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**CENTRE FOR HEALTH  
PROGRAM EVALUATION**

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**Priority Setting in the Public Health Service:  
Results of an Australian Survey**

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## ABSTRACT

This report provides technical details about an Australian population survey and also preliminary results. It does not attempt to introduce nor discuss the significance of these results.

The survey elicited information relevant to the following five issues:

- (i) Public willingness to pay the full cost of Medicare and to increase health expenditures.
- (ii) The criterion for the 'value of a service' which should be adopted *vis* health or willingness to pay.
- (iii) The importance of medical urgency (the rule of rescue) versus health maximisation.
- (iv) Health gain versus equity.
- (v) The inclusion of production gains (indirect benefits) in economic evaluation.

# TABLE OF CONTENTS

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>The Survey</b>	<b>3</b>
<b>3</b>	<b>Sociodemographic Variables and Recoding</b>	<b>4</b>
	Interest in the Survey (Question 8)	4
	Work(ed) in the Health Service (Question 9)	4
	Gender (Question 10)	5
	Age (Question 11)	5
	Household Size (Question 12)	6
	Children (Question 13)	6
	Ethnicity/Migrant (Question 14)	7
	Education (Question 15)	8
	Main Activity (Question 16)	8
	Income (Question 17)	9
	Self-rated Health (Question 18)	10
	Health Care Use (Question 19)	10
	<i>Similar Samples</i>	11
	<i>Multi-collinearity</i>	11
<b>4</b>	<b>First Issue – The Preferred Size of Medicare and WTP</b>	<b>16</b>
	Background Hypotheses	16
	Results – Crosstabs (Question 1)	18
	Results – Multiple Regressions (Question 1 & 2)	20
	<i>Further Inquiries</i>	22

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<b>5</b>	<b>Second Issue – Value Judgments of WTP or QALYs</b>	<b>23</b>
	Background Hypothesis	23
	Results – Crosstabs (Question 3)	25
	Results – Multiple Regressions (Question 3)	25
	<i>Further Inquiries</i>	27
<b>6</b>	<b>Third Issue – Which Arguments (Beyond Health Max) are Acceptable</b>	<b>28</b>
	Background Hypothesis	28
	Results – Crosstabs (Question 4 and 5)	30
	Results – Multiple Regressions (Question 4 & 5)	32
	<i>Further Inquiries</i>	36
<b>7</b>	<b>Fourth Issue – Which Streams of Health are Relevant?</b>	<b>37</b>
	Background Hypothesis	37
	Results – Crosstabs (Question 6)	39
	Results – Multiple Regressions (Question 6)	39
	<i>Further Inquiries</i>	41
<b>8</b>	<b>Fifth Issue – Should Production Gains Count?</b>	<b>42</b>
	Background Hypothesis	42
	Results – Crosstabs (Question 7)	43
	‘Employed People should have Priority’ (Question 7)	44
	‘Parents should have Priority’ (Question 7b)	44
	‘Carers should have Priority’ (Question 7c)	45
	Results – Multiple Regressions (Question 7)	45
	<i>Further Inquiries</i>	49
<b>9</b>	<b>Appendix</b>	<b>50</b>
	Survey Questionnaire Version 1 and Reminder Letter	51

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## List of Tables

Table 1	Hypotheses by Survey Version	2
Table 2	Interest in the Survey	4
Table 3	Participation in the Health Service Industry	4
Table 4	Gender Composition	5
Table 5	Age Composition	6
Table 6	Family Size	6
Table 7	Number of Children	7
Table 8	Immigration	7
Table 9	Education	8
Table 10	Main Activity	8
Table 11	Income Group	9
Table 12	Income	9
Table 13	Self-rated Health	17
Table 14	Use of Health Services	17
Table 15	Summary Statistics of Demographic Variables	12
Table 16	Statistical Association between Demographic Variables	13,14
Table 17	Dependent Variables Valid and Missing Cases: Summary	15
Table 18	Preferred Size of Medicare	18
Table 19	Willingness to Pay for Healthcare by Survey Version	19
Table 20	Willingness to Pay for Healthcare by Income Group	20
Table 21	Basis for Priority Setting	25
Table 22	Acceptability of Alternative Arguments	30
Table 23	Trade-off between Health Max. and Alternative Arguments	31
Table 24	Summary Indifference between Arguments	31
Table 25	Choice of Disease Treatment as Context Varies	39
Table 26	The Relevance of Workforce Participation, Tax Contribution To Health Care and the Importance of Caring	43
Table 27	Priority for the Employed	44
Table 28	Priority for Parents	44
Table 29	Priority for Carers	45

# Priority Setting in the Public Health Service

## Results of an Australian Survey

### 1 Introduction

The purpose of this report is to provide a comprehensive description of a population survey undertaken to elicit public attitudes towards health care and its prioritisation. The report briefly outlines the objectives of the survey and then provides technical information on the methods adopted and the results obtained. Considerable detail is given, as the report is a background to subsequent papers. The report includes frequency tables, cross-tabulations and a variety of multi-variate analyses to explore the relationship between the key variables.

In sum, the survey was conducted to test hypotheses with respect to:

- (i) Public willingness to pay the full cost of Medicare and to increase health expenditures.
- (ii) The criterion for the 'value of a service' which should be adopted *vis* health or willingness to pay.
- (iii) The importance of medical urgency (the rule of rescue) versus health maximisation.
- (iv) Health gain versus equity.
- (v) The inclusion of production gains (indirect benefits) in economic evaluation.

Three versions of the questionnaire were circulated. The relationship between these, their overlap and the issues tested are detailed in Table 1.



**Table 1: Hypotheses by Survey Version**

Issue/Question	Hypothesis/Issue	Version		
		1	2	3
Size of Medicare	1 Respondents want more government spending on Medicare.	✓	✓	✓
	2 How much tax would respondents be prepared to pay if earmarked to Medicare?	✓	✓	✓
	3 That support for 1 and 2 also are lower when benefits of medical spending are doubtful.		✓	
	4 That support for 1 and 2 above is changed if the government spending on Medicare adversely affects the number of people buying private health insurance.			✓
Criterion of 'Value'	1 Respondents prefer health rather than willingness to pay (WTP) as the criterion of value.	✓	✓	✓
	2 That support for WTP declines when its income dependence is highlighted.		✓	
	3 That more prefer WTP when the question highlighted people's opinions rather than individual preferences (test of framing effect).			✓
Health maximisation verses other objectives.	1 Health maximisation is preferred to the rule of rescue.	✓		
	2 That respondents accept citizen sovereignty not health maximisation.		✓	
	3 That respondents prefer health maximisation to equity.			✓
Only health improvement matters.	1 That severity per se is important.	✓		
	2 That age is important.		✓	
	3 That past health benefits received are important.			✓
Production gains	1 That preference will be given to patients from the workforce.	✓	✓	✓
	2 That preference will be given to patients if their increased tax contribution increases health care spending more than the treatment cost.		✓	
	3 That there will be less support for prioritising employed parents than for parents and health care givers.			✓

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## 2 The Survey

Based on the electoral register, a random sample was taken of 4,000 residential householders in the state of Victoria. This was split into three similar samples of 1,333 who received one of the three versions of the questionnaire. On the 26<sup>th</sup> November 1997 a personalised envelope was mailed including the questionnaire, a covering letter and a reply-paid envelope. With less than 20% responding after two weeks, a reminder was sent to half the sample (due to budget constraints) on the 10<sup>th</sup> December.

By 1<sup>st</sup> March 1998, 981 valid questionnaires were received giving a response rate of 24%. However, 322 envelopes were returned mainly due to insufficient address or unknown addressee. Based on a revised original sample of 3,678 the real response rate was 27%.

There were three versions of the questionnaire. They differed in that for each of the five issues to be investigated, there were differences in the text or the numbers used. The purpose of the survey was to study how sensitive these changes were for the distribution of responses across the listed options. The Appendix includes version 1 of the questionnaire (V1), the covering letter and the reminder letter.

### 3 Sociodemographic Variables and Recoding

In total 12 socio-demographic variables were asked for. When using dummies, we will label them with the first letter D.

#### ***Interest in the Survey (Question 8)***

Table 2 shows the frequency distribution of respondents to Question 8. The reason for this variable was the hypothesis that expressing an interest in this survey would serve as a proxy for having more reflective views on these admittedly very hypothetical choice contexts.

It was transformed to the dummy variable DINTEREST, with the value 1 for much interest and 0 for else (including the missing values). The justification was the view that if the subject did have much interest, they would be prepared to fill out this question properly.

**Table 2: Interest in the Survey**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Much interest</b>	603	61.5	64.1	64.1
	<b>Little interest</b>	306	31.2	32.6	96.7
	<b>No interest</b>	31	3.2	3.3	100.0
	<b>Total</b>	940	95.8	100.0	
Missing	<b>9</b>	41	4.2		
	<b>Total</b>	41	4.2		
<b>Total</b>		981	100.0		

#### ***Work(ed) in the Health Service (Question 9)***

Table 3 shows the frequency distribution of respondents to Question 9. The reason for including this question was rather exploratory. It was thought that being professionally associated with this sector would affect their attitude to its size.

**Table 3: Participation in the Health Service Industry**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Yes</b>	175	17.8	18.2	18.2
	<b>No</b>	788	80.3	81.8	100.0
	<b>Total</b>	963	98.2	100.0	
Missing	<b>9</b>	18	1.8		
	<b>Total</b>	18	1.8		
<b>Total</b>		981	100.0		

Again missing values were recoded to a no answer. It was assumed that those who worked or had worked in the health service would have taken the effort to tick the Yes-box. The variable DHSWORK is a dummy with the value 1 for those who have worked in the health service and 0 for else (including missing).

### Gender (Question 10)

This is perhaps the socio-demographic variable whose inclusion requires least justification. Table 4 shows the frequency distribution.

**Table 4: Gender Composition**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Male</b>	533	54.3	55.3	55.3
	<b>Female</b>	430	43.8	44.7	100.0
	<b>Total</b>	963	98.2	100.0	
Missing	<b>9</b>	18	1.8		
	<b>Total</b>	18	1.8		
<b>Total</b>		981	100.0		

Missing values were recoded, based on their predicted values from the estimated logistic regression ( $\chi^2 = 271.250$ ,  $v = 7$ ,  $p < .01$ );

$$\text{LOG-ODDS} = 4.1379 - 0.0684\text{AGE} - 0.1886\text{INCOME} - 0.2773\text{FAMSIZE} + 1.9563\text{DWORK} + 0.6980\text{DUSERARE} - 0.9809\text{DHSWORK} - 0.5305\text{DHEAGOOD} + \varepsilon.$$

The variable DSEXMALE is coded with the value 1 for men.

### Age (Question 11)

AGE should be a self explanatory variable. Table 5 shows mean, median and range. 17 of the 28 missing values were recoded, based on their predicted values from the estimated linear regression ( $\text{Adj. } R^2 = 0.482$ ,  $\text{SE} = 11.27$ ,  $F(8,937) = 107.966$ ,  $p < .01$ );

$$\hat{Q11} = 80.018 - 10.227\text{DCHILDREN} - 9.823\text{DWORK} - 8.592\text{Q10} - 3.210\text{DHEAGOOD} - 1.642\text{INCOME} - 2.693\text{DUSERARE} - 0.965\text{FAMSIZE} + 2.325\text{DHEABAD} + \varepsilon.$$

The 9 remaining missing values were missing on Q10 as well, so their values were not predicted. Instead they were replaced with the median age.

**Table 5: Age Composition**

	Mean	Std Deviation	Median	Minimum	Maximum	Valid N
<b>Age</b>	51.47	15.42	50.00	19.00	93.00	N=981

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### **Household Size (Question 12)**

The reasons for including this variable, FAMSIZE, were 1) to enable per capita adjustments of income, and 2) that the larger the household, the more potential beneficiaries of health care the subject might be concerned with. Table 6 shows the frequency distribution. Missing values were replaced with the median family size.

**Table 6: Family Size**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>1</b>	164	16.7	17.1	17.1
	<b>2</b>	367	37.4	38.2	55.3
	<b>3</b>	152	15.5	15.8	71.1
	<b>4</b>	161	16.4	16.8	87.9
	<b>5</b>	86	8.8	9.0	96.9
	<b>6</b>	16	1.6	1.7	98.5
	<b>7</b>	6	.6	.6	99.2
	<b>8</b>	6	.6	.6	99.8
	<b>9</b>	1	.1	.1	99.9
	<b>12</b>	1	.1	.1	100.0
	<b>Total</b>	960	97.9	100.0	
Missing	<b>99</b>	21	2.1		
	<b>Total</b>	21	2.1		
<b>Total</b>		981	100.0		

### **Children (Question 13)**

Again, two reasons for the variable CHILDRE. First, in per capita adjustments of income, children under 16 count with a lower weight than adults (OECD weights 0.5 for children and 0.7 for additional adults). Second, it was believed to predict the response to Q7 in Version 3. Table 7 shows the frequency distribution.

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**Table 7: Number of Children**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>0</b>	656	66.9	68.5	68.5
	<b>1</b>	118	12.0	12.3	80.8
	<b>2</b>	121	12.3	12.6	93.4
	<b>3</b>	51	5.2	5.3	98.7
	<b>4</b>	8	.8	.8	99.6
	<b>5</b>	1	.1	.1	99.7
	<b>6</b>	3	.3	.3	100.0
	<b>Total</b>	958	97.7	100.0	
Missing	<b>99</b>	23	2.3		
	<b>Total</b>	23	2.3		
<b>Total</b>		981	100.0		

Missing values were replaced with the median value, ie. no children. It is assumed that having children is a more important predictor than the number of children. Hence, for CHILDRE greater than 1, a dummy is used, DCHILDR with value 1.

### ***Ethnicity / Migrant (Question 14)***

Whether English is respondent's first language appears to be a standard question in Australian surveys as a proxy for how "native"(?) the subject is. Table 8 shows the frequency distribution.

**Table 8: Immigration**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Yes</b>	891	90.8	91.7	91.7
	<b>No</b>	81	8.3	8.3	100.0
	<b>Total</b>	972	99.1	100.0	
Missing	<b>9</b>	9	.9		
	<b>Total</b>	9	.9		
<b>Total</b>		981	100.0		

## Education (Question 15)

**Table 9: Education**

	Response	Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>No school</b>	63	6.4	6.5	6.5
	<b>Attended high school</b>	156	15.9	16.2	22.7
	<b>Finished high school</b>	201	20.5	20.8	43.5
	<b>Trade qual</b>	219	22.3	22.7	66.2
	<b>Degree</b>	240	24.5	24.9	91.1
	<b>Postgrad qual</b>	46	4.7	4.8	95.9
	<b>Other</b>	40	4.1	4.1	100.0
	<b>Total</b>	965	98.4	100.0	
Missing	<b>9</b>	16	1.6		
	<b>Total</b>	16	1.6		
<b>Total</b>		981	100.0		

Except for number of years at school, the education variable is in general hard to make continuous in a meaningful way. However, there is much evidence that the orientation of one's education in terms of higher theoretical is a more meaningful criterion. This was recoded to a dummy, DEDU with the value 1 for those with values 5 or 6 (ie. degree or postgrad qual) and 0 for else (including missing).

## Main Activity (Question 16)

This variable was included as a possible source for predicting other variables that respondents might be less prepared to reveal (e.g. income and age). It can also be used as a series of dummy variables. Table 10 shows the frequency distribution

**Table 10: Main Activity**

	Response	Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Full-time work</b>	431	43.9	44.5	44.5
	<b>Part-time casual work</b>	139	14.2	14.4	58.9
	<b>Unemployed</b>	19	1.9	2.0	60.8
	<b>Retired or pension</b>	295	30.1	30.5	91.3
	<b>Home duties</b>	77	7.8	8.0	99.3
	<b>Studying</b>	7	.7	.7	100.0
		<b>Total</b>	968	98.7	100.0
Missing	<b>9</b>	13	1.3		
	<b>Total</b>	13	1.3		
<b>Total</b>		981	100.0		

## Income (Question 17)

INCOME was assumed to be an important predictor of Q2 (willingness to pay). Beyond that, income is - together with education - perhaps the most used proxy for social class. Naturally, the more accurate income figures to be obtained the better. However, as people seem to be less prepared to reveal their precise income, rough income brackets were used in order to increase the response rate to this question. The chosen income brackets were based on the advice of *Campbell Research & Consultants*. Table 11 shows the frequency table, in which those who gave precise figures have been included in the appropriate bracket.

**Table 11: Income Group**

	Content	Frequency	Percent	Valid Percent	Cumulative %
Valid	< \$15,000	176	17.9	18.7	18.7
	\$15,000 - \$30,000	242	24.7	25.7	44.3
	\$30,000 - \$45,000	183	18.7	19.4	63.7
	\$45,000 - \$60,000	158	16.1	16.8	80.5
	> \$60,000	184	18.8	19.5	100.0
	<b>Total</b>	943	96.1	100.0	
Missing	<b>9</b>	38	3.9		
	<b>Total</b>	38	3.9		
<b>Total</b>		981	100.0		

32 of the 38 missing values were recoded, based on their predicted values from the estimated linear regression (Adj.  $R^2 = 0.452$ ,  $SE = 1.03$ ,  $F(7,912) = 109.183$ ,  $p < .01$ );

$$\hat{INCOME} = 2.755 + .951DWORK + .903DEDU + 0.142FAMSIZE - 1.32E-02Q11 + .307DHEAGOOD - .202Q10 - .248DETHNICITY + \epsilon.$$

The remaining 6 missing values had missing values on Q10 or Q11 as well. Therefore they were replaced with the median value of the income brackets.

Table 12 shows mean, median, minimum and maximum of those giving their precise figure. Evidently, people with high income are more likely to express the precise figure.

**Table 12: Income**

	Mean	Std Deviation	Median	Minimum	Maximum	Valid N
<b>Income</b>	59,053.74	45,190.55	45000	8000	200000	N=145

## Self-rated Health (Question 18)

Self-rated health was hypothesised to be an important predictor of the choices to be investigated. Table 13 shows the frequency table.



**Table 13: Self-rated Health**

	Response	Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Very good</b>	310	31.6	31.8	31.8
	<b>Good</b>	465	47.4	47.6	79.4
	<b>Neither good nor bad</b>	159	16.2	16.3	95.7
	<b>Bad</b>	38	3.9	3.9	99.6
	<b>Very bad</b>	4	.4	.4	100.0
Missing	<b>Total</b>	976	99.5	100.0	
	<b>9</b>	5	.5		
	<b>Total</b>	5	.5		
<b>Total</b>		981	100.0		

The 5 missing values were replaced with the median value, i.e. Good health, which is also the mode value. The variable was used as a basis for computing two alternative dummies. DHEAGOOD with a value 1 if Very good and 0 else. DHEABAD with a value 1 if Neither good or bad, Bad, Very Bad and 0 else.

### **Health Care Use (Question 19)**

'Doctor visits per year' was used as a proxy for how much subjects use health care. Table 14 shows the frequency table.

**Table 14: Use of Health Services**

	Response	Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>None</b>	87	8.9	8.9	8.9
	<b>Once</b>	182	18.6	18.6	27.6
	<b>2 – 5 times</b>	436	44.4	44.7	72.2
	<b>More than 5 times</b>	271	27.6	27.8	100.0
Missing	<b>Total</b>	976	99.5	100.0	
	<b>9</b>	5	.5		
	<b>Total</b>	5	.5		
<b>Total</b>		981	100.0		

The 5 missing values were replaced with the median value, i.e. 2-5 doctor visits. The variable was used as a basis for computing two alternative dummies. DUSERARE with a value 1 if None or Once and 0 else. DUSEOFTE with a value 1 if More than 5 times and 0 else.

### *Similar Samples?*

Table 15 compares the mean values of the socio-demographic variables across the three samples (i.e. by survey version, SV). Ideally, there should be no significant differences. One-way ANOVA for each of AGE, FAMILY SIZE, CHILDREN and INCOME, on SURVEY VERSION found no significant differences between group means. Chi-square analyses for socio-demographic variables not meeting the minimal assumptions for ANOVA generally failed to reject

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the null hypothesis of equality between group means. The exception being DHSWORK ( $\chi^2 = 9.034$   $v= 2$   $p = .011$ ).

#### *Multi-collinearity*

The Association Matrix given in Table 16 suggests a fair degree of multi-collinearity in the independent variables used for the regression analyses. The degree of inter-correlation between socio-demographic variables may be useful in specifying structural equations for regression. Various measures of association are utilised depending upon the level of the data.

**Table 15: Summary Statistics of Demographic Variables**

Variable			N	Mean	Std. Deviation	Std. Error	95% C.I. for Mean		Min.	Max.
							Lower Bound	Upper Bound		
<b>dInterest</b>	Survey version	V1	321	.64						
		V2	334	.63						
		V3	326	.58						
		<b>Total</b>	981	.61						
<b>dHSWork</b>	Survey version	V1	321	.23						
		V2	334	.15						
		V3	326	.16						
		<b>Total</b>	981	.18						
<b>dSexMale</b>	Survey version	V1	321	.55						
		V2	334	.54						
		V3	326	.57						
		<b>Total</b>	981	.55						
<b>Age</b>	Survey version	V1	321	51.1219	15.8798	.8863	49.3782	52.8657	19.00	91.00
		V2	334	50.8414	15.0598	.8240	49.2204	52.4623	20.00	91.00
		V3	326	52.4512	15.3366	.8494	50.7801	54.1222	22.00	93.00
		<b>Total</b>	981	51.4681	15.4241	.4925	50.5017	52.4345	19.00	93.00
<b>Famsize</b>	Survey version	V1	321	2.70	1.44	8.02E-02	2.54	2.86	1	12
		V2	334	2.79	1.42	7.75E-02	2.64	2.94	1	9
		V3	326	2.69	1.42	7.85E-02	2.54	2.85	1	8
		<b>Total</b>	981	2.73	1.42	4.54E-02	2.64	2.82	1	12
<b>Children</b>	Survey version	V1	321	.55	.98	5.49E-02	.44	.66	0	6
		V2	334	.63	1.05	5.76E-02	.52	.75	0	6
		V3	326	.55	.98	5.43E-02	.44	.66	0	6
		<b>Total</b>	981	.58	1.01	3.21E-02	.52	.64	0	6
<b>dEdu</b>	Survey version	V1	321	.30						
		V2	334	.30						
		V3	326	.28						
		<b>Total</b>	981	.29						
<b>Income</b>	Survey version	V1	321	2.88	1.33	7.45E-02	2.74	3.03	1	5
		V2	334	3.00	1.39	7.62E-02	2.85	3.15	1	5
		V3	326	2.87	1.40	7.76E-02	2.72	3.03	1	5
		<b>Total</b>	981	2.92	1.38	4.39E-02	2.83	3.01	1	5
<b>dHeaGood</b>	Survey version	V1	321	.32						
		V2	334	.34						
		V3	326	.29						
		<b>Total</b>	981	.32						
<b>dHeaBad</b>	Survey version	V1	321	.23						
		V2	334	.19						
		V3	326	.20						
		<b>Total</b>	981	.20						
<b>dUseRare</b>	Survey version	V1	321	.27						
		V2	334	.28						
		V3	326	.27						
		<b>Total</b>	981	.27						
<b>dUseOften</b>	Survey version	V1	321	.31						
		V2	334	.24						
		V3	326	.28						
		<b>Total</b>	981	.28						

Table 16:

## Statistical Association between Demographic Variables

Variable	dInterest	dEthnicity	dHSWork	dSexMale	Age	Family Size	dChildren
<b>dInterest</b>		$\chi^2 = 0.003$	$\chi^2 = 11.087^{**}$	$\chi^2 = 0.218$	t = 1.726	t = -1.770	$\chi^2 = 0.140$
<b>dEthnicity</b>	$\chi^2 = 0.002$		$\chi^2 = 1.093$	$\chi^2 = 0.461$	t = 2.690 <sup>**</sup>	t = -0.574	$\chi^2 = 1.539$
<b>dHSWork</b>	$\chi^2 = 9.036^{**}$	$\chi^2 = 1.093$		$\chi^2 = 21.989^{**}$	t = -4.913 <sup>**</sup>	t = 1.610	$\chi^2 = 2.719$
<b>dSexMale</b>	$\chi^2 = 0.218$	$\chi^2 = 0.603$	$\chi^2 = 21.278^{**}$		t = 5.698 <sup>**</sup>	t = 2.065*	$\chi^2 = 2.151$
<b>Age</b>	t = 1.726	t = 2.690 <sup>**</sup>	t = -4.913 <sup>**</sup>	t = 5.698 <sup>**</sup>	r = 1	r = -0.405 <sup>**</sup>	t = -21.007 <sup>**</sup>
<b>Family Size</b>	t = -1.770	t = -0.574	t = 1.610	t = 2.065*	r = -0.405 <sup>**</sup>	r = 1	t = 25.872 <sup>**</sup>
<b>dChildren</b>	$\chi^2 = 0.830$	$\chi^2 = 1.539$	$\chi^2 = 2.719$	$\chi^2 = 2.850$	t = -21.007 <sup>**</sup>	t = 25.872 <sup>**</sup>	
<b>dEdu</b>	$\chi^2 = 1.489$	$\chi^2 = 0.125$	$\chi^2 = 26.363^{**}$	$\chi^2 = 0.287$	t = -6.574 <sup>**</sup>	t = 3.102 <sup>**</sup>	$\chi^2 = 7.467^{**}$
<b>dWork</b>	$\chi^2 = 5.266^*$	$\chi^2 = 3.145$	$\chi^2 = 4.856^{**}$	$\chi^2 = 82.456^{**}$	t = -14.861 <sup>**</sup>	t = 6.441 <sup>**</sup>	$\chi^2 = 19.048^{**}$
<b>Income</b>	t = -2.12	t = -2.917 <sup>**</sup>	t = 2.802 <sup>**</sup>	t = 4.886 <sup>**</sup>	r = -0.424 <sup>**</sup>	r = 0.324 <sup>**</sup>	t = 8.333 <sup>**</sup>
<b>dHeaGood</b>	$\chi^2 = 5.02^*$	$\chi^2 = 8.372^{**}$	$\chi^2 = 6.953^{**}$	$\chi^2 = 12.510^{**}$	t = -11.074 <sup>**</sup>	t = 4.986 <sup>**</sup>	$\chi^2 = 32.921^{**}$
<b>dHeaBad</b>	$\chi^2 = 0.031$	$\chi^2 = 0.477$	$\chi^2 = 0.031$	$\chi^2 = 1.023$	t = 6.953 <sup>**</sup>	t = -2.368*	$\chi^2 = 12.800^{**}$
<b>dUseRare</b>	$\chi^2 = 2.548$	$\chi^2 = 2.608$	$\chi^2 = 5.918^*$	$\chi^2 = 11.228^{**}$	t = -7.327 <sup>**</sup>	t = 2.113*	$\chi^2 = 3.009$
<b>dUseOften</b>	$\chi^2 = 0.217$	$\chi^2 = 0.010$	$\chi^2 = 1.876$	$\chi^2 = 7.724^{**}$	t = 6.136 <sup>**</sup>	t = -3.429 <sup>**</sup>	$\chi^2 = 8.125^{**}$

\*\* =sig at .01 level, \* = sig at the .05 level. All t-tests are non-directional.

Table 16 (cont):

## Statistical Association between Demographic Variables

Variable	dEdu	dWork	Income	dHeaGood	dHeaBad	dUseRare	dUseOften
<b>dInterest</b>	$\chi^2 = 4.205^*$	$\chi^2 = 2.086$	t = -2.12	$\chi^2 = 8.327^{**}$	$\chi^2 = 0.064$	$\chi^2 = 0.872$	$\chi^2 = 0.633$
<b>dEthnicity</b>	$\chi^2 = 0.125$	$\chi^2 = 3.145$	t = -2.917**	$\chi^2 = 8.372^{**}$	$\chi^2 = 0.477$	$\chi^2 = 2.608$	$\chi^2 = 0.010$
<b>dHSWork</b>	$\chi^2 = 26.363^{**}$	$\chi^2 = 4.856^*$	t = 2.802**	$\chi^2 = 6.953^{**}$	$\chi^2 = 0.031$	$\chi^2 = 5.918^*$	$\chi^2 = 1.876$
<b>dSexMale</b>	$\chi^2 = 0.556$	$\chi^2 = 87.488^{**}$	t = 4.886**	$\chi^2 = 10.944^{**}$	$\chi^2 = 1.186$	$\chi^2 = 12.585^{**}$	$\chi^2 = 7.798^{**}$
<b>Age</b>	t = -6.574**	t = -14.861**	r = -0.424**	t = -11.074**	t = 6.953**	t = -7.327**	t = 6.136**
<b>Family Size</b>	t = 3.102**	t = 6.441**	r = 0.324**	t = 4.986**	t = -2.368*	t = 2.113*	t = -3.429**
<b>dChildren</b>	$\chi^2 = 7.467^{**}$	$\chi^2 = 19.048^{**}$	t = 8.333**	$\chi^2 = 32.921^{**}$	$\chi^2 = 12.800^{**}$	$\chi^2 = 3.009$	$\chi^2 = 8.125^{**}$
<b>dEdu</b>		$\chi^2 = 41.201^{**}$	t = 14.784**	$\chi^2 = 41.482^{**}$	$\chi^2 = 21.434^{**}$	$\chi^2 = 14.978^{**}$	$\chi^2 = 15.437^{**}$
<b>dWork</b>	$\chi^2 = 41.201^{**}$		t = 19.381**	$\chi^2 = 14.799^{**}$	$\chi^2 = 31.670^{**}$	$\chi^2 = 55.828^{**}$	$\chi^2 = 60.498^{**}$
<b>Income</b>	t = 14.784**	t = 19.381**	r = 1	t = 8.582**	t = -6.318**	t = 6.015**	t = -7.755**
<b>dHeaGood</b>	$\chi^2 = 41.482^{**}$	$\chi^2 = 14.799^{**}$	t = 8.582**		$\chi^2 = 116.791^{**}$	$\chi^2 = 61.623^{**}$	$\chi^2 = 65.355^{**}$
<b>dHeaBad</b>	$\chi^2 = 21.434^{**}$	$\chi^2 = 31.670^{**}$	t = -6.318**	$\chi^2 = 116.791^{**}$		$\chi^2 = 58.447^{**}$	$\chi^2 = 197.669^{**}$
<b>dUseRare</b>	$\chi^2 = 14.978^{**}$	$\chi^2 = 55.828^{**}$	t = 6.015**	$\chi^2 = 61.623^{**}$	$\chi^2 = 58.447^{**}$		$\chi^2 = 141.466^{**}$
<b>dUseOften</b>	$\chi^2 = 15.437^{**}$	$\chi^2 = 60.498^{**}$	t = -7.755**	$\chi^2 = 65.355^{**}$	$\chi^2 = 197.669^{**}$	$\chi^2 = 141.466^{**}$	

\*\* =sig at .01 level, \* = sig at the .05 level. All t-tests are non-directional.

The questionnaire includes five issues, each of which is presented as a choice context with listed options, among which is "Not sure". They are Q1, Q3, Q4, Q6, and Q7. After Q1 and Q4 there is a follow up question with listed values for those who went for one of the listed options (option 1 under Q1, option 2 under Q4). Table 17 shows the list of valid responses and missing values to each of these questions.

**Table 17: Dependent Variables  
Valid and Missing Cases: Summary**

Variable		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
<b>Question 1</b>	More health care	960	97.9%	21	2.1%	981	100.0%
<b>Question 2</b>	WTP, Medicare	556	91.8%	56	9.2%	612	100.0%
<b>Question 3</b>	WTP	960	97.9%	21	2.1%	981	100.0%
<b>Question 4</b>	Program A,B	955	97.3%	26	2.7%	981	100.0%
<b>Q5 Trade</b>	Indifference	332	100.0%	0	0.0%	332	100.0%
<b>Question 6</b>	Disease A,B	952	97.0%	29	3.0%	981	100.0%
<b>Question 7a Version 3</b>	Workforce	314	96.3%	12	3.7%	326	100.0%
<b>Question 7b Version 3</b>	Parents	313	96.0%	13	4.0%	326	100.0%
<b>Question 7c Version 3</b>	Carers	311	95.4%	15	4.6%	326	100.0%
<b>Question 7d Versions 1 &amp; 2</b>		641	97.9%	14	2.1%	655	100.0%

Missing values to Q1, Q3, Q4, Q6, and Q7 are excluded from the initial descriptive analysis but are included in the base category of dummy variables for all regressions.

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## 4 First Issue - The Preferred Size of Medicare and WTP

One reason for including this issue was to have a couple of simple and motivating questions before the more hypothetical ones which were the central theme of the survey.

### Background Hypotheses

Q1 & 2 are identical in the three versions, but a third paragraph (with different focus) in the introductory text is included in V2 & V3. V2 included a text that questioned the effectiveness of increased health care spending. The hypothesis was that this would lead *fewer* respondents to go for option 1 than in V1.

V3 included a text which suggested that increased spending on Medicare in a situation when private health insurance is declining would make Medicare more attractive for people who would consider going private. The hypothesis was that this would lead *more* respondents to go for option 1 than in V1.

It was also hypothesised that these differences in the text would have corresponding effects on the mean WTP (Q2) in the three versions.

### How much money should we spend on health care?

This year Australia will spend about 40 billion dollars on health care, which is 8.5% of the country's income (GDP). This is equal to just over \$2,100 per person.

About 70% of this is Government spending through Medicare. The rest is through private health insurance and patients' payments. This means that the Government spends, on average, about \$1,500 per person.

#### ***Additional para in V2:***

There is increasing political pressure for the government to spend more money in the health sector. However, many experts believe that increased spending may have little effect on health, and that it would be better to use existing money more effectively.

#### ***Additional para in V3:***

Some experts believe private health insurance will continue to decline and contribute far less money to the health sector. If the Government spent more to offset this loss of money, Medicare would be more attractive to people who consider taking out private health insurance and private health insurance would probably decline even more.

---

**QUESTION 1: Do you think the Government should spend more on health care?**

*Please tick one of the boxes below:*

- Yes, the Government should spend more on health care  
1        $\Rightarrow$  *Go to Question 2*
- No, the Government spends about the right amount  
2        $\Rightarrow$  *Go to Next Page*
- No, the Government spends too much already on health care  
3        $\Rightarrow$  *Go to Next Page*
- Not sure      4        $\Rightarrow$  *Go to Next Page*

**QUESTION 2:**

Suppose that it is politically impossible to finance the increased spending on health care by reducing Government spending in other sectors.

**How much extra would you be prepared to pay in terms of extra taxation each year, if all other people in your income group also paid this and if you were sure that the increased taxes would fully end up in the health service?**

*Please tick one of the boxes below:*

Dollars extra per year:

- |     |                       |               |                       |
|-----|-----------------------|---------------|-----------------------|
| \$  |                       |               |                       |
| 0   | <input type="radio"/> |               |                       |
| 100 | <input type="radio"/> | 1,000         | <input type="radio"/> |
| 300 | <input type="radio"/> | 2,000         | <input type="radio"/> |
| 600 | <input type="radio"/> | 4,000 or more | <input type="radio"/> |



## Results - Crosstabs (Question 1)

Table 18 shows the distribution between the options under Q1 across survey version.

**Table 18: Preferred Size of Medicare**

Count and % Response			Survey version			Total
			V1	V2	V3	
<b>Q1</b>	Yes, more	Count	201	205	206	612
		% within Survey version	63.6%	63.1%	64.6%	63.8%
<b>More health care</b>	No, right amount	Count	84	72	72	228
		% within Survey version	26.6%	22.2%	22.6%	23.8%
<b>More health care</b>	No, too much	Count	16	16	15	47
		% within Survey version	5.1%	4.9%	4.7%	4.9%
<b>More health care</b>	Not sure	Count	15	32	26	73
		% within Survey version	4.7%	9.8%	8.2%	7.6%
<b>Total</b>		Count	316	325	319	960
		% within Survey version	100.0%	100.0%	100.0%	100.0%

960 valid cases were included in the analysis with 21 cases excluded due to missing data for Q1. Chi-square analysis for Q1 by SV failed to reject the null hypothesis of equality of group means ( $\chi^2 = 7.370$ ,  $v = 6$ ,  $p = .288$ ).

*No support for the hypotheses:* there was no significant effect for the differences in the introductory text. In contrast, in a similar Norwegian survey there were 80% who answered 'Yes, more' in V1 and 71% in V2.

Results from Q2 refer to those who were supposed to answer it, namely those who went for option 1 in Q1. Table 19 shows the distribution between the payment options across survey version.

**Table 19: Willingness to Pay for Healthcare by Survey Version**

Count and % Response		Survey version			Total	
		V1	V2	V3		
<b>Q2WTP</b>	\$0	Count	70	67	77	214
		% within Survey version	34.8%	32.7%	37.4%	35.0%
	\$100	Count	70	80	57	207
		% within Survey version	34.8%	39.0%	27.7%	33.8%
	\$300	Count	30	34	39	103
		% within Survey version	14.9%	16.6%	18.9%	16.8%
	\$600	Count	18	12	21	51
		% within Survey version	9.0%	5.9%	10.2%	8.3%
	\$1000	Count	8	10	10	28
		% within Survey version	4.0%	4.9%	4.9%	4.6%
	\$2000	Count	3	2	1	6
		% within Survey version	1.5%	1.0%	.5%	1.0%
	\$4000 or more	Count	2		1	3
		% within Survey version	1.0%		.5%	.5%
<b>Total</b>	Count	201	205	206	612	
	% within Survey version	100.0%	100.0%	100.0%	100.0%	

Those missing were assumed to have WTP = 0 ('closet free-riders'). One-way ANOVA of Q2WTP on SV failed to reject the null hypothesis of equality between means ( $F(2, 609) = 0.808$ ,  $p = .446$ ). Income is believed to be a strong predictor for WTP. Table 20 is a cross-tab of Q2 by INCOME.

**Table 20: Willingness to Pay for Healthcare by Income Group**

Count and % Response			Income					Total
			<\$15,000	\$15,000-	\$30,000-	\$45,000-	>\$60,000	
Q2WTP	\$0	Count	65	69	32	24	24	214
		% within	57.5%	41.3%	26.0%	23.8%	22.2%	35.0%
	\$100	Count	40	66	49	34	18	207
		% within	35.4%	39.5%	39.8%	33.7%	16.7%	33.8%
	\$300	Count	6	20	24	21	32	103
		% within	5.3%	12.0%	19.5%	20.8%	29.6%	16.8%
	\$600	Count	1	5	11	15	19	51
		% within	.9%	3.0%	8.9%	14.9%	17.6%	8.3%
	\$1000	Count	0	6	7	6	9	28
		% within	.0%	3.6%	5.7%	5.9%	8.3%	4.6%
	\$2000	Count	0	0	0	1	5	6
		% within	.0%	.0%	.0%	1.0%	4.6%	1.0%
	\$4000 or more	Count	1	1	0	0	1	3
		% within	.9%	.6%	.0%	.0%	.9%	.5%
Total	Count	113	167	123	101	108	612	
	% within	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

One-way ANOVA of Q2WTP on Income indicated a significant difference between group means ( $F(4, 607) = 11.910, p < .01$ ). However, heterogeneity between group population variances is likely ( $Lev.(4, 607) = 10.752, p < .01$ ). Chi-square analysis of Q2WTP on Income supports the finding of differences between group means ( $\chi^2 = 125.148, v = 24, p < .01$ ). This 'validity test' of income on WTP is encouraging.

**Results – Multiple Regressions (Question 1 & 2)**

*Dependent Variable: dMoreHealthCare*

*Logistic Regression:*

-2 Log Likelihood	1262.422
Goodness of Fit	987.131
Cox & Snell – R <sup>2</sup>	.037
Nagelkerke – R <sup>2</sup>	.050

	Chi-Square	df	Significance
Model	36.709	4	.0000

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
DINTEREST	-.4723	.1372	11.8558	1	.0006	-.0871	.6236
AGE	-.0223	.0050	19.8695	1	.0000	-.1173	.9780
INCOME	-.1375	.0551	6.2314	1	.0126	-.0571	.8715
DUSEOFTEN	-.4190	.1604	6.8271	1	.0090	-.0610	.6577
Constant	2.5612	.3996	41.0694	1	.0000		

----- Variables not in the Equation -----

Residual Chi Square = 8.503, df = 10, Sig = .5798

Variable	Score	df	Sig	R
DHSWORK	.1588	1	.6903	.0000
DSEXMALE	1.4775	1	.2242	.0000
FAMSIZE	2.6486	1	.1036	.0223
DCHILDREN	1.5603	1	.2116	.0000
DEDU	1.7407	1	.1871	.0000
DHEAGOOD	.0147	1	.9036	.0000
DHEABAD	.2906	1	.5898	.0000
DUSERARE	.2564	1	.6126	.0000
V1 DUMMY	.0892	1	.7652	.0000
V2 DUMMY	.1558	1	.6930	.0000

The sign of the coefficients of the significant variables is worth noting, in that they are all negative. Those who had much interest in the survey, older people, high income earners, and finally, those who use health care most often gave less support to the idea that the government should spend more money on health care.

*Dependent Variable: Willingness to Pay (LN WTP)*

*Linear Regression*

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.342	.117	.114	2.4963

Dependent Variable: LNWTWP

Predictors: (Constant), INCOME, DINTEREST

ANOVA	Sum of Squares	df	Mean Square	F	Sig
Regression	502.51	2	251.259	40.322	.000
Residual	3794.861	609	6.231		
Total	4297.378	611			

Dependent Variable: LNWTWP

Predictors: (Constant), INCOME, DINTEREST

Predictor	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
Constant	1.274	.271		4.704	.000
INCOME	.618	.074	.319	8.363	.000
DINTEREST	.660	.212	.118	3.110	.002

Dependent Variable: LNWTTP

Excluded Variables	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
DHSWORK	-.031	-.799	.425	-.032	.982
DSEXMALE	.050	1.301	.194	.053	.985
AGE	.001	.017	.986	.001	.794
FAMSIZE	-.041	-1.031	.303	-.042	.908
DCHILDREN	-.054	-1.374	.170	-.056	.927
DEDU	.036	.847	.397	.034	.817
DHEAGOOD	-.015	-.372	.710	-.015	.919
DHEABAD	-.038	-.975	.330	-.040	.943
DUSERARE	-.028	-.731	.465	-.030	.958
DUSEOFTEN	-.033	-.841	.401	-.034	.922
V1 DUMMY	.019	.489	.625	.020	.998
V2 DUMMY	-.014	-.370	.712	-.015	.993

Dependent Variable: LNWTTP

Predictors in the Model: (Constant), INCOME, DINTEREST

Contrary to the previous question, the two variables dInterest and Income were significant predictors for the variation in WTP, and with positive signs.

#### *Further Inquiries*

- 1) “The free-riders” - those who went for option 1 in Q1 but are not WTP in Q2.  
Comparisons with Norwegian data from a similar survey.

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## 5 Second Issue - Value Judgments of WTP or QALYs

### Background Hypothesis

While many economists argue that willingness to pay (WTP) is the “theoretically correct” method and therefore superior to QALYs, there have been no studies that have explicitly asked the public which method they would prefer to apply as an aid for setting priorities.

The description of the second paragraph of the first option differs in the three versions. In V2 it is explicitly stated that WTP varies with income. It was hypothesized that fewer would go for this option in V2 than in V1.

V3 had a more community focus on the WTP method, in that it focused on "people's opinions" rather than "individual preferences", as well as stating that the valuation was expressed through hypothetical taxation. It was hypothesized that this community focus would take more subjects to this option in V3 than in V1.

## How should we decide which services to include in Medicare?

One of the biggest problems for Medicare is to decide which services to include when there is not enough money to finance all of them. To help solve this problem, government advisers have two ways for comparing the importance of health services.

**QUESTION 3: Which of the two methods below do you think should be used to prioritise health services?**

Please tick **one** of the boxes below:

- The importance of health services should be decided by how much people would be willing to pay for them, if Medicare did not pay them for. 1 0

This method is based on the view that priorities in Medicare should reflect individuals' preferences. The way to measure preferences is to ask individuals how much they would be prepared to pay for each health service. Hence, the higher their willingness to pay for a service, the higher priority it should have.

**V2:** The importance of health services should be decided by how much people would be willing to pay for them, if they were not paid for by Medicare.

This method is based on the view that priorities in Medicare should reflect individuals' preferences. The way to measure preferences is to ask individuals how much they would be prepared to pay for each health service. The more strongly they feel about a service, and the **higher their income**, the higher their willingness to pay will be, and hence, the higher the priority the service should have.

**V3:** The importance of health services should be decided by how much people would be willing to pay for them, if they were not paid for by Medicare.

This method is based on the view that priorities in Medicare should reflect **people's opinions**. The way to measure their opinions is to ask **members of the community** how much **taxation** they would be prepared to pay for each type of health service. Hence, the higher their willingness to pay, the higher priority a service should have.

- The importance of health services should be decided by how much they improve people's health. 2 0

This method is based on the view that the role of Medicare is to improve people's health as much as possible. Health would be measured as a combination of the quality and length of life. Hence, the more a service improves the quality and length of lives, the higher priority it should have.

- Not sure 3 0

Please explain if you would like another method to be used:

---

---

## Results - Crosstabs (Question 3)

Table 21 shows the distribution of answers to Q3 by survey version

**Table 21: Basis for Priority Setting**

Response		Survey version			Total	
		V1	V2	V3		
Q3	Option 1	Count	41	36	34	111
		% within Survey version	12.9%	11.1%	10.8%	11.6%
	Option 2	Count	245	255	243	743
		% within Survey version	76.8%	78.5%	76.9%	77.4%
	Not sure	Count	25	30	32	87
		% within Survey version	7.8%	9.2%	10.1%	9.1%
	Other	Count	8	4	7	19
		% within Survey version	2.5%	1.2%	2.2%	2.0%
	Total	Count	319	325	316	960
		% within Survey version	100.0%	100.0%	100.0%	100.0%

960 valid cases were included in the analysis with 21 cases excluded due to missing data for Q3. Chi-square test of Q3 by SV failed to reject the null hypothesis of equality between group means ( $\chi^2 = 3.167, v = 6, p = .788$ ). Hence the results do not support the hypotheses.

## Results – Multiple Regressions (Question 3)

*Dependent Variable WTP\_BASED*

*Logistic Regression*

Dependent dummy variable WTP\_BASED for those who support decision making to be based on WTP.

-2 Log Likelihood	670.739
Goodness of Fit	977.884
Cox & Snell – R <sup>2</sup>	.022
Nagelkerke – R <sup>2</sup>	.044

	Chi-Square	df	Significance
Model	21.946	4	.0002



----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
AGE	-.0171	.0077	4.9217	1	.0265	-.0649	.9830
FAMSIZE	.2086	.0831	6.2935	1	.0121	.0787	1.2319
DCHILDREN	1.1351	.3015	14.1771	1	.0002	.1326	3.1115
DHEABAD	.5929	.3053	3.7718	1	.0521	.0506	1.8093
Constant	-3.0888	.6331	23.8030	1	.0000		

----- Variables not in the Equation -----

Residual Chi Square = 5.401, df = 10, Sig = .8629

Variable	Score	df	Sig	R
DINTEREST	.1987	1	.6557	.0000
DHSWORK	.8020	1	.3705	.0000
DSEXMALE	.9902	1	.3197	.0000
DEDU	.0040	1	.9496	.0000
INCOME	.0451	1	.8318	.0000
DHEAGOOD	1.2820	1	.2575	.0000
DUSEOFTEN	.0886	1	.7660	.0000
DUSERARE	.9580	1	.3277	.0000
V1 DUMMY	.9827	1	.3215	.0000
V2 DUMMY	.2220	1	.6376	.0000

According to the above regression, the predictors for supporting the idea that priorities are based on people's WTP are: large families with children, the young and those with bad health.

If comparing option 1 and option 2 only, we use the dependent variable label WTPQALY - for those who support decision making to be based on WTP rather than QALYs.

Number of selected cases:	981
Number rejected because of missing data:	127
Number of cases included in the analysis:	854

-2 Log Likelihood	655.329
Goodness of Fit	853.993
Cox & Snell – R <sup>2</sup>	.005
Nagelkerke – R <sup>2</sup>	.010

	Chi-Square	df	Significance
Model	4.543	1	.0331

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
DHEABAD	.6023	.2998	4.0358	1	.0445	.0555	1.8263
Constant	-2.4043	.2791	74.2292	1	.0000		

----- Variables not in the Equation -----

Residual Chi Square = 23.916, df =13, Sig = .0319

Variable	Score	df	Sig	R
DINTEREST	.1072	1	.7433	.0000
DHSWORK	1.6800	1	.1949	.0000
DSEXMALE	.3413	1	.5591	.0000
AGE	2.5744	1	.1086	.0295
FAMSIZE	.9296	1	.3350	.0000
DCHILDREN	3.5624	1	.0591	.0487
DEDU	.0141	1	.9056	.0000
INCOME	.1012	1	.7504	.0000
DHEAGOOD	.7763	1	.3783	.0000
DUSEOFTEN	1.4918	1	.2219	.0000
DUSERARE	.2492	1	.6177	.0000
V1 DUMMY	.8301	1	.3622	.0000
V2 DUMMY	.2500	1	.6171	.0000

This is a less significant model than the preceding one. Only the variable DHEABAD is significant.

*Further inquiries*

- 1) The different descriptions of option 1 seem to have very little effect. In V2 the lower support is in the direction expected, as it emphasises that WTP depends on income. However, the even lower support for option 1 in V3 is strange - could be due to tax-aversion.
- 2) Very little explanatory power of the extensive regression model.

---

## 6 Third Issue - Which Arguments (Beyond Health Max) are Acceptable

### Background Hypothesis

This issue has different headings in the three survey versions, focusing on the specific alternative arguments for option 2. V2 includes an additional third paragraph in the introductory text. The argument for the least effective program is "the rule of rescue" in V1, consumer sovereignty in V2, and equity in V3. The hypothesis is that the relative support for option 2 as compared with option 1 depends on the argument used. We had no a priori reason for hypothesising which of the three arguments received the most support.

#### **Urgent treatment or saving as many as possible**

**v2 People's opinions or saving as many as possible**

**v3 Equal access or saving as many as possible**

Imagine that the health service receives additional funding which could be spent on one of the two programs described below:

Program A: Screening a large group of the population in order to detect the development of a cancer at an early stage. It is expected that this will save the life of 50 people who would have died from the cancer.

Program B: Establishing a helicopter ambulance service that will benefit accident victims and people needing fast emergency treatment. It is expected that this will save the lives of 40 people.

The people in the two groups are about the same age, and there are no other important differences between them.

***Additional para in V2 only:***

Imagine that a survey of the public has been carried out which shows that *most people have a strong preference for the helicopter ambulance service*. They want this program even when they are informed that spending the money on Program A would save than fewer lives.

Imagine that the sub-committee for Health and Safety in Parliament discusses which program is to have priority. There is disagreement about the importance of saving as many lives as possible, and the importance of giving emergency care.

**QUESTION 4: Which of the two arguments below do you think should be most important when politicians are to choose?**

Please tick **one** of the boxes below:

- “The most important consideration should be to save as many lives as possible.”  
Therefore, Program A should be chosen. 1  ⇒ Go To Next Page
  
- “It is more important to help people who need life saving emergency care than to test people who are at present fit and without symptoms.”  
Therefore, Program B should be chosen. 2  ⇒ Go to Question 5
- **V2:**  
“The most important consideration should be what people want.”  
Therefore, Program B should be chosen.
- **V3:**  
“People living near hospitals have better access when there is an emergency than people living far away. A helicopter ambulance service would make the health service fairer as it will make access to emergency care more equal.”  
Therefore, Program B should be chosen.
  
- Not sure. 3  ⇒ Go to Next Page

**QUESTION 5: Do you think politicians should still accept this argument if the number of lives saved by the helicopter service (instead of 40) was:**

For **each** of the numbers listed, tick Yes or No

	Yes	No
30	<input type="radio"/>	<input type="radio"/>
25	<input type="radio"/>	<input type="radio"/>
20	<input type="radio"/>	<input type="radio"/>
15	<input type="radio"/>	<input type="radio"/>
10	<input type="radio"/>	<input type="radio"/>

## Results - Crosstabs (Questions 4 and 5)

Table 22 shows the distribution of Q4 across survey version.

**Table 22: Acceptability of Alternative Arguments**

Count and % Response			Survey version			Total
			V1	V2	V3	
<b>Q4</b>	Program A	Count	155	206	177	538
		% within Survey version	50.0%	62.8%	55.8%	56.3%
	Program B	Count	133	94	105	332
		% within Survey version	42.9%	28.7%	33.1%	34.8%
	Not sure	Count	22	28	35	85
		% within Survey version	7.1%	8.5%	11.0%	8.9%
<b>Total</b>	Count	310	328	317	955	
	% within Survey version	100.0%	100.0%	100.0%	100.0%	

955 cases were included in the analysis with 26 cases excluded due to missing data for Q4. Chi-square analysis of Q4 on SV found a significant difference between group means ( $\chi^2 = 17.143$ ,  $v = 4$ ,  $p < .01$ ). This difference in the support for the programmes seems to *support the hypotheses* that the argument used is an important determinant. The 'rule of rescue' argument for program B in V1 received the highest support (42.9%), while the 'consumer sovereignty' argument in V2 received least support (28.7%). The relative support for the 'equity' argument was in the middle (33.1%).

Results from a similar Norwegian survey were 42.6% for 'rule of rescue', 24.2% for 'consumer sovereignty' and 45% for 'equity'. In other words, there are similarities between the two nations except that Norwegians appear to be more equity oriented.

Tables 23 and 24 show the distribution of Q5 trade across survey version for those who answered option 2 in Q4.

**Table 23: Trade-off between Health Max. and Alternative Arguments**

Count and % Response			Survey version			Total
			V1	V2	V3	
<b>Q5Trade</b>	Indifference @ 5 lives	Count	60	35	60	155
		% within Survey version	45.1%	37.2%	57.1%	46.7%
	Indifference @ 10 lives	Count	2	1	6	9
		% within Survey version	1.5%	1.1%	5.7%	2.7%
	Indifference @ 15 lives	Count	7	4	4	15
		% within Survey version	5.3%	4.3%	3.8%	4.5%
	Indifference @ 20 lives	Count	14	7	15	36
		% within Survey version	10.5%	7.4%	14.3%	10.8%
	Indifference @ 25 lives	Count	10	8	4	22
		% within Survey version	7.5%	8.5%	3.8%	6.6%
	Indifference @ 30 lives	Count	21	17	6	44
		% within Survey version	15.8%	18.1%	5.7%	13.3%
	Indifference @ 40 lives	Count	19	22	10	51
		% within Survey version	14.3%	23.4%	9.5%	15.4%
<b>Total</b>	Count	133	94	105	332	
	% within Survey version	100.0%	100.0%	100.0%	100.0%	

**Table 24: Summary Indifference between Arguments**

		Mean	Std Deviation	Median	Minimum	Maximum	Range	Valid N
<b>Survey version</b>	V1	17.63	13.22	15	5	40	35	N=133
	V2	21.01	14.17	23	5	40	35	N=94
	V3	13.33	11.70	5	5	40	35	N=105
<b>Total</b>		17.23	13.35	15	5	40	35	N=332

332 valid 'Program B' responses to Q4 were included in the analysis of Q5 trade. Missing values to Q5trade were recoded to 40. The reason being that, although they have not ticked their indifference value to suggest their marginal rate of substitution, they have in Q4 accepted the number 40. One-way ANOVA of Q5trade on SV indicated a significant difference between group means ( $F(2, 329) = 8.694, p < .01$ ). Chi-square analysis of Q5trade on SV supports the finding of differences between group means ( $\chi^2 = 27.045, v = 12, p < .01$ ).

The expected relationship to Q4 was that the more support for program B in Q4, the lower is the mean indifference value in Q5Trade. Support for this relationship was observed for V2, which had the least support for program B and highest mean value in Q5Trade. However, V3 had a mean value on Q5Trade lower than expected from Q4.

### Results – Multiple Regressions (Question 4 & 5)

*Dependent Variable: ALT ARG for Alternative Argument.*

*Logistic Regression*

-2 Log Likelihood	1239.650
Goodness of Fit	981.636
Cox & Snell – R <sup>2</sup>	.016
Nagelkerke – R <sup>2</sup>	.022

	Chi-Square	df	Significance
Model	16.008	2	.0003

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
AGE	-.0087	.0044	3.8759	1	.0490	-.0387	.9913
V1 DUMMY	-.4913	.1418	11.9992	1	.0005	-.0892	.6118
Constant	.0995	.2524	.1552	1	.6936		

----- Variables not in the Equation -----

Residual Chi Square = 12.101, df = 12, Sig = .4376

Variable	Score	df	Sig	R
DINTEREST	.5078	1	.4761	.0000
DHSWORK	.0041	1	.9489	.0000
DSEXMALE	.0994	1	.7526	.0000
FAMSIZE	.0336	1	.8546	.0000
DCHILDREN	.5179	1	.4718	.0000
DEDU	.6882	1	.4068	.0000
INCOME	.0881	1	.7666	.0000
DHEAGOOD	.0011	1	.9737	.0000
DHEABAD	3.5849	1	.0583	.0355
DUSERARE	.0084	1	.9271	.0000
DUSEOFTEN	1.3428	1	.2465	.0000
V2 DUMMY	1.4957	1	.2213	.0000

(Young) age and V1 are the only significant variables for the alternative arguments. After this we ran separate regressions for ALTARG for each of the three versions in order to inquire what explains which argument.

VERSION: 1 V1 'rule of rescue'

Number of selected cases 321  
 Number rejected because of missing data: 0  
 Number of cases included in the analysis: 321

-2 Log Likelihood	435.53015
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----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
Constant	-.3461	.1133	9.3301	1	.0023		

----- Variables not in the Equation -----

Residual Chi Square = 12.836, df = 12, Sig = .3811

Variable	Score	df	Sig	R
DINTEREST	1.9612	1	.1614	.0000
DHSWORK	.5122	1	.4742	.0000
DSEXMALE	.2238	1	.6362	.0000
AGE	2.6898	1	.1010	.0398
FAMSIZE	.3768	1	.5393	.0000
DCHILDREN	1.3258	1	.2496	.0000
DEDU	.4290	1	.5125	.0000
INCOME	3.1139	1	.0776	.0506
DHEAGOOD	1.9500	1	.1626	.0000
DHEABAD	.2248	1	.6354	.0000
DUSERARE	.0001	1	.9905	.0000
DUSEOFTEN	1.3988	1	.2369	.0000

VERSION: 2 V2 'consumer sovereignty'

Number of selected cases: 334  
 Number rejected because of missing data: 0  
 Number of cases included in the analysis: 334

-2 Log Likelihood	396.99608
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----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
Constant	-.9373	.1217	59.3459	1	.0000		



----- Variables not in the Equation -----

Residual Chi Square = 14.854, df = 12, Sig = .2495

Variable	Score	df	Sig	R
DINTEREST	.9227	1	.3368	.0000
DHSWORK	.1730	1	.6774	.0000
DSEXMALE	.0085	1	.9267	.0000
AGE	.9286	1	.3352	.0000
FAMSIZE	3.4894	1	.0618	.0613
DCHILDREN	.0728	1	.7874	.0000
DEDU	2.4397	1	.1183	.0333
INCOME	.3751	1	.5402	.0000
DHEAGOOD	.0949	1	.7581	.0000
DHEABAD	.0297	1	.8631	.0000
DUSERARE	.1747	1	.6759	.0000
DUSEOFTEN	3.1857	1	.0743	.0546

VERSION: 3 V3 'equity'

Number of selected cases: 326  
 Number rejected because of missing data: 0  
 Number of cases included in the analysis: 326

-2 Log Likelihood	409.73751
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----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
Constant	-.7442	.1185	39.4227	1	.0000		

----- Variables not in the Equation -----

Residual Chi Square = 13.548, df = 12, Sig = .3305

Variable	Score	df	Sig	R
DINTEREST	.9815	1	.3218	.0000
DHSWORK	1.1079	1	.2925	.0000
DSEXMALE	2.7361	1	.0981	.0424
AGE	.7315	1	.3924	.0000
FAMSIZE	1.7481	1	.1861	.0000
DCHILDREN	.7066	1	.4006	.0000
DEDU	.0094	1	.9228	.0000
INCOME	.6085	1	.4354	.0000
DHEAGOOD	.4593	1	.4980	.0000
DHEABAD	2.8690	1	.0903	.0461
DUSERARE	.0307	1	.8609	.0000
DUSEOFTEN	.0333	1	.8553	.0000

The above partial regressions did not reveal any significant predictors of the alternative argument in Q4. Further analyses are required.

*Dependent variable: Q5Trade.*

*Linear Regression*

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.343	.118	.107	12.61

Dependent Variable: Q5TRADE

Predictors: (Constant), AGE, V2DUMMY, DINTEREST, V1DUMMY

ANOVA	Sum of Squares	df	Mean Square	F	Sig.
Regression	6946.075	4	1736.519	10.919	.000
Residual	52004.528	327	159.035		
Total	58950.602	331			

Dependent Variable: Q5TRADE

Predictors: (Constant), AGE, V2DUMMY, DINTEREST, V1DUMMY

Predictor	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.418	2.635		2.436	.015
AGE	.189	.044	.224	4.265	.000
V2DUMMY	7.869	1.793	.266	4.389	.000
DINTEREST	-4.521	1.426	-.166	-3.171	.002
V1DUMMY	4.563	1.649	.168	2.768	.006

Dependent Variable: Q5TRADE

Excluded Variables	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
DHSWORK	-.004(d)	-.084	.933	-.005	.959
DSEXMALE	-.045(d)	-.837	.403	-.046	.934
FAMSIZE	-.044(d)	-.774	.440	-.043	.833
DCHILDREN	-.010(d)	-.162	.872	-.009	.776
DEDU	-.037(d)	-.685	.494	-.038	.943
INCOME	.045(d)	.800	.424	.044	.870
DHEAGOOD	.027(d)	.493	.623	.027	.888
DHEABAD	-.031(d)	-.578	.564	-.032	.954
DUSERARE	-.010(d)	-.183	.855	-.010	.951
DUSEOFTEN	-.029(d)	-.550	.583	-.030	.969
Dependent Variable: Q5TRADE					
Predictors: (Constant), AGE, V2DUMMY, DINTEREST, V1DUMMY					

Except the two survey versions, the predictors for high values on the Q5Trade were age (positive sign) and interest (negative sign). In other words, the more interested in the study, the more strongly is one's support for the alternative argument expressed through a low indifference value.

*Further Inquiries:*

- 1) Those who appear to hold lexicographic views on the alternative argument (i.e. indifference value of 5 lives). Are they in a different camp as compared with those who actually make a trade-off < 5 - 40] ?
- 2) Compare with the Norwegian data.

---

## 7 Fourth Issue - Which Streams of Health are Relevant?

### Background Hypotheses

The design of the choice is similar, except: 1) in V2 there is an additional age difference, 2) in V3 the difference is information on years of life gained from past health care. The arguments in favour of disease A differ accordingly. The hypotheses are first, more respondents will go for disease B in V2 than in V1, because younger patients are the beneficiaries. Second, more will go for disease B in V3 than in V1 because those with disease B have not previously benefited from health care. We had no a priori idea of which of the two additional concerns would have the strongest impact.

#### Different treatment effects

Imagine that additional funding to the health service is to be spent on the expansion of the treatment capacity for one of two diseases. Both diseases are fatal and affect the same number of people. One disease leads to death more rapidly. However, the treatment of the other disease is more effective.

Patients with **Disease A** are expected to gain **2** extra life years if treated. Without the treatment they will live **1** more year.

Patients with **Disease B** are expected to gain **4** extra life years if treated. Without the treatment they will live **3** more years.

The two diseases affect people of the same age.

**V2:** Patient with Disease A are on average **60** years old, while those with Disease B are on average **30** years old.

**V3:** Imagine that patients with Disease A have previously received health care which has already increased their lives by **3** years. The two diseases affect the same age group.

The differences are summarised as:

	<b>Disease A</b>	<b>Disease B</b>	
Remaining years of life if <i>untreated</i>	1	3	
<b>Additional to these if treated</b>	<b>2</b>	<b>4</b>	
Average age of patient	Same for both groups		
<b>V2</b>	Average age of patient	60	30
<b>V3</b>	Years of life gained from past health care	3	0

---

### Different treatment effects (cont.)

Some believe that more patients with Disease B should be treated because its treatment will add more years to a patient's life.

**V2:** Some believe that more patients with Disease B should be treated because its treatment will add more years to a patient's life, **and because these patients are much younger.**

**V3:** Some believe that more patients with Disease B should be treated because its treatment will add more years to a patient's life, **and because they have not already received life extending health care like those with Disease A.**

Others believe that more patients with Disease A should be treated because its treatment will benefit those who would die most quickly without treatment.

**QUESTION 6: On which group of patients would you prefer to spend the extra money?**

*Please tick one box below:*

- |  |   |                       |
|--|---|-----------------------|
| • Patients with Disease A                              | 1 | <input type="radio"/> |
| • Patients with Disease B                              | 2 | <input type="radio"/> |
| • I consider an increase in A or B to be equally good. | 3 | <input type="radio"/> |
| • Not sure   | 4 | <input type="radio"/> |

Note:

- (1) In all versions the additional years gained by treating Disease A and B were 2 and 4 respectively and the years of life remaining if the disease were untreated, 1 and 3 years respectively. That is, Disease A is more severe (fewer years of life remaining if untreated) but fewer life years are gained after treatment.
- (2) In Version 1 patient ages are the same.
- (3) In Version 2 patients with Disease A are older.
- (4) Version 3 is the same as Version 2 except patients with Disease A have already gained three additional life years from medical care, while those with Disease B have received no additional life years from health care.

## Results - Crosstabs (Question 6)

**Table 25: Choice of Disease Treatment as Context Varies**

Count and % Response		Survey version			Total	
		V1 <sup>(2)</sup>	V2 <sup>(3)</sup>	V3 <sup>(4)</sup>		
<b>Q6</b>	Disease A	Count	37	19	27	83
		% within Survey version	11.8%	5.9%	8.5%	8.7%
	Disease B	Count	43	121	62	226
		% within Survey version	13.7%	37.7%	19.6%	23.7%
	A or B	Count	220	164	205	589
		% within Survey version	70.1%	51.1%	64.7%	61.9%
	Not Sure	Count	14	17	23	54
		% within Survey version	4.5%	5.3%	7.3%	5.7%
<b>Total</b>	Count	314	321	317	952	
	% within Survey version	100.0%	100.0%	100.0%	100.0%	

952 valid cases were included in the analysis with 29 excluded due to missing data for Q6. Chi-square analysis of Q6 on SV found a significant difference between group means ( $\chi^2 = 60.432$ ,  $v = 6$ ,  $p < .01$ ). *These results support our hypotheses.*

## Results – Multiple Regressions (Question 6)

*Dependent variable Q6Dummy1 (Disease B = 1, Else = 0).*

*Logistic Regression*

-2 Log Likelihood	977.720
Goodness of Fit	996.589
Cox & Snell – R <sup>2</sup>	.079
Nagelkerke – R <sup>2</sup>	.120

	Chi-Square	df	Significance
Model	81.233	5	.0000

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
DCHILDREN	.4738	.1817	6.7989	1	.0091	.0673	1.6062
DEDU	-.3624	.1838	3.8870	1	.0487	-.0422	.6960
INCOME	.2307	.0653	12.4934	1	.0004	.0995	1.2595
V1 DUMMY	.4340	.2191	3.9223	1	.0476	.0426	1.5434
V2 DUMMY	-.8970	.1849	23.5467	1	.0000	-.1426	.4078
Constant	-1.7767	.4118	18.6156	1	.0000		

----- Variables not in the Equation -----

Residual Chi Square = 12.121, df = 9, Sig = .2065

Variable	Score	df	Sig	R
DINTEREST	2.2467	1	.1339	.0153
DHSWORK	.1761	1	.6748	.0000
DSEXMALE	1.4704	1	.2253	.0000
AGE	1.8993	1	.1682	.0000
FAMSIZE	.8481	1	.3571	.0000
DHEAGOOD	2.8849	1	.0894	.0289
DHEABAD	.0014	1	.9704	.0000
DUSERARE	.0417	1	.8382	.0000
DUSEOFTEN	.0426	1	.8365	.0000

Dependent variable Q6Dummy2, (Disease B = 1, Disease A = 0)  
Logistic Regression

Number of selected cases: 981  
 Number rejected because of missing data: 672  
 Number of cases included in the analysis: 309

Dependent variable Q6Dummy2

-2 Log Likelihood	330.880
Goodness of Fit	309.000
Cox & Snell – R <sup>2</sup>	.089
Nagelkerke – R <sup>2</sup>	.129

	Chi-Square	df	Significance
Model	28.715	2	.0000

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
V1 DUMMY	.6810	.3216	4.4832	1	.0342	.0831	1.9759
V2 DUMMY	-1.0201	.3377	9.1223	1	.0025	-.1407	.3606
Constant	1.1703	.4054	8.3342	1	.0039		

----- Variables not in the Equation -----

Residual Chi Square = 6.687, df = 12, Sig = .8776

Variable	Score	df	Sig	R
DINTEREST	.0001	1	.9925	.0000
DHSWORK	.4246	1	.5147	.0000
DSEXMALE	.0216	1	.8831	.0000
AGE	.0034	1	.9533	.0000
FAMSIZE	.1836	1	.6683	.0000

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DCHILDREN	.1899	1	.6630	.0000
DEDU	2.9559	1	.0856	.0516
INCOME	1.6528	1	.1986	.0000
DHEAGOOD	.1879	1	.6647	.0000
DHEABAD	.1351	1	.7132	.0000
DUSERARE	.0120	1	.9127	.0000
DUSEOFTEN	.3212	1	.5709	.0000

*Further Inquiries*

- 1) While outcome and severity had the same support in V1, there is a hell of a switch in V2 towards B as age differences are introduced.
- 2) Compare V3 with V1. Gains from past health care matters, but far from as much as age differences.
- 3) Less than half have expressed a preference (A or B) (25% in V1 to 43% in V2), implying a very difficult choice context.



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## 8 Fifth Issue - Should Production Gains Count?

### Background Hypothesis

#### Priority setting

When the public health service is to prioritise between different groups of patients, most people seem to agree that there should be equal access to health care for patients with equal need, and that Medicare should try to improve health as much as possible.

These two principles may conflict when the treatment of some patient groups involves lower costs than the treatment of other patients. For example, treating patients in the paid workforce first could lead to savings in other sectors of the economy.

**QUESTION 7: Which one of the statements below do you most agree with, if the patients in the two groups have the same illness and will gain as much from treatment?**

Please tick **one** box below:

- Patients who are in the paid workforce should be given some priority over patients who do not work, because this will increase the total value of society's income. Some of the increased income would benefit society as a whole, as spending on sick pay would fall and increased tax revenues could finance more public services. 1
- Patients who are in the paid workforce should be given some priority if this leads to increased revenue for Medicare, so that more health care can be provided. 2
- **V2:** Patients who are in the paid workforce should be given some priority only if this leads to an increase in revenue for Medicare which is **large enough that patients who are not in the workforce also benefit**.
- Patients who are in the paid workforce should *not* have priority over patients who are outside the workforce, even if this may give a poorer public health service. 3
- Not sure. 4

V1 & V2 are similar except that option 2 is slightly differently framed. In V2 productive people may “pay their way” in terms of health care. This is a Rawlsian situation and would also represent a Pareto improvement. V1 is a utilitarian case. More respondents are expected to go for option 2 in V2 than in V1.

V3 has a different design, but the first option from V1 & V2 is similar to the description under *Employed people*. The purpose of V3 was to test if an aversion to prioritising productive people reflects a general aversion to discrimination, or whether it is acceptable when the patients in questions are carers or parents.

### Results - Crosstabs (Question 7)

Analysis of Q7d included 641 valid cases and excluded 340 cases either due to missing data or because Q7d was not asked of V3 respondents. Cross-tabs and Chi-square analysis for Q7d on SV failed to reject the null hypothesis of equality between group means ( $\chi^2 = 4.270$ ,  $v = 3$ ,  $p = .234$ ). Q7d was pooled with V3 data for Q7a into the new variable Q7trans as follows:

Q7trans Option 1 = Q7a Option 1 & Q7d Option 1  
 Q7trans Option 2 = Q7d Option 2  
 Q7trans Option 3 = Q7a Option 2 & Q7d Option 3  
 Q7trans Option 4 = Q7a Option 3 & Q7d Option 4.

**Table 26: The Relevance of Workforce Participation, Tax Contribution to Health Care and the Importance of Caring**

Count and % Response		Survey version			Total	
		V1 <sup>1</sup>	V2 <sup>2</sup>	V3 <sup>3</sup>		
<b>Q7Trans</b>	1	Count	36	41	86	163
		% within Survey version	11.4%	12.6%	27.4%	17.1%
	2	Count	66	89	0	155
		% within Survey version	21.0%	27.3%	.0%	16.2%
	3	Count	192	176	193	561
		% within Survey version	61.0%	54.0%	61.5%	58.7%
	4	Count	21	20	35	76
		% within Survey version	6.7%	6.1%	11.1%	8.0%
<b>Total</b>	Count	315	326	314	955	
	% within Survey version	100.0%	100.0%	100.0%	100.0%	

Notes: 1 Preference for patients from the workforce.  
 2 Preference if tax contribution to health exceeds treatment cost.  
 3 Preference if a parent or caregiver

Analysis of Q7trans included 955 valid cases with 26 cases excluded due to missing data for Q7d or Q7a. Chi-square test for Q7trans on SV found significant difference in at least one group mean

( $\chi^2 = 117.169$ ,  $v = 6$ ,  $p < .01$ ). This difference might be attributed to SV or to inappropriate pooling of the data. As is clear from the cross-tab no response to option 2 for V3 may artificially increase V3 response to options 1,3&4. Still, there seems to be *support for the hypothesis* that more respondents go for option 2 in V2 than in V1 (27.3% vs 21%).

### ***'Employed People Should Have Priority' (Question 7)***

**Table 27: Priority for the Employed**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Agree</b>	86	8.8	27.4	27.4
	<b>Disagree</b>	193	19.7	61.5	88.9
	<b>Not sure</b>	35	3.6	11.1	100.0
	<b>Total</b>	314	32.0	100.0	
Missing	<b>0</b>	655	66.8		
	<b>9</b>	12	1.2		
	<b>Total</b>	667	68.0		
<b>Total</b>		981	100.0		

### ***'Parents Should Have Priority' (Question 7B)***

**Table 28: Priority for Parents**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Agree</b>	146	14.9	46.6	46.6
	<b>Disagree</b>	151	15.4	48.2	94.9
	<b>Not sure</b>	16	1.6	5.1	100.0
	<b>Total</b>	313	31.9	100.0	
Missing	<b>0</b>	655	66.8		
	<b>9</b>	13	1.3		
	<b>Total</b>	668	68.1		
<b>Total</b>		981	100.0		

## 'Carers Should Have Priority' (Question 7C)

**Table 29: Priority for Carers**

Response		Frequency	Percent	Valid Percent	Cumulative %
Valid	<b>Agree</b>	139	14.2	44.7	44.7
	<b>Disagree</b>	142	14.5	45.7	90.4
	<b>Not sure</b>	30	3.1	9.6	100.0
	<b>Total</b>	311	31.7	100.0	
Missing	<b>0</b>	655	66.8		
	<b>9</b>	15	1.5		
	<b>Total</b>	670	68.3		
<b>Total</b>		981	100.0		

There is a much higher support for the ideas of prioritising parents (46.6% agree) and carers (44.7% agree) than for prioritising employed people (27.4%).

### Results – Multiple Regressions (Question 7)

What explains equity preferences in V1 and V2?

#### Logistic Regression

*Dependent variable Q7dDummy V1 & V2:* value 1 for option 3 (those who hold that employed people should *not* have priority) and 0 else (including missing).

-2 Log Likelihood	889.497
Goodness of Fit	655.082
Cox & Snell – R <sup>2</sup>	.013
Nagelkerke – R <sup>2</sup>	.017

	Chi-Square	df	Significance
Model	8.483	2	.0144

#### ----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
DHSWORK	-.4728	.2099	5.0741	1	.0243	-.0585	.6232
AGE	.0109	.0052	4.4027	1	.0359	.0517	1.0110
Constant	.0794	.3049	.0679	1	.7944		

----- Variables not in the Equation -----

Residual Chi Square = 12.395, df = 11, Sig = .3347

Variable	Score	df	Sig	R
DINTEREST	.8829	1	.3474	.0000
DSEXMALE	.3346	1	.5629	.0000
FAMSIZE	3.1428	1	.0763	.0357
DCHILDREN	.6154	1	.4328	.0000
DEDU	2.4789	1	.1154	.0231
INCOME	.1188	1	.7304	.0000
DHEAGOOD	.1020	1	.7494	.0000
DHEABAD	.0390	1	.8435	.0000
DUSERARE	.8658	1	.3521	.0000
DUSEOFTEN	.6846	1	.4080	.0000
V1DUMMY	2.5267	1	.1119	.0242

Interestingly, those who work or have been working in the health sector are more inclined to prioritise employed people, while the variable age goes in the opposite direction.

*Logistic Regression*

*Dependent variable Q7aDummy V3:* value 1 for option 1 (agree that employed people should have priority) and 0 else (including missing).

-2 Log Likelihood	338.308
Goodness of Fit	323.392
Cox & Snell – R <sup>2</sup>	.110
Nagelkerke – R <sup>2</sup>	.160

	Chi-Square	df	Significance
Model	37.894	5	.0000

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
DHSWORK	-.7614	.3509	4.7076	1	.0300	-.0848	.4670
DSEXMALE	-1.0984	.2919	14.1597	1	.0002	-.1798	.3334
DCHILDREN	1.0961	.3478	9.9346	1	.0016	.1452	2.9925
DEDU	1.2213	.3820	10.2241	1	.0014	.1479	3.3917
INCOME	.2542	.1222	4.3269	1	.0375	.0786	1.2895
Constant	-2.4586	.7509	10.7197	1	.0011		

----- Variables not in the Equation -----

Residual Chi Square = 6.524, df = 7, Sig = .4800

Variable	Score	df	Sig	R
DINTEREST	1.7197	1	.1897	.0000
AGE	.6717	1	.4125	.0000
FAMSIZE	.2511	1	.6163	.0000
DHEAGOOD	.6157	1	.4326	.0000
DHEABAD	.8295	1	.3624	.0000
DUSERARE	.9331	1	.3341	.0000
DUSEOFTEN	.0430	1	.8357	.0000

*Logistic Regression*

*Dependent variable Q7bDummy V3: value 1 for option 1 (agree that parents should have priority) and 0 else (including missing).*

-2 Log Likelihood	435.767
Goodness of Fit	325.434
Cox & Snell – R <sup>2</sup>	.038
Nagelkerke – R <sup>2</sup>	.051

	Chi-Square	df	Significance
Model	12.612	2	.0018

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
AGE	.0186	.0076	6.0053	1	.0143	.0945	1.0188
DEDU	.5257	.2620	4.0256	1	.0448	.0672	1.6917
Constant	-1.5724	.4302	13.3620	1	.0003		

----- Variables not in the Equation -----

Residual Chi Square = 8.558, df = 10, Sig = .5745

Variable	Score	df	Sig	R
DINTEREST	1.0292	1	.3103	.0000
DHSWORK	.6055	1	.4365	.0000
DSEXMALE	2.6111	1	.1061	.0369
FAMSIZE	.0388	1	.8438	.0000
DCHILDREN	.9516	1	.3293	.0000
INCOME	2.6252	1	.1052	.0373
DHEAGOOD	.0025	1	.9604	.0000
DHEABAD	1.7421	1	.1869	.0000
DUSERARE	.0019	1	.9649	.0000
DUSEOFTEN	.2202	1	.6389	.0000

*Logistic Regression*

*Dependent variable Q7cDummy V3: value 1 for option 1 (agree that carers should have priority) and 0 else (including missing).*

-2 Log Likelihood	421.738
Goodness of Fit	327.253
Cox & Snell – R <sup>2</sup>	.068
Nagelkerke – R <sup>2</sup>	.092

	Chi-Square	df	Significance
Model	23.101	2	.0000

----- Variables in the Equation -----

Variable	B	S.E	Wald	df	Sig	R	Exp(B)
AGE	.0226	.0086	6.8417	1	.0089	.1043	1.0229
FAMSIZE	-.2178	.0982	4.9182	1	.0266	-.0810	.8043
Constant	-.9199	.6284	2.1428	1	.1432		

----- Variables not in the Equation -----

Residual Chi Square = 10.304, df = 10, Sig = .4143

Variable	Score	df	Sig	R
DINTEREST	.7740	1	.3790	.0000
DHSWORK	.7005	1	.4026	.0000
DSEXMALE	.5250	1	.4687	.0000
DCHILDREN	.0003	1	.9864	.0000
DEDU	1.3576	1	.2440	.0000
INCOME	1.5957	1	.2065	.0000
DHEAGOOD	.1214	1	.7275	.0000
DHEABAD	.0872	1	.7677	.0000
DUSERARE	.5030	1	.4782	.0000
DUSEOFTEN	1.5110	1	.2190	.0000

*Further Inquiries*

- 1) In V1 & V2 the majority would ignore production gains “even if this would give a poorer health service”!!! In V2 we say the unemployed will benefit in option 2, hence, as expected there is more support for option 2.
- 2) In V3, 61.7% disagree which corresponds with V1 where 61.5% went for option 3. There is much more support for prioritising parents and carers than productive people.



## APPENDIX

The following appendix includes the covering letter, a sample questionnaire (Version 1) and the reminder letter. The covering letter and reminder letter appeared on CHPE letterhead.

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26 November 1997

### ***Priority Setting in the Public Health Service***

As you may know, Medicare is facing increasing problems in paying for all of the services that can be provided by modern medicine. We are seeking your assistance with a survey which is designed to find out how Australians would like priorities to be set in the public health service. The study is part of an international collaboration to investigate this question in different countries.

We would be grateful if you would complete the attached questionnaire, it takes approximately ten minutes. It has questions on five different issues:

- ™ how much money should Australia spend on health care;
- ™ which methods should be used for priority setting in Medicare;
- ™ which evidence should our politicians take most notice of when they prioritise different health care programs;
- ™ should Medicare consider anything apart from the direct benefits of health care; and
- ™ to what extent should we treat different groups of people differently.

The questionnaire has a set of alternative responses for each question, and you are asked to tick your preferred answer. People hold different views on these issues, and it is these differences that interest us. There are no right or wrong answers. In our final analysis no individual will be identified, and your answers will be strictly confidential.

Our study is not being carried out only for scientific interest. The Australian government has recently announced that it will be seeking information on the benefits of health services before they decide whether or not to include them in Medicare. This questionnaire will help decide which benefits should be measured.

The questionnaire has only been sent to a limited number of people. It is important for the accuracy of the results that as many as possible complete the questionnaire and return it in the reply paid envelope. For this reason we would be very grateful for your assistance.

Many thanks for your cooperation!



Jeff Richardson  
Professor and Director  
Health Economics Unit  
Centre for Health Program Evaluation



Jan Abel Olsen  
Visiting Professor,  
University of Tromsø  
Norway

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(1-1) **How much money should we spend on health care?**

This year Australia will spend about 40 billion dollars on health care, which is 8.5 % of the country's income (GDP). This is equal to just over \$2,100 per person.

About 70% of this is Government spending through Medicare. The rest is through private health insurance and patients' payments. This means that the Government spends, on average, about \$1,500 per person.

**QUESTION 1: Do you think the Government should spend more on health care?**

*Please tick **one** of the below boxes:*

- Yes, the Government should spend more on health care                      1  | *Go to Question 2*
- No, the Government spends about the right amount                              2  | *Go to Next Page*
- No, the Government spends too much already on health care                      3  | *Go to Next Page*
- Not sure    4  | *Go to Next Page*

**QUESTION 2:**

Suppose that it is politically impossible to finance the increased spending on health care by reducing Government spending in other sectors.

**How much extra would you be prepared to pay in terms of extra taxation each year, if all other people in your income group also paid this and if you were sure that the increased taxes would fully end up in the health service?:**

*Please tick **one** of the below boxes:*

Dollars extra per year:

\$

0     

100     

300     

600     

1,000     

2,000     

4,000 or more

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(2-1) **How should we decide which services to include in Medicare?**

One of the biggest problems for Medicare is to decide which services to include when there is not enough money to finance all of them. To help solve this problem, government advisers have two ways for comparing the importance of health services.

**QUESTION 3: Which of the two methods below do you think should be used to prioritise health services?**

Please tick **one** box below

- The importance of health services should be decided by how much people would be willing to pay for them, if they were not paid for by Medicare. This method is based on the view that priorities in Medicare should reflect individuals' preferences. The way to measure preferences is to ask individuals how much they would be prepared to pay for each health service. Hence, the higher their willingness to pay for a service, the higher priority it should have. 1
  
- The importance of health services should be decided by how much they improve people's health. This method is based on the view that the role of Medicare is to improve people's health as much as possible. Health would be measured as a combination of the quality and length of life. Hence, the more a service improves the quality and length of lives, the higher priority it should have. 2
  
- Not sure 3

Please explain if you would like another method to be used:

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(3-1) **Urgent treatment or saving as many as possible**

Imagine that the health service receives additional funding which could be spent on one of the two programs described below:

**Program A:** Screening a large group of the population in order to detect the development of a cancer at an early stage. It is expected that this will save the life of 50 people who would have died from the cancer.

**Program B:** Establishing a helicopter ambulance service which will benefit accident victims and people needing fast emergency treatment. It is expected that this will save the lives of 40 people.

The people in the two groups are about the same age, and there are no other important differences between them.

Imagine that the sub-committee for Health and Safety in Parliament discusses which program is to have priority. There is disagreement about the importance of saving as many lives as possible, and the importance of giving emergency care.

**QUESTION 4: Which of the two arguments below do you think should be most important when politicians are to choose?**

Please tick **one** box below:

- “The most important consideration should be to save as many lives as possible.”  | Go the Next Page  
Therefore, Programme A should be chosen.
- “It is more important to help people who need life saving emergency care than to test people who are at present fit and without symptoms.”  | Go to Question 5  
Therefore, Programme B should be chosen.
- Not sure.  | Go to Next Page

**QUESTION 5: Do you think politicians should still accept this argument if the number of lives saved by the helicopter service (instead of 40) was:**

For **each** of the numbers listed, tick Yes or No

	Yes	No
30	<input type="radio"/>	<input type="radio"/>
25	<input type="radio"/>	<input type="radio"/>
20	<input type="radio"/>	<input type="radio"/>
15	<input type="radio"/>	<input type="radio"/>
10	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>

---

(4-1) **Different treatment effects**

Imagine that additional funding to the health service is to be spent on the expansion of the treatment capacity for one of two diseases. Both diseases are fatal and affect the same number of people. One disease leads to death more rapidly. However, the treatment of the other disease is more effective.

Patients with **Disease A** are expected to gain **2** extra life years if treated. Without the treatment they will live **1** more year.

Patients with **Disease B** are expected to gain **4** extra life years if treated. Without the treatment they will live **3** more years.

The two diseases affect people of the same age.

The differences are summarised as:

	<b>Disease A</b>	<b>Disease B</b>
Remaining years of life if <i>untreated</i>	1	3
<b>Additional to these if treated</b>	<b>2</b>	<b>4</b>
Average age of patient	Same for both groups	

Some believe that more patients with Disease B should be treated because its treatment will add more years to a patient's life.

Others believe that more patients with Disease A should be treated because its treatment will benefit those who would die most quickly without treatment.

**QUESTION 6: On which group of patients would you prefer to spend the extra money?**

Please tick **one** box below:

- Patients with Disease A 1
- Patients with Disease B 2
- I consider an increase in A or B to be equally good. 3
- Not sure 4

---

(5-1) **Priority setting**

When the public health service is to prioritise between different groups of patients, most people seem to agree that there should be equal access to health care for patients with equal need, and that Medicare should try to improve health as much as possible.

These two principles may conflict when the treatment of some patient groups involves lower costs than the treatment of other patients. For example, treating patients in the paid workforce first could lead to savings in other sectors of the economy.

**QUESTION 7: Which one of the statements below do you most agree with, if the patient in the two groups have the same illness and will gain as much from treatment?**

Please tick **one** box below:

- Patients who are in the paid workforce should be given some priority over patients who do not work, because this will increase the total value of society's income. Some of the increased income would benefit society as a whole, as spending on sick pay would fall and increased tax revenues could finance more public services. 1
- Patients who are in the paid workforce should be given some priority if this leads to increased revenue for Medicare, so that more health care can be provided. 2
- Patients who are in the paid workforce should *not* have priority over patients who are outside the workforce, even if this may give a poorer public health service. 3
- Not sure. 4

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**QUESTION 8: Were the issues in this survey of any interest to you?**

Please tick **one** box below:

- Much interest 1
- Little interest 2
- No interest 3

So that we can compare the responses we get from different people, can we ask a few questions about yourself and your household? Your answers to these questions are totally confidential.

**QUESTION 9: Do you work, or have you previously worked in the health service?**

Please tick **one** box below:

- Yes 1
- No 2

**QUESTION 10: Your Sex?**

- Male 1
- Female 2

**QUESTION 11: Your age?** \_\_\_\_\_

**QUESTION 12: How many persons are there in your household?** \_\_\_\_\_

**QUESTION 13: How many of these are children under 16 years old?** \_\_\_\_\_

**QUESTION 14: Is English your first language?**

Please tick **one** box below:

- Yes
- No



---

**QUESTION 15: What is your highest level you completed in your formal education?**

Please tick **one** box below:

- No school, or primary school only 1
- Attended high school but did not obtain a certificate 2
- Higher school certificate/leaving certificate 3
- Trade certificate/apprenticeship/other certificate 4
- Degree (including honours/postgrad diploma) 5
- Masters degree or doctorate 6
- Other, please describe \_\_\_\_\_ 7

**QUESTION 16: Which of the following applies to you? Are you ...**

Please tick **one** box below:

- Working full time? 1
- Working part-time or casually? 2
- Unemployed and looking for work? 3
- Retired or on a pension? 4
- Mainly doing home duties? 5
- Studying 6

**QUESTION 17: We would like to know roughly what the total gross income of your household will be in 1997 (pensions, unemployment benefits, capital returns will all count as income). Would you please tick one box below, or fill in the more precise figure if you don't mind?**

- less than \$ 15,000 1
- \$15,000 - 30,000 2
- \$30,000 - 45,000 3
- \$45,000 - 60,000 4
- more than \$ 60,000 5
- Gross income in 1997: \$ \_\_\_\_\_

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**QUESTION 18: How would you consider your own health?**

Please tick **one** box below:

- Very good 1
- Good 2
- Neither good nor bad 3
- Bad 4
- Very bad 5

**QUESTION 19: In the last 12 months how many times have you consulted, or been visited by, a doctor?**

Please tick **one** box below:

- None 1
- Once 2
- 2 - 5 times 3
- More than 5 times 4

***Many thanks for your co-operation!***

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10 December 1997

## Priority Setting in the Public Health Service

Hello,

We are writing to follow up our mail of 26<sup>th</sup> November. It contained a survey about how Australians would like priorities to be set in the public health service.

Thank you to all those who completed the survey and sent it back to us. Your help is really appreciated.

Yet we still would like some more responses. The survey was only sent to a limited number of people and it is important for the accuracy of the results that as many as possible complete the survey and return it to us. If you have not had the chance to complete the survey we would be very grateful if you could complete it and mail it back to us in the reply-paid envelope by Monday 22<sup>nd</sup> December. If you do not have the original survey anymore, please call Amanda or Lorraine on 9496-4433 to have one sent to you.

Once again, many thanks for your co-operation!



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