Private Health Insurance in Australia: an experimental approach

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Project Setting

In view of the Department of Health and Aged Care's review of the PHI regulatory settings, a survey (experimental design) was run to quantify the impact of the MLS and PHI rebate on the demand for PHI (elasticity), and identify and model alternatives with the purpose of:

- Improve the affordability and value of PHI, and participation in PHI.
- Move toward optimal settings for PHI as means of financing the mixed model of private and public healthcare.

The Focus Questions of the Survey

We have fielded a survey to collect data from which we can provide insights into consumers preference. The key focus questions of the survey :

- How do consumers respond to changes in the MLS, Rebate and LHC? In particular, their choice to participate and their product choice.
- Which sub groups of the population have a stronger or weaker response to PHI incentives than average?

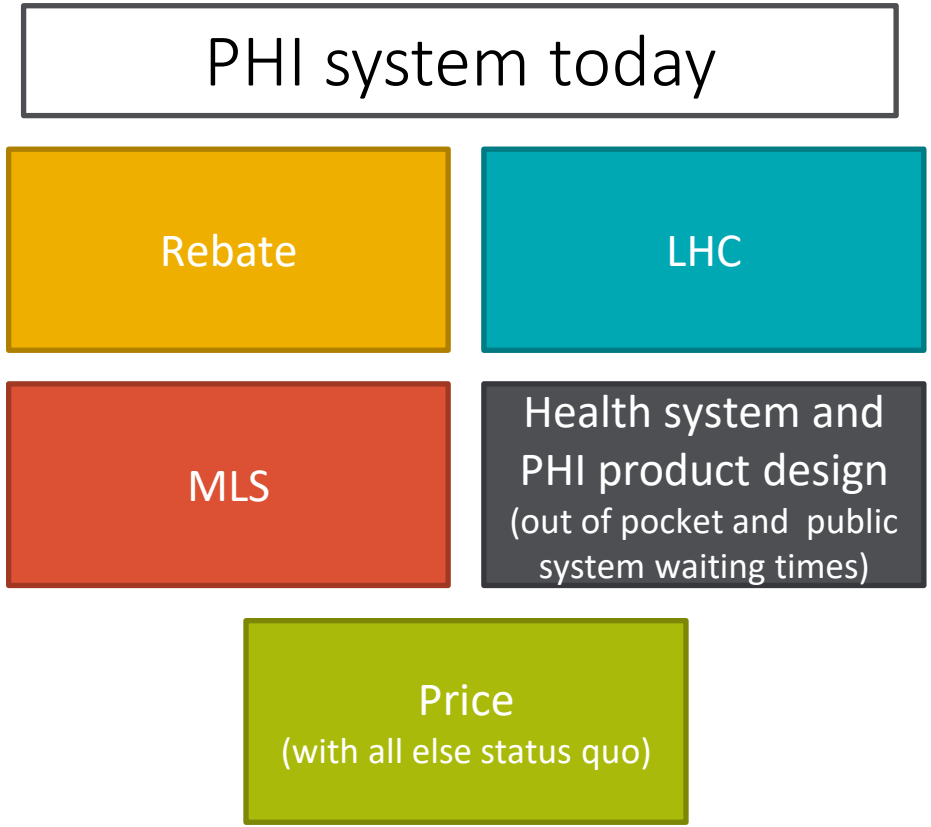
Based on these results, we can then provide input to the broader questions under consideration in the overall review:

- What is needed to move toward optimal PHI financing of health services to the population?
- What changes are needed for Rebate and MLS over short and long term time periods?

This survey is a vital step because it determines what specific type of intervention will produce the largest response from consumers. The survey also gauges whether the existing policy settings are serving the needs of target consumer participants.

Our approach

- We have set up the survey to test these components of the PHI system (i.e., how consumers respond to changes)
- In this presentation we will provide an overview of key results
- We also show results for population sub-groups where different responses are seen across age, income and household type.



Preview of results

Given the parameters of survey and specific deviations from SQ examined

Changes in **MLS and Rebate rates** have strong significant effects with particular impact coming from the removal of such policies.

Changes in **base premiums, LHC rate or LHC threshold** do not significantly affect PHI uptake or PHI product choice

Changes in **other market characteristics** seem to have limited effects on PHI uptake or PHI product choice

Attributes selected for testing

Attribute	Level 1	Level 2	Level 3	Level 4
LHC Rate	Decrease rate to 0%	Status quo	Increase rate 3%	
LHC threshold	Status quo	Age threshold increase to 40		
MLS Rate	Decrease by 0.5%	Status quo	Increase by 0.5%	
MLS threshold	Decrease by $10k (singles) $20k (families)	Status quo	Increase by $10k (singles) $20k (families)	
MLS exemption	Status quo (ie applicable for None)	Exclusion (Require Silver+ for exemption)		
Rebate	Remove completely	Decrease	Status quo	Increase
OOP	Guaranteed $0	Max of $500 per treating doctor	Variable depending on treating doctor (Status quo)	
Public System	Longer waiting times for elective surgery	Shorter waiting times for elective surgery	Status quo	
Premium - Basic / Bronze	10% Decrease	Status quo	10% Increase	
Premium - Silver / Gold	10% Decrease	Status quo	10% Increase	

Survey setting: Status Quo baseline

- Status Quo (SQ) scenario presented; respondents asked to select their PHI product or Opt-out.
- SQ serves as baseline against which choices in other scenarios are compared (i.e. relative differences)

This scenario has today's rebate, MLS and LHC values.

If these products were the only ones available for you right now, which one would you purchase?

Personalized to individual circumstances

Total premium includes:	Basic	Bronze	Silver	Gold	None
Base premium	$110.00	$130.00	$180.00	$280.00	-
- Rebate amount 16.4%	$18.04	$21.32	$29.52	$45.92	-
+ LHC loading 2% per year above 30	$11.00	$13.00	$18.00	$28.00	-
Total premium (monthly)	$102.96	$121.68	$168.48	$262.08	-
Annual MLS amount shown based on your income MLS rate = 1.00%	$0.00	$0.00	$0.00	$0.00	$1800.00
	Select	Select	Select	Select	Select

Survey setting: change from SQ

Scenario 3 - Rebate decreased

Imagine if the rebate went down by 10%.

If these products were the only ones available for you right now, which one would you purchase?

Total premium includes:		Basic	Bronze	Silver	Gold	None
Base premium		$110.00	$130.00	$180.00	$280.00	-
- Rebate amount	6.4%	$7.04	$8.32	$11.52	$17.92	
+ LHC loading	2% per year above 30	$11.00	$13.00	$18.00	$28.00	-
Total premium (monthly)		$113.96	$134.68	$186.48	$290.08	-
Annual MLS amount shown based on your income	MLS rate = 1.00%	$0.00	$0.00	$0.00	$0.00	$1800.00
		Select	Select	Select	Select	Select

Premiums recalculated based on different rebate in this example

Survey design

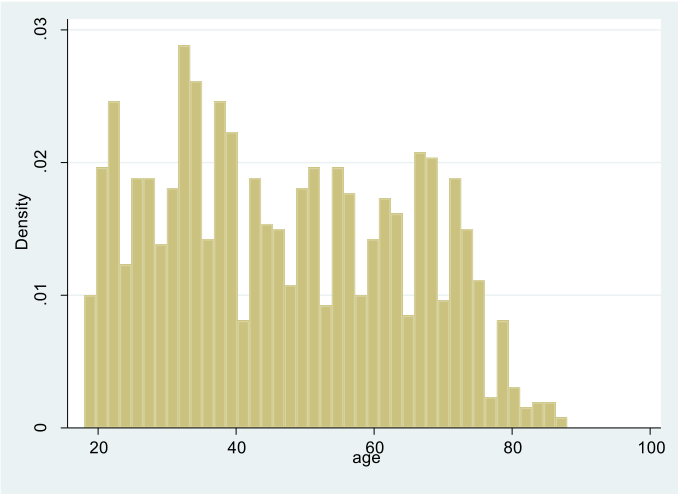
- SQ + 38 further scenarios presented
- Each scenario differs from SQ by one attribute level (2-way changes allowed for MLS and Rebate; base premiums)
- Base premium changes grouped: Basic/Bronze; Silver/Gold
- Design allows effects to be independently identified
  - Even if premiums are presented as “final value”, design allows effects from change in base premiums to be separately identified from changes in rebate rates.

Data collection

- Online collection through marketing panel (conjoint.ly)
- Each respondents saw 10 random scenarios
- 1524 respondents (N=15240)

45% Males; 55% Females
Mean income= $59.5K (sd=48K)

State	Freq.	Percent
ACT	210	1.38
NSW	5,120	33.60
NT	200	1.31
QLD	2,450	16.08
SA	1,010	6.63
TAS	330	2.17
VIC	4,130	27.10
WA	1,790	11.75



Statistical Analysis

Binary choice (Participation)

- Do respondents purchase PHI or not: **Yes** (Basic/Bronze/Silver/Gold) vs **No** (Opt-out)
- Analysis shows how differences between scenarios affect **Probability of Yes**

Categorical choice (Product Choice or Opt-out)

- What type of product respondents purchase: **Basic** vs **Bronze** vs **Silver** vs **Gold** vs **Opt-Out**
- Analysis shows how differences between scenarios affect **Probability of each of 5 options**

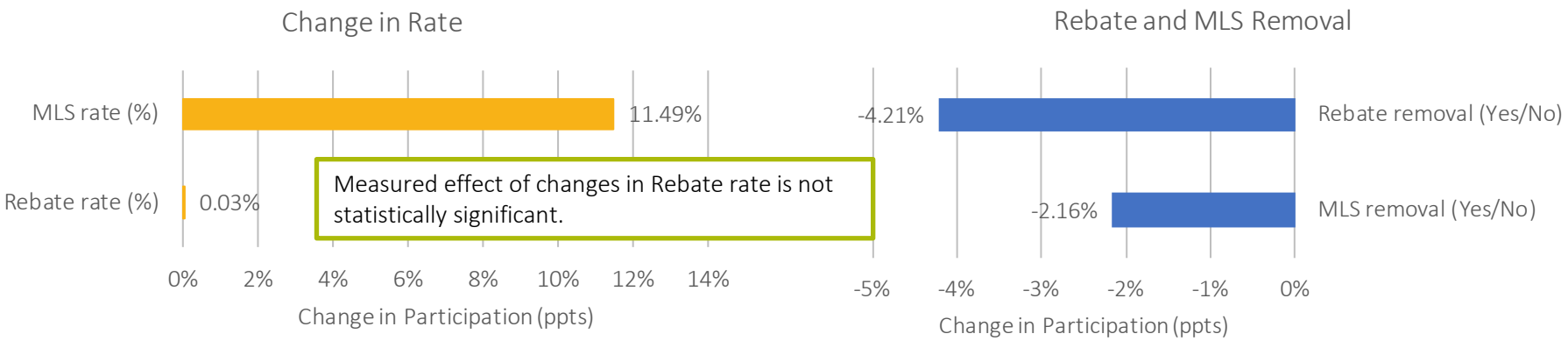
Types of analysis

- Graphically – what is the probability of **Yes** or **Each of the 5 options** and how does it change as the scenario attribute changes
- Statistical analysis of **Marginal effects**: how does the **probability of choice change** (in percentage points) when the scenario attribute changes.
- Statistical analysis measures the **size** of the effect (i.e., how much difference in participation) and it's **significance** (i.e., is there enough evidence in the data to suggest the effect is real – not just chance or noise in the data

Rebate & MLS Impact on Participation

How does probability of PHI purchase change when rebate; MLS rate; or MLS threshold change?

Purchase of PHI: Yes vs No



Increasing MLS rate by 1% expected to increase PHI uptake by 11.5 pp. This includes increasing the existing 0% rate for the base tier to 1% so that all taxpayers without PHI would be liable to MLS.

Removal of MLS drops PHI participation by 2.2 pp

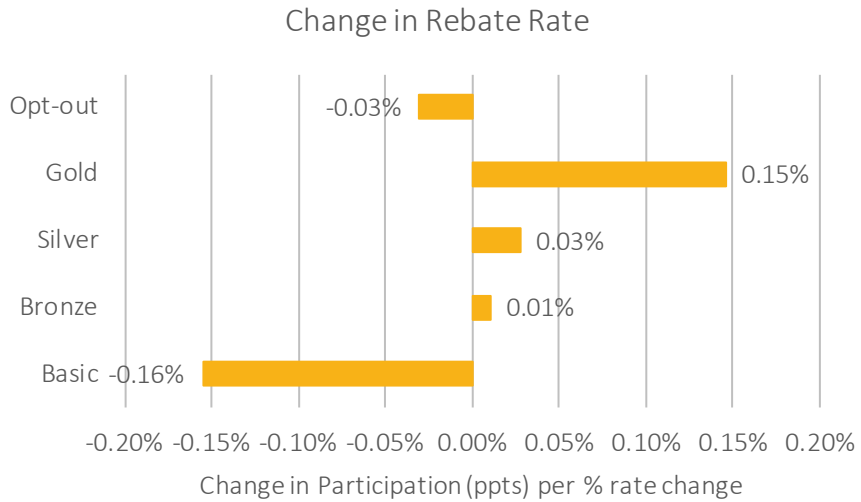
Removal of Rebate drops PHI participation by 4.2 pp

Rebate Impact on product choice

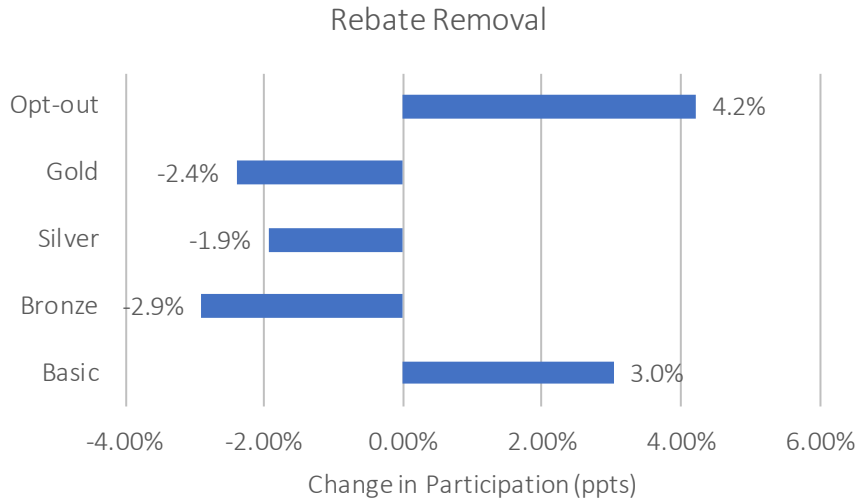
How do probabilities of 5 options change when Rebate changes?

Basic vs Bronze vs Silver vs Gold vs Opt-out

Increasing rebate by 1% decreases Basic by 0.15 pp and increases Gold by 0.15 pp



Removing Rebate increases Basic by 3 pp; decreases Bronze, Silver and Gold by 3 pp, 2 pp and 2.4 pp, respectively

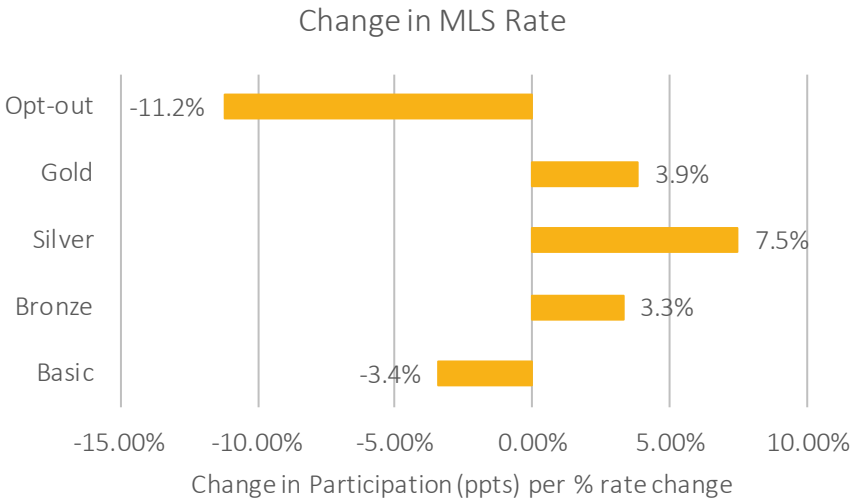


MLS Impact on product choice

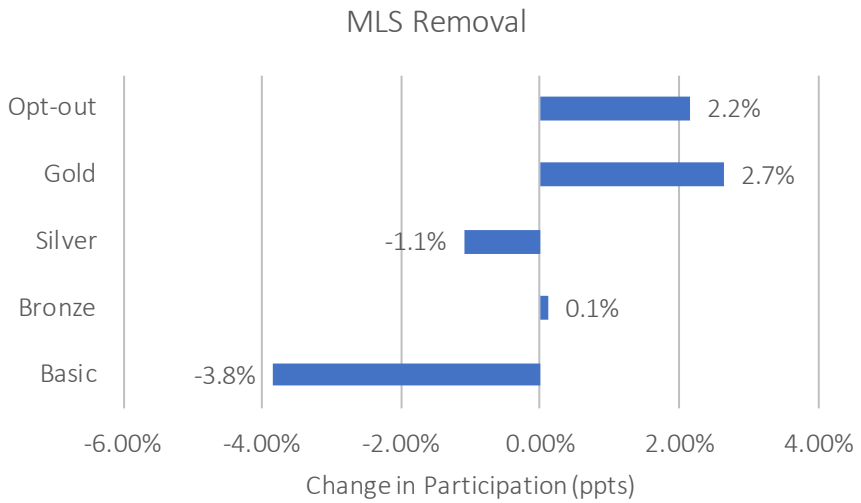
How do probabilities of 5 options change when MLS changes?

Basic vs Bronze vs Silver vs Gold vs Opt-out

Increasing MLS by 1% (i.e. 0% MLS increases to 1%, 1.5% increases to 2.5%) decreases Basic by 3.4 pp and increases Bronze, Silver and Gold by 3.3pp, 7.5pp and 3.9pp

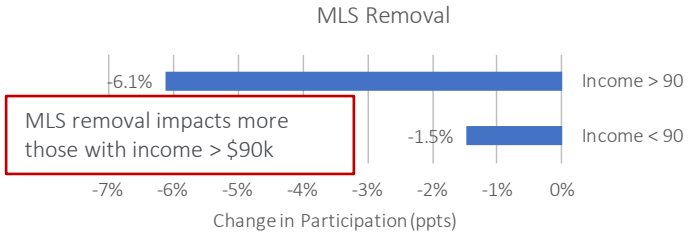


Removing MLS decreases Basic by 3.8 pp; increases Silver by 2.7 pp

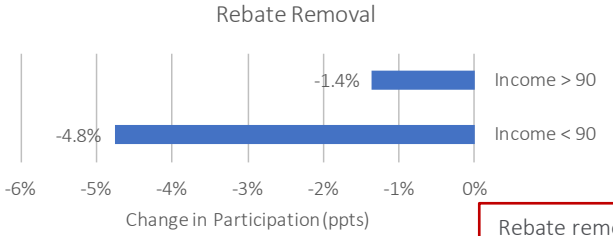


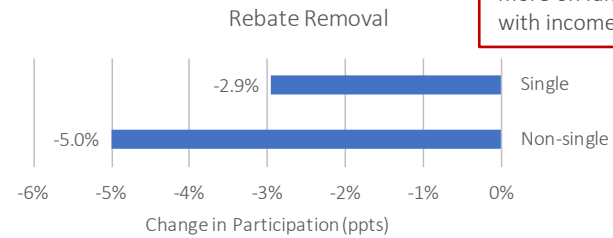
Rebate & MLS Analysis for sub-groups

How do the marginal effects vary for different Income / Age / Household type groups?

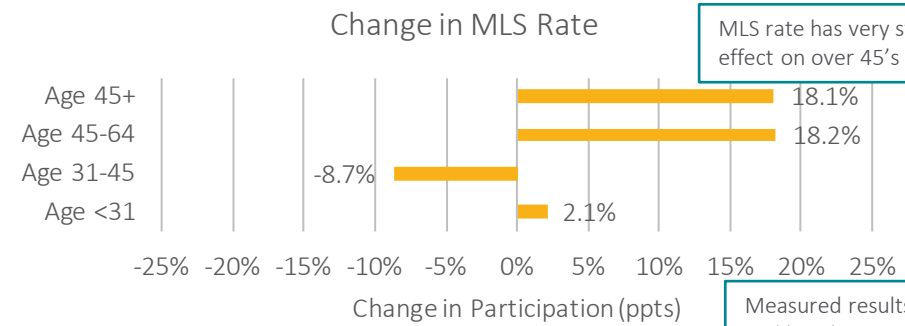


MLS removal impacts more those with income > $90k



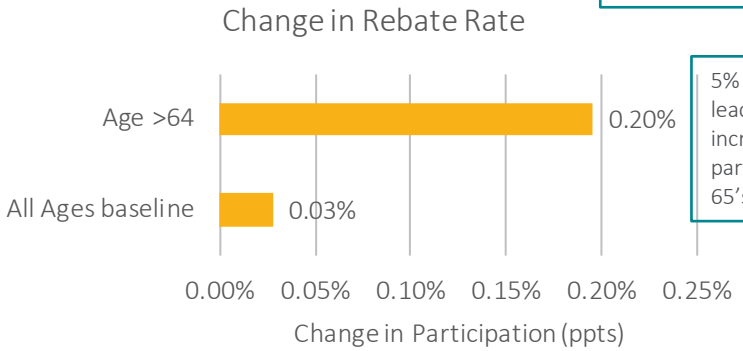


Rebate removal impacts more on families and those with income < $90k



MLS rate has very strong effect on over 45's

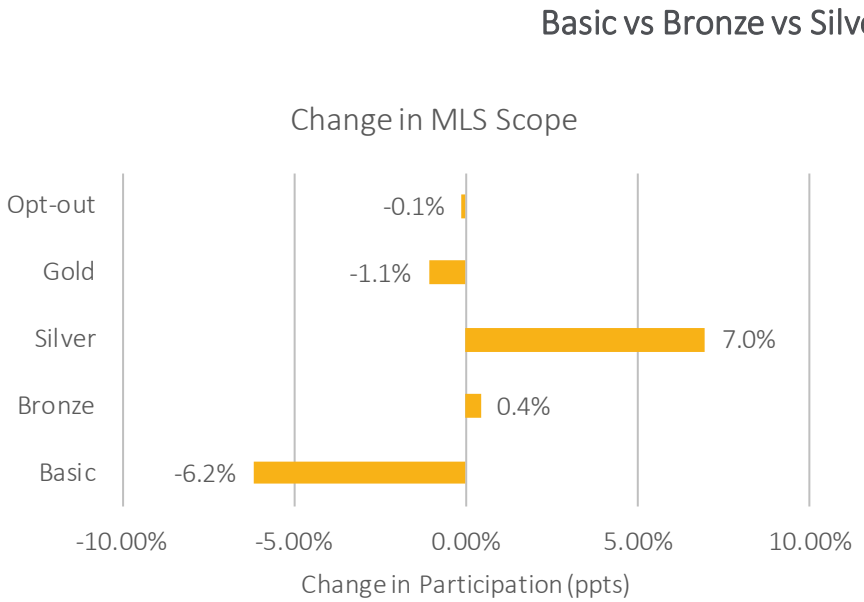
Measured results for Age < 45 and baseline are not significantly different from 0



5% increase in rebate leads to 1%point increase in participation for over 65's

MLS Applied to Basic and Bronze

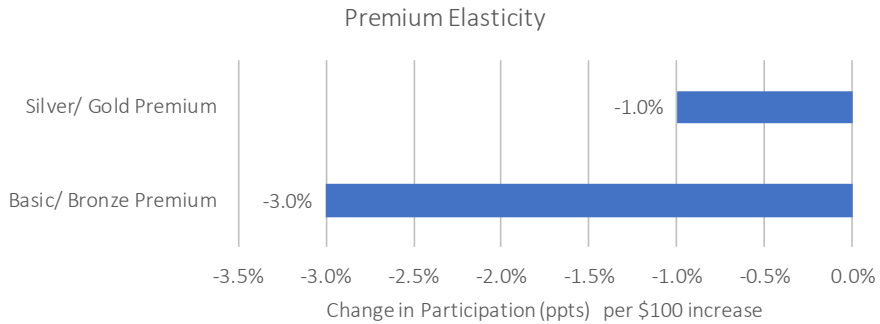
How do probabilities of 5 options change when MLS exemption requires at least Silver product ?



Compared to the SQ scenario, requiring a minimum of Silver for MLS exemption decreases probability of Basic by 6 pp and increases Silver by 7 pp. Results for other levels are not significant

Base Premiums Impact on Participation

How does probability of PHI purchase change when base premium change?



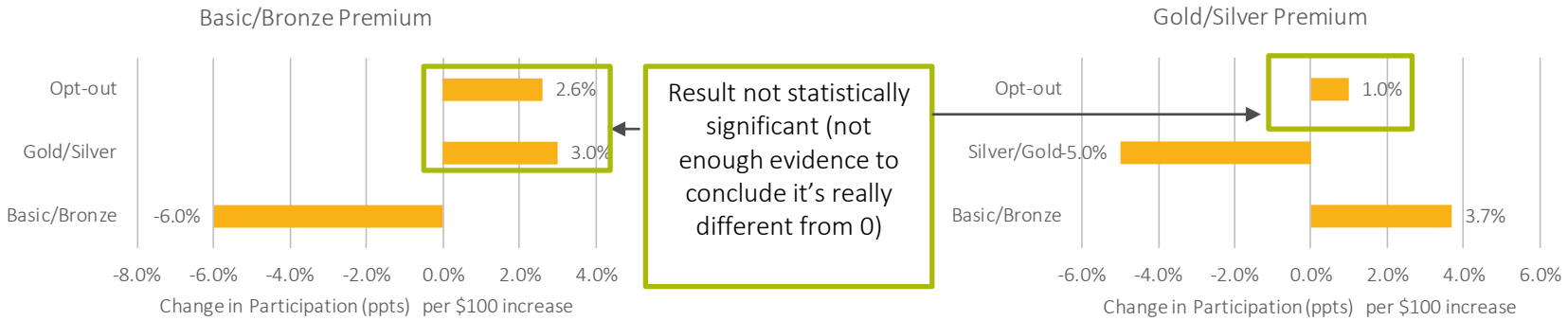
- Increasing Basic/Bronze base premium by $100 reduces probability of PHI by 3 percentage points (pp)
- Increasing Silver/Gold base premium by $100 reduces probability of PHI by 1 percentage points (pp)
- Probabilities of PHI (or of opting-out) not statistically significantly affected by changes in premiums
  (Note: premium changes of ±10% of current premiums)
- No Income, Age or Single heterogeneity.

Base Premiums Impact on Product Choice

Purchase of Basic/Bronze vs Silver/Gold vs Opt-out

How do probabilities of Grouped options change when grouped BB base premium changes?

How do probabilities of Grouped options change when grouped SG base premium changes?

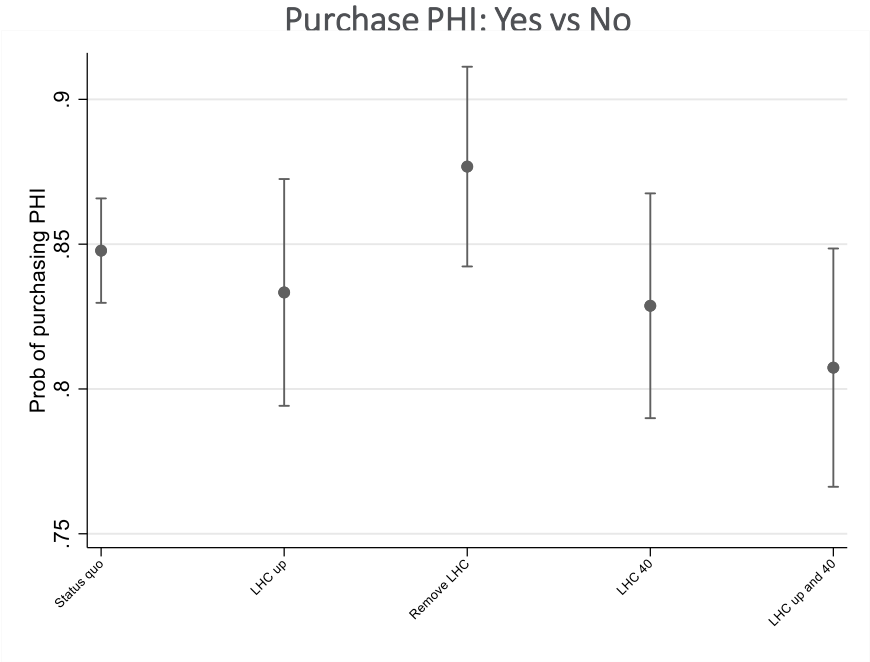


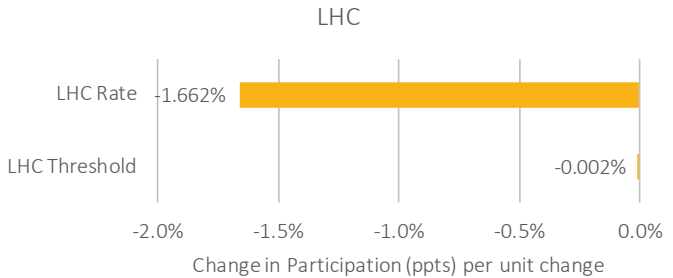
- Changes in Basic/Bronze Premium do not statistically significantly change probability of any option
- Probability of Basic/Bronze products increases by 3.7 pp when Silver/Gold Premiums increase by $100
- Probability of Silver/Gold products drops by 5 pp when Silver/Gold Premiums increase by $100
- Probability of opting-out not affected by changes in premiums

LHC: Limited impact

How does probability of choice vary by scenario?

Increase in LHC rate by 1pp (i.e. 2% -> 3%) decreases overall probability of PHI by 1.7 pp.

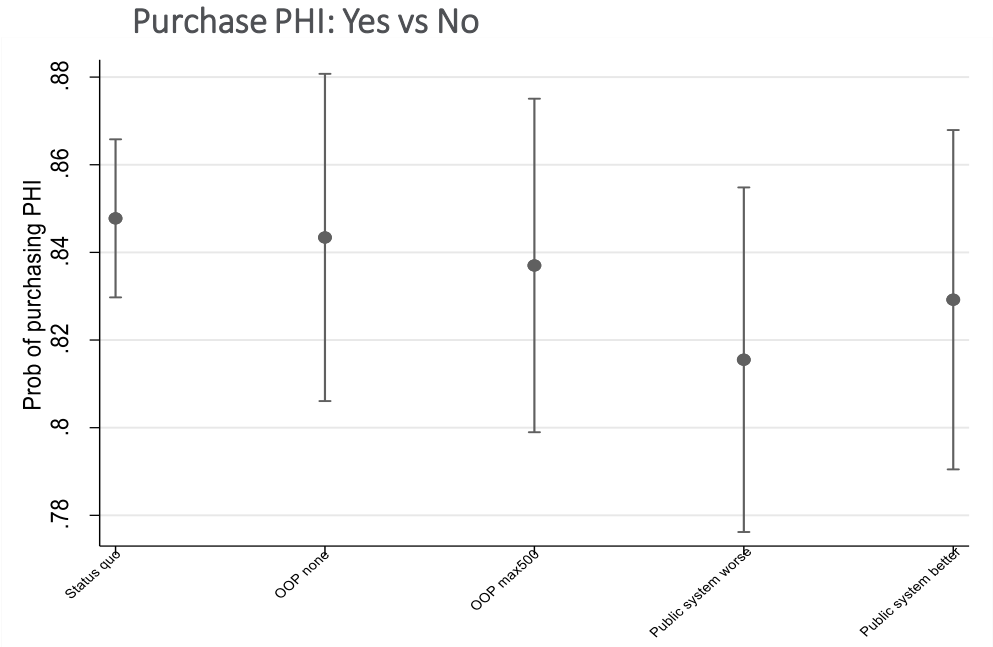




- Measured effect LHC rates borderline significance (i.e., not strong evidence from data that the effect is real)
- Threshold effect not statistically significant
- No significant difference among subgroups by Income, Age or Household type.
- No significant effect on product choice except for those Age 31-45: increase in LHC rate by 1pp (i.e. 2% -> 3%) increases probability of Basic by 4.56 pp.

Out-of-Pocket expenses and Public Hospital wait-times

How does probability of choice vary by scenario?



Analysis by subgroups

Compared to Status Quo:

A worse public system increases Silver by 21 pp for those with Income > $90K

A better public system reduces Basic by 7.2 pp for those with Income < $90K

Summary of results

Given the parameters of survey and specific deviations from SQ examined

- Changes in **MLS rates or MLS** removal have significant and sizeable effect on PHI uptake and PHI product choice.
- **LHC rates or thresholds** have little effect on probability of PHI uptake or PHI product choice
- Changes in **Rebate rate** do not affect PHI uptake. **Removal of Rebate** has significant and sizeable effects on PHI product choice.
- Changes in **base premiums** affect PHI uptake and PHI product choice according to economic theory. However, effects are small in size and of limited significance.
- Changes in **other market characteristics** have, on average, little effect on probability of PHI uptake or PHI product choice

Key takeaways (1/2)

How do consumers respond to changes in the MLS, Rebate and LHC? Both participation and product choice?

Impact varies by subgroups defined by age, income and family type

MLS and Rebate are powerful tools for driving participation, significant reduction in participation if these were removed, but less scope for increasing participation by increasing rebate.
LHC does not have a large impact.

MLS has a strong impact on product choice – consumers respond to the incentive it creates.

Consumers are very price inelastic within the +/- 10% range tested.

Key takeaways (2/2)

What is needed to move toward optimal phi financing of health services to the population?

- LHC plays a smaller role than MLS / Rebate in driving participation. MLS likely to have largest impact on participation
- Will depend also on combining survey results with claims costs analysis as being done by Finity

What changes are needed for Rebate and MLS over short and long term time periods?

- survey only tests consumers preference today. But results still useful for developing future goals
- This is a demand side study – supply assumed to be rigid, but likely unrealistic assumption.

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Reliance & Limitations

A limitation of the study is it's hypothetical nature of this economics survey. In this hypothetical context respondents are asked to state their purchase or opt-out intention without facing any consequence for the choices. Hypothetical bias (i.e., the discrepancy between stated and actual choices) has been reported as a concern for stated preferences surveys. Unfortunately, the hypothetical nature of the survey is dictated by the policy questions asked, which cannot be otherwise examined. However, the fact the survey does not intend to capture absolute PHI choices but rather relative differences compared to the status quo, helps mitigate this limitation. At the same time, the fact that patterns of effects are broadly according to expectation and economic theory further provides confidence in our findings.

A second limitation is the generalizability of results due to small sample size of the study. 1500 respondents is potentially not large enough to ensure generalizability of findings and extrapolations to the wider community. Online panels are known to feature individuals of higher socio-economic status which could affect results, albeit our sample descriptive statistics suggest that we capture the whole income, age and household status distributions. At the same time, while generalizability may be a concern, the survey does not suffer from power issues as each scenario has a minimum of 330 respondents ensuring robust econometric analysis.

A third limitation relates to the limited scenarios examined within the survey. Expanding the survey and adding new scenarios to be explored is feasible with the same surveyal context.