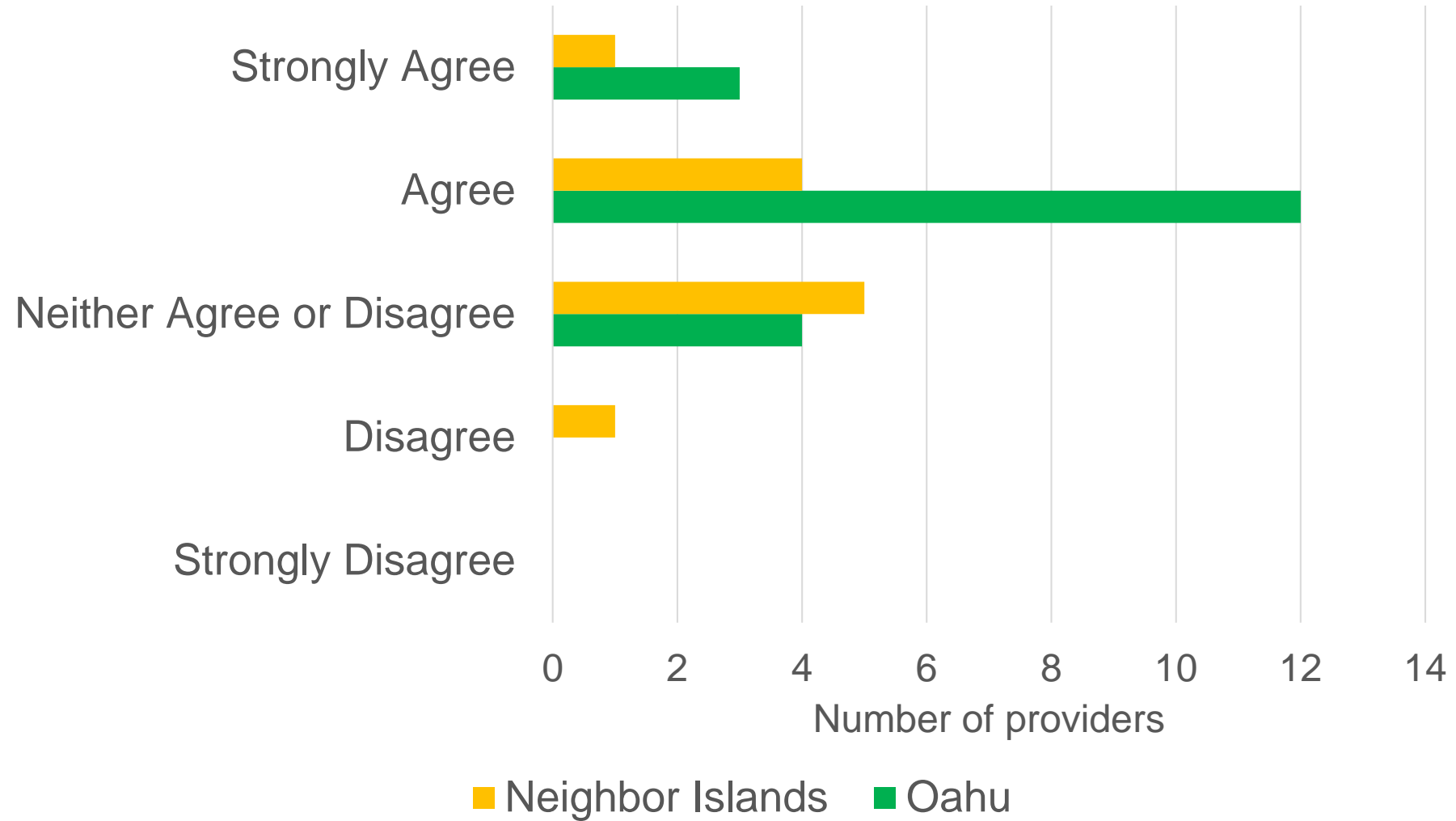
■ Yes ■ No

Neighbor Islands
(Out of 12)



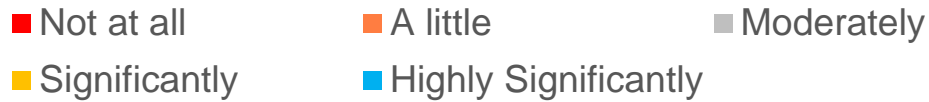
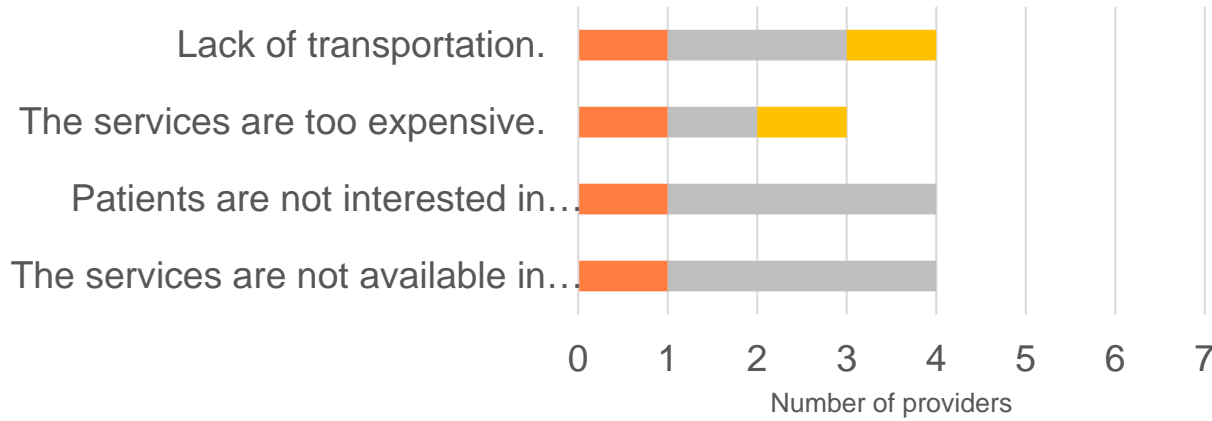
■ Yes ■ No

My patients usually receive the services I recommended.



Rate the barriers to utilization & access of services:

O'ahu

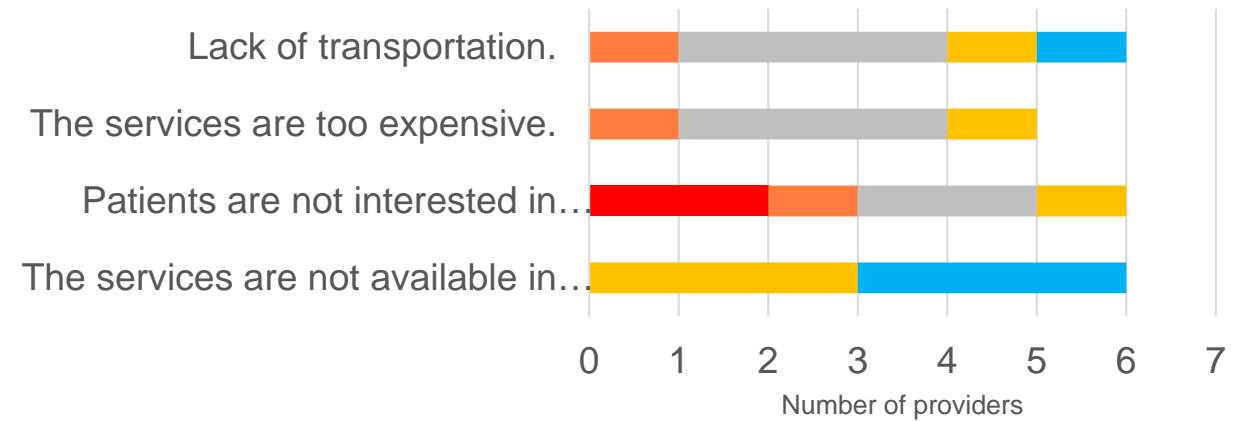


Response rate:

Oahu: 21%

Neighbor Islands: 50%

Neighbor Islands



Insignificant Associations

- Island of residence: Oahu vs Neighbor Islands
 - Type of resources providers seek for PD education (p=0.2071)
 - Type of criteria used for PD diagnosis (p= 0.8784)
 - Comfort level of PD medication, except Amantadine

PD Medication	P-value
Carbidopa-Levodopa	0.30
Amantadine	0.05
MAO-inhibitors	0.38
Dopamine Agonists	0.35
Trihexyphenidyl	0.32
COMT-Inhibitors	0.89

Limitations

- Ascertainment bias
 - Low response rate (12.6%)
 - Results are not generalizable to overall population of Hawai'i providers
 - Results may not portray the true reality of accessibility

Conclusion

- No significant differences among O‘ahu and neighbor island providers on their comfort level in providing certain aspects of PD care
- In contrast to O‘ahu, neighbor island providers reported less accessibility to ancillary services
 - Psychologists/psychiatrists/mental health professionals
 - Geriatrics
 - Social work

Acknowledgements

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Reference

1. Bruno, M. K., Watanabe, G., Gao, F., Seto, T., Nakagawa, K., Trinacty, C., Brown, S., & Taira, D. A. (2022). Difference in rural and urban Medicare prescription pattern for Parkinson's disease in Hawai'i. *Clinical parkinsonism & related disorders*, 6, 100144. <https://doi.org/10.1016/j.prdoa.2022.100144>



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MEDICAL CENTER**

MAHALO!



Question?

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