Pilot note

The pilot study was conducted using the same online recruiting as the main study by Qualtrics between the 6/11/2015 and 12/11/2015. One difference between the pilot and main study was the inclusion of a third treatment group. This treatment group was added as an intermediate between Treatment 1 (ancillaries only) and Treatment 2 (ancillaries and hospital combined) used in the main study. The differences in terms of attributes are described below.

Treatment 1	**Treatment 2**	**Treatment 3**
Price (4 levels)	Price (4 levels)	Price (4 levels)
	Ancillaries services	
Insurer's copay (2 levels)	Insurer's copay (2 levels)	Insurer's copay (2 levels)
Dental (2 levels)	Dental (2 levels)	Dental (2 levels)
Optical (2 levels)	Optical (2 levels)	Optical (2 levels)
Physical health services (3 levels)	Physical health services (3 levels)	Physical health services (3 levels)
Natural therapies (2 levels)	Natural therapies (2 levels)	Natural therapies (2 levels)
Massage therapy (2 levels)	Massage therapy (2 levels)	Massage therapy (2 levels)
	Hospital services	
	Hospital inclusions (3 levels)	Hospital inclusions (3 levels)
	Excess (2 levels)	
	Hospital services (2 levels)	

The total pilot sample size was 90 respondents. There were 31 respondents assigned to treatment 1 (T1), 34 to treatment 2 (T2) and 25 to treatment 3 (T3).

Quotas for sample representativeness were effective and resulted in a large degree of variation across socio-demographic variables. Selected variables and means are below.

Variable	**Mean (survey)**	**Mean (census/APRA)**
Age 25-34	26.7	25.8
Age 35-44	25.6	26.7
Age 45-54	26.7	25.7
Age 55-64	21.1	21.8
Male	48.9	49.3
Degree or higher	30.0	24.4
Married	46.7	52.6
De-facto	17.8	10.7
Employed	65.6	71.3
Managers	18.6	14.4
Professionals	27.1	24.0
Technicians and trades	6.8	13.9
Community and personal services	6.8	8.9
Clerical and admin	22.0	15.7
Sales	8.5	7.0
Machinery operators and drivers	1.7	7.1
Labourers	8.5	8.8
Hospital cover	0.52	0.51
Ancillaries cover	0.49	0.54

*Have used PHIAC/APRA numbers (December 2011) and the 2011 ABS Census for PHI coverage. Since coverage has grown overtime, these figures are probably higher today.

Improvements to the sampling program were implemented in the main survey to ensure even allocation across treatments.

To generate the D-efficient choice sets, SAS was used.

At the time of the pilot study, multinomial logit (MNL) regression was seen as the baseline modelling strategy for the analysis. MNL models were therefore estimated to check the reasonableness of parameter estimates. The choice distributions for each choice scenario were also examined to ensure people were not all selecting a single option.

On the basis of these investigations the following findings emerged:

- For T1, the parameter estimates were reasonable and generally in line with expectations. There were no options that were consistently avoided by participants.
- For T2, the parameter estimates were generally consistent with expectations (i.e. price negative and significant, higher coverage generally viewed favourably). However, the choice sets involved some very unattractive options, one of which was never chosen.
- For T3, the parameter estimates were not consistent with expectations and most parameters were statistically insignificant. These results are discussed further below.

From these results, the following decisions were made between the pilot and main survey.

- The D-efficient choice set used for T1 was retained. While updating the choice set using the pilot estimates may have theoretically improved efficiency, since most variables were already significant in the pilot and the results sensible this choice set was viewed as successful.
- The intermediate combined health insurance treatment (T3) was dropped. One possible reason for the inconsistent results from this treatment was that many hospital features remained fixed across all 8 choice scenarios. This was necessary to prevent extrapolation by respondents as well as adhere to the regulated choice environment. However, it may also have confused respondents or even prompted protest answers. I decided that on balance, the marginal benefit to including an intermediate treatment was not worth the additional financial cost given these unresolved issues. Instead, more budget was allocated to recruiting a larger sample for the two treatments ultimately used.
- The choice sets for T2 were updated using D-efficiency criteria and the pilot coefficients. The main reason for this was that there were some very unattractive options in the original choice set that did not produce much variation in choice. The new choice sets resulted in an increase in relative D-efficiency from 14.75 to 41.02.

MNL results

T1

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Conditional (fixed-effects) logistic regression   Number of obs   =        496
                                                  Wald chi2(8)    =      21.21
                                                  Prob > chi2     =     0.0066
Log pseudolikelihood = -151.15194                 Pseudo R2       =     0.1207

                                  (Std. Err. adjusted for 31 clusters in id)
------------------------------------------------------------------------------
             |               Robust
      choice |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       price |  -.0613951   .0159717    -3.84   0.000    -.092699   -.0300912
   anc_copay |   .0127661   .1363445     0.09   0.925    -.2544642    .2799963
      dental |   .4172694   .2015844     2.07   0.038     .0221712    .8123676
     optical |    .379438   .1330755     2.85   0.004     .1186147    .6402613
          P2 |   .1827426   .1861518     0.98   0.326    -.1821083    .5475934
          P3 |   .3498987    .190821     1.83   0.067    -.0241036    .7239009
      naturo |   .1050984   .1716894     0.61   0.540    -.2314066    .4416034
     massage |   .1730837   .1688596     1.03   0.305    -.1578749    .5040424
------------------------------------------------------------------------------
```

	anc_copay	dental	optical	P2	P3	naturo	massage
wtp	2.4951953	81.55752	74.163176	35.718005	68.389552	20.542044	33.830135
ll	-49.857334	2.9697024	24.677981	-36.129412	-11.914999	-45.371599	-29.465165
ul	54.847725	160.14534	123.64837	107.56542	148.6941	86.455686	97.125435

T2

```
Conditional (fixed-effects) logistic regression   Number of obs   =        400
                                                  Wald chi2(12)   =      44.18
                                                  Prob > chi2     =     0.0000
Log pseudolikelihood = -114.92878                 Pseudo R2       =     0.1710

                                  (Std. Err. adjusted for 25 clusters in id)
------------------------------------------------------------------------------
             |               Robust
      choice |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       price |  -.0268258   .0079004    -3.40   0.001    -.0423102   -.0113414
         IN2 |    .178684   .2489899     0.72   0.473    -.3093272    .6666952
         IN3 |   .9148788   .4002425     2.29   0.022      .130418     1.69934
      excess |   .4493965   .2513579     1.79   0.074     -.043256     .942049
   hosp_serv |   .4371557   .2404954     1.82   0.069    -.0342067    .9085181
   anc_copay |   .1500971   .2226676     0.67   0.500    -.2863234    .5865176
      dental |   .5086414   .2203229     2.31   0.021     .0768165    .9404664
     optical |   .7643412   .2610215     2.93   0.003     .2527485    1.275934
          P2 |   .1220903   .3869291     0.32   0.752    -.6362767    .8804574
          P3 |   .1940113   .2557196     0.76   0.448    -.3071898    .6952125
      naturo |  -.1016299   .2106913    -0.48   0.630    -.5145773    .3113174
     massage |   .1403836   .2030703     0.69   0.489    -.2576268    .5383941
------------------------------------------------------------------------------
```

	IN2	IN3	excess	hosp_serv	anc_copay	dental	optical	P2	P3	naturo
wtp	79.930827	409.25339	201.02884	195.55316	67.143034	227.53093	341.91328	54.614745	86.787228	-45.462189
ll	-142.09202	34.0329	-47.889035	-31.049307	-131.69173	34.245276	72.109064	-281.36225	-148.61091	-230.51057
ul	301.95367	784.47388	449.94672	422.15563	265.9778	420.81658	611.7175	390.59174	322.18536	139.58619

	massage
wtp	62.797911
ll	-116.29553
ul	241.89136

T3

Conditional (fixed-effects) logistic regression Number of obs = 544
Wald chi2(10) = 22.46
Prob > chi2 = 0.0129
Log pseudolikelihood = -177.72517 Pseudo R2 = 0.0573

(Std. Err. adjusted for 34 clusters in id)

choice	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
price	-.0048526	.0061409	-0.79	0.429	-.0168885	.0071834
IN2	.1154849	.1879095	0.61	0.539	-.252811	.4837807
IN3	.5824396	.2390166	2.44	0.015	.1139758	1.050903
anc_copay	.1155461	.1619134	0.71	0.475	-.2017982	.4328905
dental	.2150632	.1509455	1.42	0.154	-.0807844	.5109109
optical	-.0609422	.1285597	-0.47	0.635	-.3129146	.1910303
P2	.197325	.1711714	1.15	0.249	-.1381649	.5328148
P3	-.1486856	.1851393	-0.80	0.422	-.511552	.2141808
naturo	.0723719	.1458333	0.50	0.620	-.2134562	.3581999
massage	.154125	.173981	0.89	0.376	-.1868715	.4951215

	IN2	IN3	anc_copay	dental	optical	P2	P3	naturo	massage
wtp	285.58485	1440.3268	285.73641	531.83427	-150.70513	487.96891	-367.68766	178.96991	381.1389
ll	-770.42581	-2253.2095	-701.97441	-1109.7281	-741.77012	-1204.6766	-1709.1588	-686.14943	-1003.8495
ul	1341.5955	5133.8632	1273.4472	2173.3966	440.35987	2180.6144	973.78353	1044.0892	1766.1273