Preferences for Subtyping Primary Aldosteronism: an Australian perspective

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Introduction

- Primary aldosteronism (PA) – commonest endocrine cause of hypertension.
- Prevalence – 5 to 15% of all hypertensive patients (1).
- PA can be classified as either:
  - (Unilateral) Aldosterone producing adenoma (APA) – potentially surgically curable
  - Bilateral adrenal hyperplasia (BAH)
- Gold Standard for subtyping PA: Adrenal Vein Sampling:
  - Blood collected from both adrenal veins to measure aldosterone levels.
    - invasive, technically challenging, costly, limited access.
- Two emerging subtyping alternatives under consideration:
  - Functional imaging with specific molecular positron emission tomographic ligands (PET-CT) (2)
  - Predictive algorithm (3)

Aims

- Explore preferences for the different PA subtyping procedures: AVS, PET-CT and a scoring algorithm.
- Estimate market uptake rates for the three subtyping procedures.

Methods

- Discrete choice experiment to elicit preferences
- Literature review & expert interviews produced an initial list of seven attributes (***3 retained – Subtyping accuracy, waiting time & side effects***).
- Costs likely to influence choice between tests. Two experiments designed:
  - ***No direct out-of-pocket costs (Experiment 1): mimics public sector***
  - ***Direct out-of-pocket costs (Experiment 2): mimics private sector***
- Conditional Logit models & Latent Class Analysis
- Adults (18+ years), in Australia, diagnosed with/taking medication to control BP.
- Data collection: December 2023 – January 2024

Figure 1: Example of Scenario

AVS	Algorithm	PET-CT
Subtyping accuracy: **70% likely to give an accurate diagnosis of surgically curable disease**	Subtyping accuracy: **80% likely to give an accurate diagnosis of surgically curable disease**	Subtyping accuracy: **95% likely to give an accurate diagnosis of surgically curable disease**
Waiting time for procedure: **6 months**	Waiting time for procedure: **None**	Waiting time for procedure: 12 months
Potential side-effects: **Moderate (e.g. adrenal gland bleeding (very rare), allergic reaction)**	Potential side-effects: **None**	Potential side-effects: **None**
AVS ○	Algorithm ○	PET-CT ○

Limitations

- High proportion have heard of PA & receiving treatment or had surgery for it. Their experience with AVS would influence the results.
- Assume participants know enough about PA.
- Only English language version of questionnaire offered.

Discussion & Conclusion

- General preference for PA subtyping as opposed to opting out of any subtyping.
- Will subtyping with procedure that are less invasive, quick & limited side effects.
- Willingness to subtype with slightly less accurate procedure if no additional tests required, has no potential side effects and no extra costs.
- Uptake rates highest for predictive algorithms.

References

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Results:

Table 1: Participant Characteristics

Variable	N	Value
Age (mean (SD))	583	48.3 (17.6)
Sex		
Male	282	48.4%
Female	295	50.6%
Other	5	0.9%
Prefer not to Say	1	0.2%
Born in Australia		
Yes	461	79.1%
No	122	20.9%
Highest level of Education		
At least secondary School	164	27.7%
Trade certificate/Vocational	146	25.0%
Undergraduate Degree or Higher	280	47.3%
Receiving Treatment/Had Surgery for PA	91	15.4%
Too Busy to Worry about BP		
Yes	115	19.73%
No	468	80.27%

Subtyping Preferences

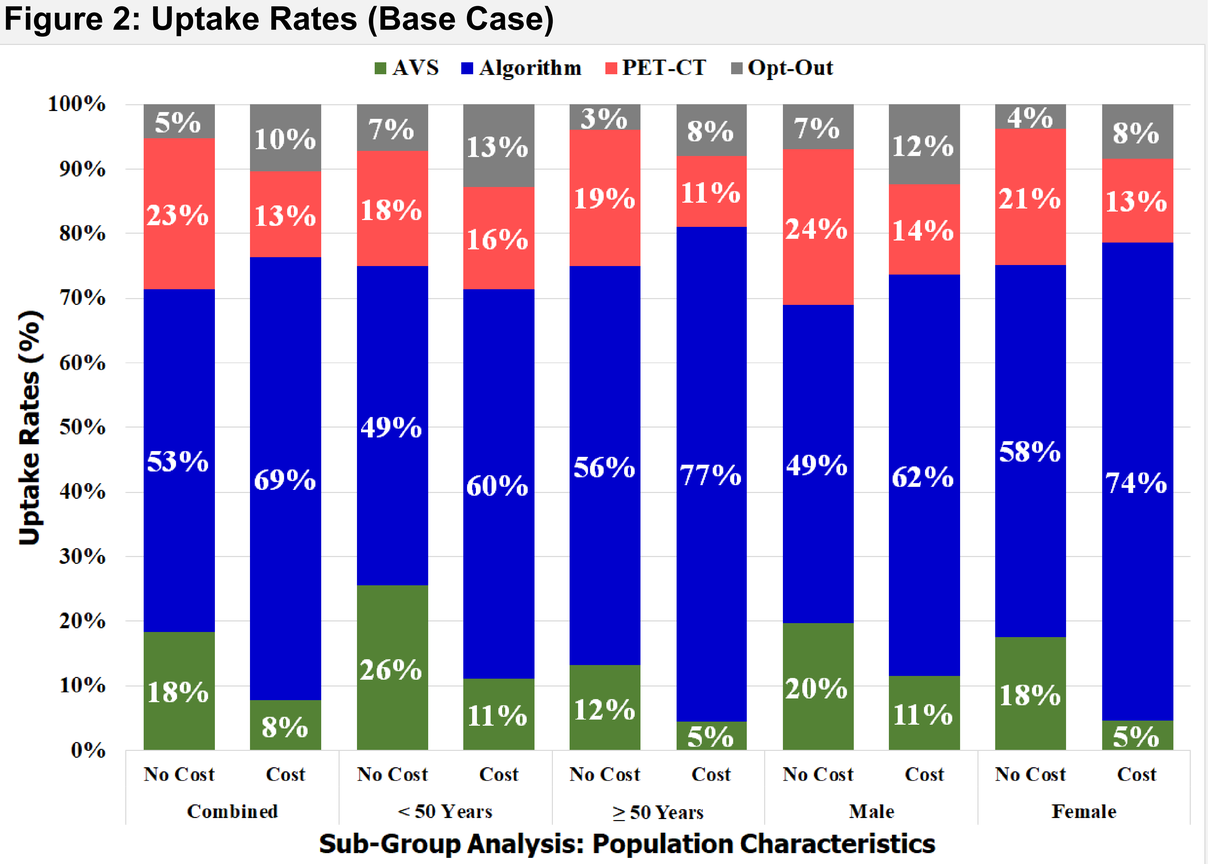
- ***General preference subtyping techniques that are 1) highly accurate , 2) have a short waiting time, 3) have minimal side effects & 4) are less costly.***
- ***Two groups of patients: 1) engaged & willing to subtype – older, female, less busy, not receiving treatment & 2) less ungagged and generally unwilling to subtype – younger, male & busy.***

Uptake Rates & Policy Simulations

Table 2: Base Case Scenario

Attribute	AVS	Algorithm	PET
Accuracy	Surgery has a 90% likelihood of curing you	Surgery has an 80% likelihood of curing you	Surgery has a 90% likelihood of curing you
Waiting Time	3 months	None	3 months
Side Effects	Minor	None	Minor
Cost	AU$ 500	None	AU $500

Figure 2: Uptake Rates (Base Case)



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