MONASH University
Business and Economics

Centre for Health Economics

The Relative Social Willingness to Pay Instrument: Preliminary Results

Professor Jeff Richardson
Foundation Director, Centre for Health Economics,
Monash University

Mr Angelo Iezzi
Research Fellow, Centre for Health Economics,
Monash University

November, 2007

Correspondence:

Professor Jeff Richardson
Centre for Health Economics
Faculty of Business and Economics
Building 75
Monash University Victoria 3800
Australia

Phone: +61 (0)3 9905 0754, Fax: +61 (0)3 9905 8344
Jeff.Richardson@buseco.monash.edu.au

TABLE OF CONTENTS

ABSTRACT

This Research Paper presents preliminary results from the Relative Social-Willingness to Pay (RS-SWTP) project and summarises its rationale. Its principal purpose is to invite feedback, especially upon the questionnaires used. It reverses the order of the conventional paper, giving the rationale second. This is to encourage the impatient reader to read and respond. Thank you if you do so.

The Relative Social Willingness to Pay Instrument: Preliminary Results

1. Criteria for Evaluating a Metric

The Relative Social-Willingness to Pay (RS-WTP) instrument seeks to produce a metric which fulfils the following criteria:

1. Measurement from a social perspective;

2. Immunity from the non health elements which are embedded in other instruments; viz, risk per se (Standard Gamble); time (Time Trade-off); distribution (Person Trade-off) and personal income and wealth (Willingness to Pay);

3. Immunity from the vague (undefined) influence of a global budget;

4. Acute awareness by respondents of the opportunity cost of decisions;

5. Use of a familiar metric to increase the likelihood of a valid (weak) interval property[1];

6. A direct trade-off between a life-death decision and the quality of life to achieve a (strong) interval property[1];

7. Separations of relative from absolute willingness to pay for reasons outlined in the discussion;

8. Close to real world decision making to inject realism;

9. Easy adjustment to measure the effects of personal attributes, other consequences or procedures associated with a health state intervention;

10. Capable of delivery as a postal questionnaire;

11. Use of a metric capable of meaningful fine gradation to allow measurement of very small benefits;

12. Inclusion of the concept which is sought to achieve (at least one of) the goals of a particular community.

The Instrument
The two postal and interview versions of the instrument are reproduced in Appendices 3-5. Respondents are asked to imagine they are on a parliamentary committee which must decide how much Medicare (Australia's health scheme) should pay for health services (a social perspective). The instrument is based upon Figure 1. Service 1 moves a person from death to health State H;

---

[1] Following Richardson (1994) the term 'weak interval property' refers to the normal definition of an interval property, viz, that an interval has the same meaning anywhere on the scale. (For example, the distance between 2 and 5 centimetres is the same as the distance between 9 and 12 centimetres.) A 'strong interval' property refers to the nature of the trade-off between the length and quality of life which is the defining characteristic of the QALY. Specifically, a 10 percent increase in the quality of life must be valued in some recognisable way as being equal to a 10 percent increase in the length of life. (This property is almost always ignored in the literature.)

Service 2 moves them from State H to full health. They are told that it has been independently determined that the community will pay $40,000 to save a person's life and keep them in full health for one year ($40,000 is, in fact, about the threshold figure for our Pharmaceutical Advisory Committee). The task is to divide $40,000 between Service 1 and Service 2. The key instruction is as follows:

> <u>**Taking into account everything you think is important**</u> **in making the decision, how would you divide the $40,000 between Service 1 and Service 2, so that the amounts given for Service 1 and Service 2** <u>**indicate the size of the health benefits from Service 1 compared with Service 2**</u> **(underlining in original).**

Note that what, in principle, we measure can be altered by altering this key question. For example an attractive alternative is to ask respondents to divide the $40,000 'between Service 1 and Service 2 so that the amounts given for Service 1 and Service 2 <u>indicate the amount Medicare should pay for each of these services</u>'. This question allows for the possibility that an individual may not wish to devote public funds to a health giving activity (for example, saving the life of our Prime Minister).

Figure 1. The RS-WTP instrument
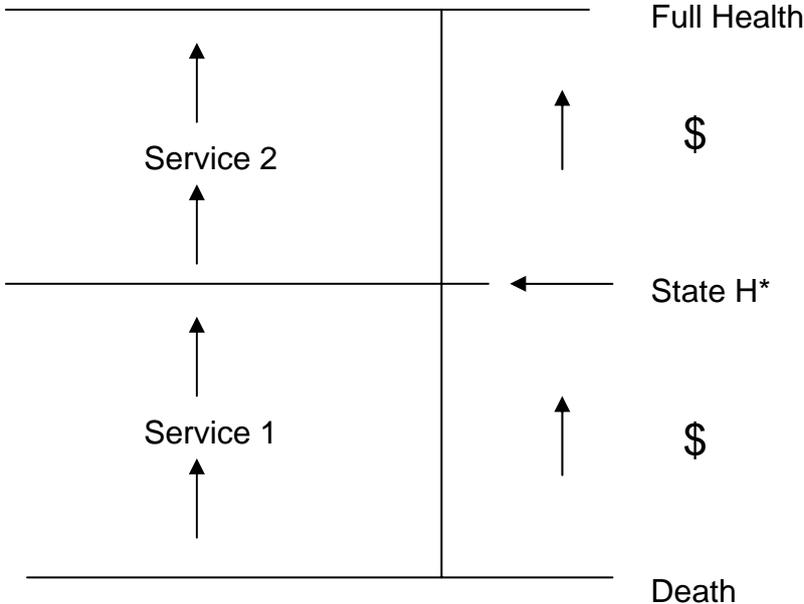
*Note: Props used do not suggest a location for H on the scale

Five sets of data were collected from each respondent.

1. 'Postal 1' (P1): First postal version of the RS-WTP questionnaire, see Appendix 3.
2. 'Postal 2' (P2): The second postal version of the RS-WTP questionnaire. This emphasised the fact that individuals would die when the amount allocated to Service 1 was reduced. We wished to leave no possible ambiguity about the lethal effects of decision making.
3. 'Interview RS-WTP' (R int): The interview version of the instrument. The visual aid is reproduced in Appendix 5.
4. 'Interview TTO': Time Trade-off results. Props are reproduced in Appendix 6.
5. 'Interview PTO1, PTO2': Person Trade-off questions. See props in Appendix 7.

Health states were constructed from the AQoL descriptive system.

Subjects were offered a small financial inducement to complete the work. Our social willingness to pay was $30.

2. Results

By August 2007, 112 interviews had been completed. Of these 25 used a figure of $100,000 in the RS-WTP interviews (for sensitivity analysis). An additional 48 provided data before the introduction of the second postal questionnaire. The present analysis is based upon the 48 individuals who each completed all questionnaires and interviews for each of 6 health states.

In total 18 health states were used. For the purposes of this study individual characteristics of the opportunistically recruited respondents were not important and are not reported here. Observations per state are shown in Table 1.

Because of the likelihood of confusion by some postal respondents (and possibly some interviewees) two sets of data were used; unedited and edited. For the latter, values were dropped which differed from each health state mean by more than 0.3 mean. Values for all results are reproduced in Appendix 1.

Table 1.   Responses per health state

H1	15	H7	16	H13	18
H2	16	H8	16	H14	15
H3	16	H9	17	H15	18
H4	15	H10	18	H16	16
H5	16	H11	16	H17	16
H6	16	H12	18	H18	16

Correspondence between RS-WTP, TTO and PTO

Two measures of association are reported below, namely the correlation between the various mean values and the 'b' coefficient in the linear regression Y = a + bX. A coefficient of 1.00 indicates that X provide an unbiased prediction of Y without the need of further transformation.

Correlation coefficients in Table 2 and Table 3 for unedited and edited data respectively are not significantly different. While editing may have eliminated unreliable data it clearly eliminated some reliable (consistent) results which increased the variance to be explained. The correlation between R int (the present gold standard for RS-WTP) PTO and, particularly, TTO indicate a very close association. The instruments are measuring a very similar quantity.

Coefficient in Table 4 and Table 5 are consistent with the hypothesis that the RS-WTP may be predicted without bias from the TTO.

Postal results

Correlation between R int and P2 in the edited data set (Table 3) is satisfactory. The b coefficient of 0.91 in the regression upon TTO (Table 5) is encouraging.

Table 2. Correlation, unedited mean results

	R int	P1	P2	TTO	PTO
Pint	1.00	.76	.75	.81	.71
P1		1.00	.66	.6	.68
P2			1.00	.84	.75
TTO				1.00	.88
PTO					1.00

Table 3. Correlation, edited mean results

	R int	P1	P2	TTO	PTO
Pint	1.00	.71	.83	.85	.78
P1		1.00	.71	.62	.66
P2			1.00	.75	.67
TTO				1.00	.92
PTO					1.00

Table 4. Regression "b" coefficients, unedited means

		R int	TTO	PTO
	Pint	1.00	.96	.86
	P1	.76	.71	.83
	P2	.61	.81	.74
Dependent	TTO		1.00	.91
	PTO			1.00

Table 5. Regression "b" coefficients, edited means

		R int	TTO	PTO
	Pint	1.00	1.11	.76
	P1		.84	.66
	P2		.91	.59
Dependent	TTO		1.00	.70
	PTO			1.00

Next steps:

1. Examine other data plus transformations between data;

2. Examine the relationship between results and particularly (AQoL) dimensions and results;

3. Revise the questionnaire and test the reliability of the present results and extend the number of health states employed;

4. Test social and other attributes of respondents/health states/contexts/procedural variables by holding Service 1 'constant' (male aged 20-25; no children, etc) and varying Service 2 (male aged 65-80; smoker, paedophile/economist, etc); (male 20-25 injured while serving in army, etc);

5. Collect Nobel prize. Alternatively publish footnote in Rotary Newsletter.

3. Brief Discussion

The theoretical basis for the RS-WTP metric is laid out in Richardson (1994, 2002, 2007). In summary, these articles argue as follows:

(i) that there is at present no 'ideal metric' for measuring 'that which we want to maximise' in evaluation studies (Richardson 1994). The chief target of this critique is, of course, the standard gamble;

(ii) that choice should be based upon explicit criteria which define social objectives (Richardson 1994, 2002);

(iii) that there can be no ideal metric; that the final choice will involve winners and losers and that this implies the need for social choice for which there is no ideal method of dispute resolution. This in turn implies there is no ideal metric (Richardson 2007).

The practical consequences of this is that with respect to the choice of metric, at present, 'anything goes'. No metric should be enshrined as the orthodoxy except by overwhelming evidence that it encapsulates 'that which we want to measure'. There has been remarkably – lamentably – little discussion of this issue. History and recourse to invalid axioms substitute for argument and evidence.

The argument for the proposed RS-WTP is that the criteria listed earlier define social values or, in the case of criterion 12 ('captures the desired concept') that the key question can be appropriately modified within the framework of the instrument. The additional empirical evidence needed is that the results obtained are reliable, plausible and withstand various tests yet to be devised.

Turning to the earlier criteria, the argument for the RS-WTP is briefly as follows: (i) there is a strong argument that as a national health scheme is a reflection of social generosity then it is for the society to collectively determine the nature of the benefits and how much they will pay for them. (Note that this argument can be separated from the issue of adaptation if the health state evaluated is a post adaptive state); and (ii) existing instruments embody bias. This is because the metric is obtained by *altering the health state scenario in a way which does not correspond with the health state being evaluated*. The standard gamble embodies the risk of instant death which is seldom if ever encountered. The PTO varies the relative number of recipients of a service in a way which is unlikely to correspond with the distribution of real world benefits. The TTO alters the time frame of benefits in a generally counterfactual way. The individual willingness to pay obtains a result reflecting an individual's wealth which is exactly the element national health schemes were designed to avoid. The RS-WTP does not appear to embody any such bias.

Respondents should be aware of an opportunity cost of their decisions. This is achieved in all instruments. The individual WTP wrongly invites the additional conclusion that if an individual is willing to pay an amount for a benefit then this may be generalised to the entire health scheme. However in the context of a national health scheme the WTP has been nominated in ignorance of the subsequent implications for total taxation. The relative social WTP explicitly side-steps this problem as discussed below (criterion 7).

There are technical requirements for an instrument and, in particular, the strong and weak interval properties. All instruments may achieve the latter. There is face validity for the strong interval property of the TTO, SG, PTO and RS-WTP. We are unaware of an individual WTP instrument which achieves this property (see previous footnote for definition).

Separation of relative from absolute WTP – criterion 7 – requires some further comment. Without detailed elaboration we argue that there is no satisfactory, single, technical method for extracting the absolute dollar value of a standard QALY. Extrapolation from risk premiums to the value of life is simply wrong. (Apart from common sense the axiom of linear transformation has been empirically invalidated). Observation of behaviour elsewhere averages the results of historical decisions of (often) unknown origin, dubious relevance, and decisions taken without consideration of broader consequences. The decisions would commonly reflect idiosyncratic contexts. For example, a manufacturer who builds in a safety feature at a very high cost per life year saved may do so because of its marketing value. The same feature without the marketing value may be ignored. Averaging these results has little meaning. At best, we may impose consistency upon erratic decisions. But a consistent error may be less socially desirable than inconsistently achieving the right result.

In our view the absolute dollar value of the 'standard QALY' should be derived from procedural as well as technical criteria. Maximum information should be sought on its repercussions across all areas where it will be influential and the process must include informed representatives of all interested parties if it is to achieve social legitimacy. The final decision must be the responsibility of parliament. Economists have an important role in deciding the relative value of different QALY types – hence the importance of the RS-WTP. But their role is that of the technician not the philosopher-king.

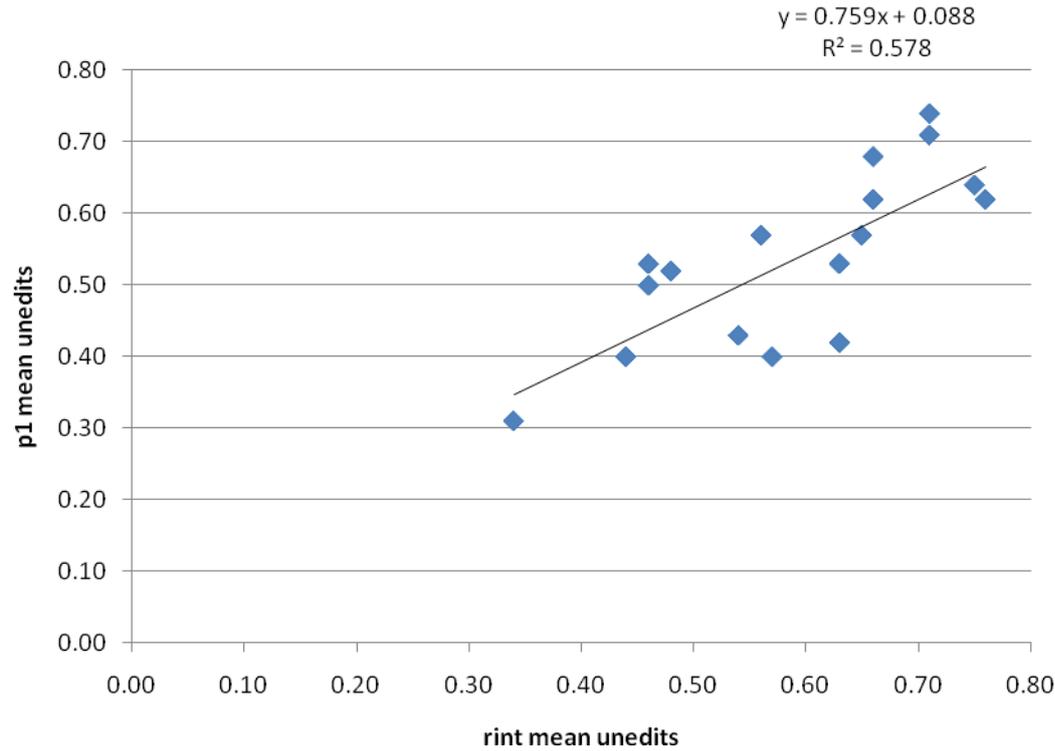**Figure 2. Postal 1 vs RS-WTP Interview: no edits**

$$y = 0.759x + 0.088$$
$$R^2 = 0.578$$

Figure 3. Postal 2 vs RS-WTP Interview: no edits

$$y = 0.613x + 0.191$$
$$R^2 = 0.570$$
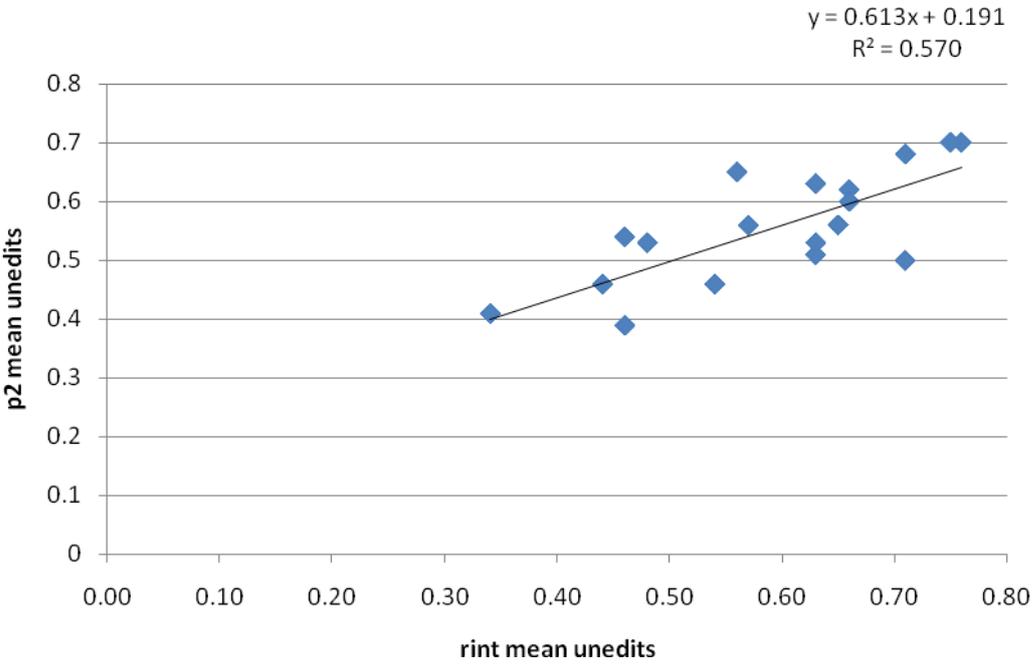
Figure 4. Postal 2 vs TTO: no edits

$y = 0.805x - 0.024$
$R^2 = 0.703$
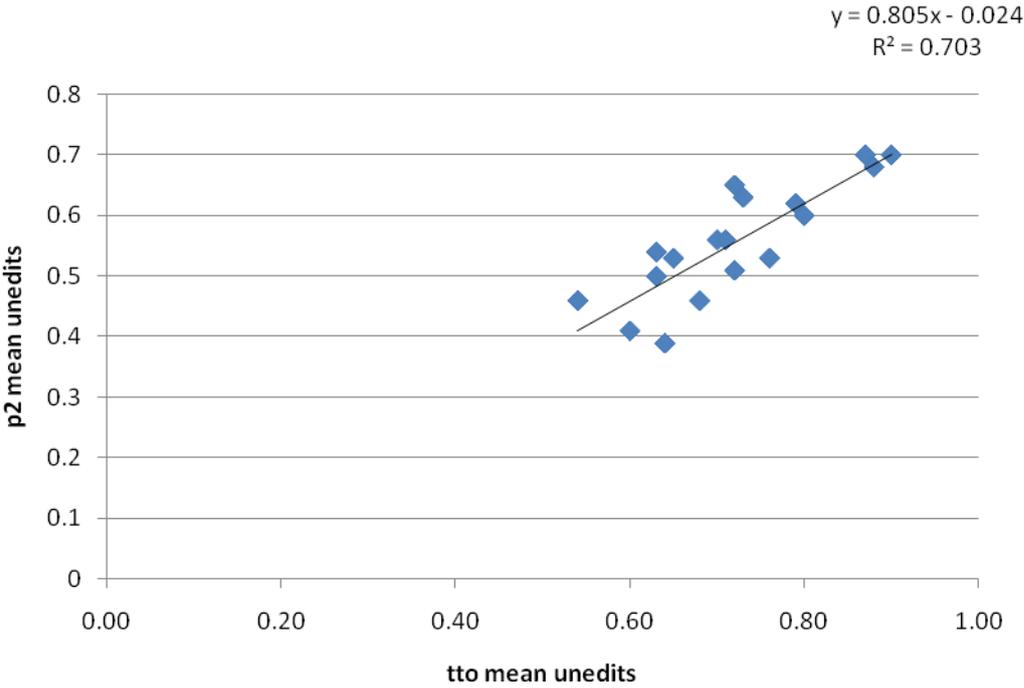
Figure 5. RS-WTP Interview vs TTO: no edits

$y = 0.961x - 0.100$
$R^2 = 0.662$
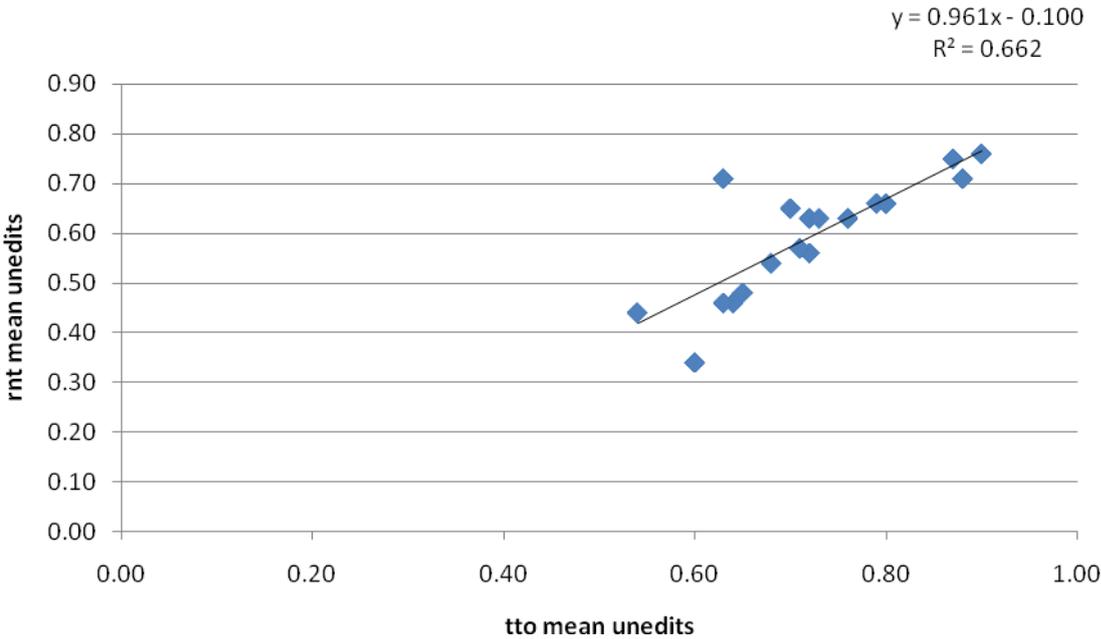
Figure 6. Postal 2 vs RS-WTP: edited

$$y = 0.762x + 0.146$$
$$R^2 = 0.688$$
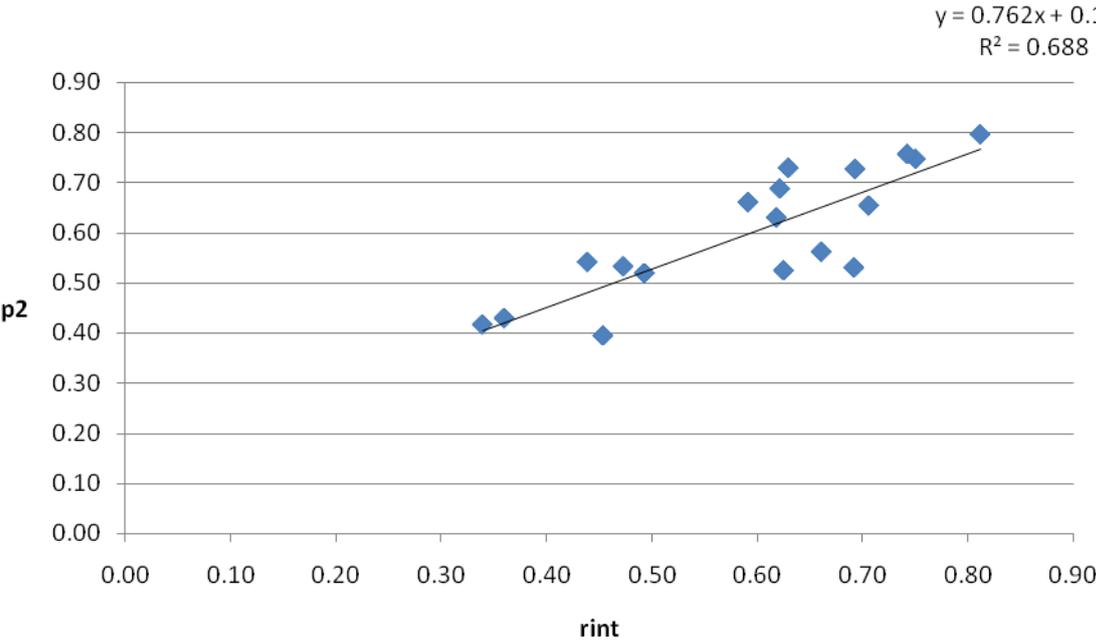
Figure 7. RS-WTP Interview vs TTO: edited

$$y = 0.905x - 0.074$$
$$R^2 = 0.571$$
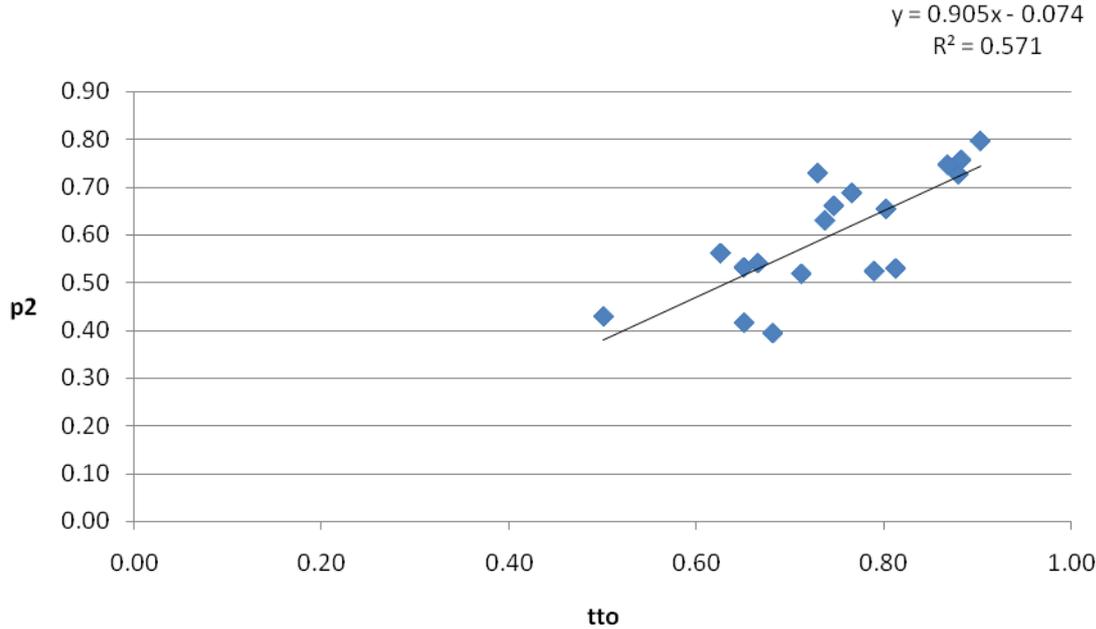
Figure 8. RS-WTP Interview vs PTO: edited

$$y = 0.760x + 0.051$$
$$R^2 = 0.613$$
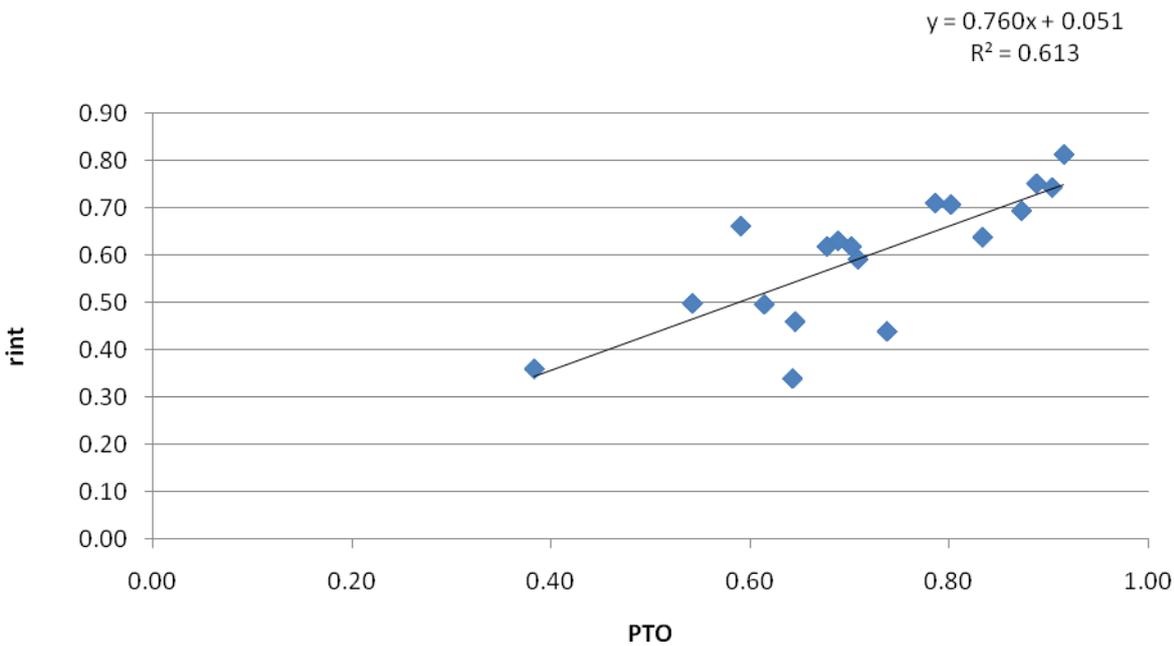
Figure 9. TTO vs PTO: edited

$$y = 0.695x + 0.249$$
$$R^2 = 0.850$$
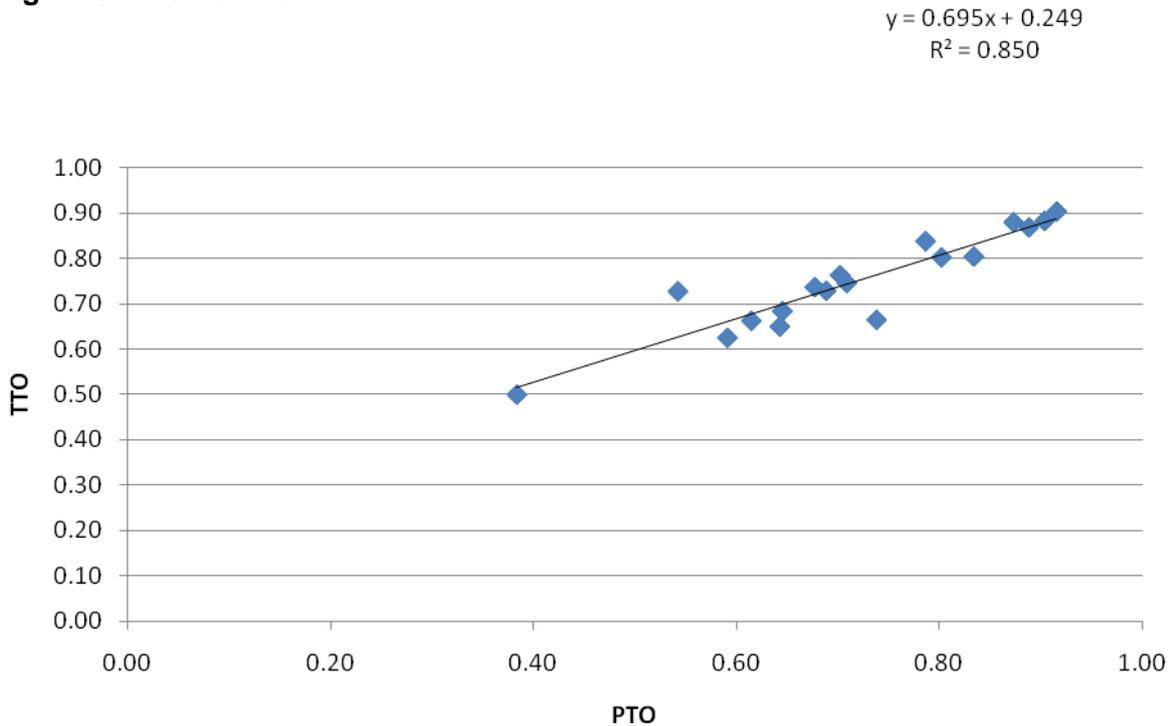
References

Richardson J 1994, 'Cost utility analysis: what should be measured?', Social Science and Medicine, vol 39, no 1, pp 7-21.

Richardson J, 2002, 'Evaluating summary measures of population health', Chapter 3.7, pp 147-160 in (eds) CJL Murray, JA Salomon, CD Mathers, AD Lopez, *Summary Measures of Population Health: Concepts, Ethics, Measurement and Applications,* World Health Organization, Geneva.

Richardson J, McKie J 2007, The impossibility of an ideal metric for benefit measurement and how we should select one, Mimeo, Centre for Health Economics, Monash University, Melbourne.

Appendix 1 Mean Values, All Results

	p1 mHan	p2 mHan	pint mHan	TTO mHan	PTO mHan	P1 mean*	P2 mean*	Pint mean*	TTO mean*	PTO mean*	TTO* 1 - Tto Gapx1.6	ObsHrvations Hach	
H1	0.68	0.62	0.66	0.79	0.75	0.79	0.73	0.69	0.88	0.87	0.66	15	H1
H2	0.62	0.70	0.76	0.90	0.81	0.72	0.80	0.81	0.90	0.92	0.84	16	H2
H3	0.64	0.70	0.75	0.87	0.81	0.70	0.75	0.75	0.87	0.89	0.79	16	H3
H4	0.52	0.53	0.48	0.65	0.60	0.57	0.55	0.50	0.66	0.61	0.44	15	H4
H5	0.62	0.60	0.66	0.80	0.77	0.64	0.66	0.71	0.80	0.80	0.68	16	H5
H6	0.40	0.46	0.44	0.54	0.45	0.40	0.43	0.36	0.50	0.38	0.26	16	H6
H7	0.71	0.50	0.71	0.63	0.62	0.66	0.56	0.66	0.63	0.59	0.41	16	H7
H8	0.57	0.65	0.56	0.72	0.63	0.58	0.66	0.59	0.75	0.71	0.55	16	H8
H9	0.57	0.56	0.65	0.70	0.70	0.59	0.69	0.62	0.76	0.70	0.52	17	H9
H10	0.50	0.39	0.46	0.64	0.61	0.53	0.42	0.46	0.68	0.65	0.42	18	H10
H11	0.74	0.68	0.71	0.88	0.82	0.80	0.76	0.74	0.88	0.90	0.81	16	H11
H12	0.53	0.51	0.63	0.72	0.69	0.56	0.53	0.64	0.80	0.83	0.55	18	H12
H13	0.43	0.46	0.54	0.68	0.56	0.40	0.54	0.50	0.73	0.54	0.49	18	H13
H14	0.53	0.54	0.46	0.63	0.70	0.55	0.52	0.44	0.67	0.74	0.41	15	H14
H15	0.42	0.53	0.63	0.76	0.65	0.38	0.53	0.71	0.84	0.79	0.62	18	H15
H16	0.31	0.41	0.34	0.60	0.62	0.34	0.42	0.34	0.65	0.64	0.36	16	H16
H17	0.40	0.56	0.57	0.71	0.64	0.40	0.63	0.62	0.74	0.68	0.54	16	H17
H18	0.53	0.63	0.63	0.73	0.65	0.49	0.73	0.63	0.73	0.69	0.57	16	H18
												294	

*Cases removed if deviating from the mean by more than 0.3

Appendix 2 Eighteen Health States

E1

Living Independently	• difficulty walking and **a lot of difficulty getting around outside**, hence can do jobs around the house **only very slowly** without help
Social & Family relationships	• find personal care tasks like toileting and dressing **difficult** and **need help** to do them.
Mental health	• good
Coping	• good
No pain	• good
Seeing, hearing, communicating	• good

E2

Living Independently	• good
Social & Family relationships	• good
Mental health	• **usually** calm and tranquil, **sometimes** feel worried and sad, and **occasionally** feel despair.
Coping	• **mostly** feel in control of life, are **occasionally** energetic and can **mostly** cope with life's problems
No pain	• good
Seeing, hearing, communicating	• good

E3

Living Independently	• a **little** difficulty walking but **moderately difficulty getting around outside**, and can do jobs around the house **relatively easily** without help • manage personal care tasks like toileting and dressing **without any real difficulty**
Social & Family relationships	• good
Mental health	• good
Coping	• good
No pain	• **moderate pain** which **sometimes interferes** with their usual activities, and becomes **serious** pain **less than once a week**
Seeing, hearing, communicating	• good

E4

Living Independently	• good
Social & Family relationships	• good
Mental health	• good
Coping	• occasionally feel in control of their lives. • feel they can **only partly cope** with life's problems
No pain	• suffer from severe **pain** which sometimes interferes with their usual activities • experience **serious** pain **three or four times** a week
Seeing, hearing, communicating	• do **not see** things sharply • have **difficulty hearing** things clearly, and **often** do not understand what is said

E5

Living Independently	• good
Social & Family relationships	• **cannot** carry out **some** parts of their **family** and **community** role because of their health
Mental health	• **sometimes** feel calm and tranquil, sometimes agitated and feel sad **some of the time**
Coping	• good
No pain	• good
Seeing, hearing, communicating	• some difficulty being understood , and understanding others • they see normally

E6

Living Independently	• good
Social & Family relationships	• **cannot** carry out **many** parts of their **family** and **community** role because of their health. • feel their close and intimate **relationships** make them **neither happy nor unhappy**
Mental health	• **often feel worried and feel sad some of the time**
Coping	• **usually tired** and **lacking energy**, and they **only occasionally** feel in **control** of their lives • feel they can **only partly cope** with life's problems
No pain	• suffer from **severe pain** which **sometimes interferes** with their usual activities • experience **serious** pain three or four times a week
Seeing, hearing, communicating	• good

E7

Living Independently	• **little difficulty** walking or getting around outside.
Social & Family relationships	• good
Mental health	• are **usually agitated**
Coping	• good
No pain	• **moderate pain** which becomes **serious** less than once a week. • pain rarely interferes with their usual activities
Seeing, hearing, communicating	• **difficulty** hearing things clearly, and **often do not understand** what is said • they are understood only by people who know them well, and have **great trouble understanding others**

E8

Living Independently	• **great difficulty** walking
Social & Family relationships	• good
Mental health	• are **sometimes worried, and usually feel sad**
Coping	• **usually** tired and lack energy, and feel they can only **partly** cope with life's problems
No pain	• good
Seeing, hearing, communicating	• good

E9

Living Independently	• **little difficulty** walking or getting around outside
Social & Family relationships	• good
Mental health	• **usually agitated**
Coping	• good
No pain	• **moderate pain** which becomes **serious** less than once a week. • pain **rarely** interferes with their usual activities
Seeing, hearing, communicating	• **difficulty** hearing things clearly, and **often do not understand** what is said • they are understood only by people who know them well, and have **great trouble understanding others**

E10

Living Independently	• **great difficulty** walking
Social & Family relationships	• **many** parts of their **family** and **community** roles which they cannot carry out because of their health
Mental health	• good
Coping	• **occasionally** feel in control of their lives, and feel that they can cope only **very little** with life's problems
No pain	• good
Seeing, hearing, communicating	• **lot of difficulty seeing** things, and **hear very little**

E11

Living Independently	• good
Social & Family relationships	• good
Mental health	• good
Coping	• **usually** full of **energy**, and feel they **can mostly cope** with life's problems
No pain	• **moderate pain**, but experience **serious** pain very rarely
Seeing, hearing, communicating	• some **difficulty hearing** , and have **no trouble** speaking to others or **understanding** what they are saying

E12

Living Independently	• good
Social & Family relationships	• have close and intimate **relationships** which make them **generally unhappy,** and cannot carry out **many** parts of their **community** role because of their health
Mental health	• **sometimes** calm and tranquil, sometimes agitated, and **often** feel **worried**
Coping	• good
No pain	• good
Seeing, hearing, communicating	• some **difficulty hearing** , and have **no trouble** speaking to others or **understanding** what they are saying

E13

Living Independently	• good
Social & Family relationships	• **some** parts of their **family** and **community** roles which they cannot carry out because of their health
Mental health	• **usually** feel **sad**, and **often** feel **despair**.
Coping	• **sometimes** feel in control of life and can **partly** cope with life's problems.
No pain	• **moderate pain** which **very rarely** becomes **serious**
Seeing, hearing, communicating	• good

E14

Living Independently	• **great difficulty** walking and a **lot of difficulty** getting around outside. • cannot do **most** jobs around the house without help. • find tasks like toileting and dressing **difficult** and need help to do them
Social & Family relationships	• good
Mental health	• **sometimes** calm and tranquil, sometimes agitated, and **often** feel sad
Coping	• good
No pain	• **moderate pain** which becomes **serious** less than once a week
Seeing, hearing, communicating	• see **normally** and do not have any trouble speaking to others or understanding what they are saying

E15

Living Independently	• **no real difficulty** walking and **little difficulty** getting around outside. • can do jobs around the house **relatively easily** without help
Social & Family relationships	• good
Mental health	• usually feel sad, and sometimes feel despair
Coping	• **usually** tired and lack energy • **sometimes** feel in control of their life
No pain	• good
Seeing, hearing, communicating	• good

E16

Living Independently	• **great difficulty** walking and a **lot of difficulty** getting around outside. • cannot do **most** jobs around the house without help • find tasks such as toileting and dressing **difficult** and **need help to do them**
Social & Family relationships	• have close and intimate **relationships** which make them **neither happy nor unhappy,** and cannot carry out **some parts** of their **family** role because of their health
Mental health	• good
Coping	• good
No pain	• **severe pain** which becomes **serious** three or four times a week. • pain **rarely** interferes with their usual activities
Seeing, hearing, communicating	• good

E17

Living Independently	• **no real difficulty** walking and a **little difficulty** getting around outside. • can do jobs around the house **relatively easily** without help.
Social & Family relationships	• have close and intimate **relationships** which make them **generally unhappy** • cannot carry out **some parts** of their **community** role
Mental health	• good
Coping	• **occasionally** energetic and only **occasionally** feel in control of their life. • feel they can **mostly cope** with life's problems
No pain	• good
Seeing, hearing, communicating	• hear **very little.** • are understood only by people who know them well, and have **great trouble understanding others**

E18

Living Independently	• good
Social & Family relationships	• have close and intimate **relationships** which make them **neither happy nor unhappy.** • have **many parts** of their **family** and **community** roles which they cannot carry out because of their health
Mental health	• good
Coping	• good
No pain	• good
Seeing, hearing, communicating	• have **a lot of difficulty s**eeing things, and hear **very little.** • they are understood only by people who know them well, and have **great trouble understanding others**

MONASH University

Centre for Health Economics

Survey (V 34 A1 Sort 1)

How much should Medicare spend on health services?

Introduction

The questions in this survey will ask you to imagine that **you are on a government committee that must decide how much Medicare should pay for different medical services.**

There are no 'right' or 'wrong' answers. The answers which you provide will indicate your evaluation of the various 'Health State A' in each question.

On the next 5 pages there is an explanation and example of the questions. This is followed by 6 questions which deal with different Health States. The last page contains questions about yourself.

Background

Suppose that a survey has found that Australians and the Australian government believe that Medicare should spend up to $40,000 per year on health services which will avoid death and return one patient to excellent health for one year.

We want you to **divide the $40,000 between 2 services.**

Service 1: This prevents death but the patient is not fully cured. The person will remain in *Health State A* (less than excellent health).

Service 2: improves a patients health from *Health State A* to *Excellent Health.*

We will describe a different Health state A to you in each question.

Both Service 1 and Service 2 may be given to the **same patient**, *or Service 1 to* **one patient** *and Service 2 to* **another patient**.

This can be illustrated as in the following diagram:
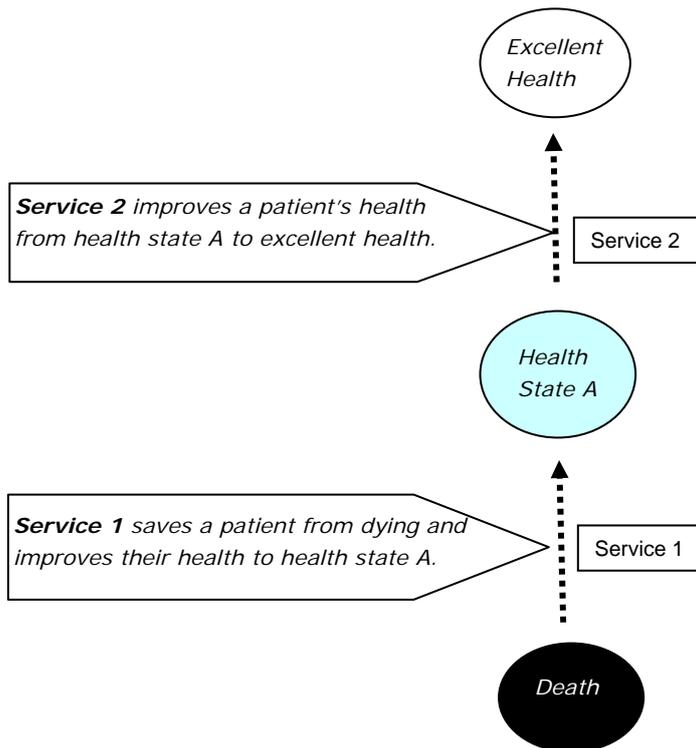
Excellent Health

Service 2 improves a patient's health from health state A to excellent health. → Service 2

Health State A

Service 1 saves a patient from dying and improves their health to health state A. → Service 1

Death

In each of the following questions, you will be asked to think about a **different health state** *and reply to the question:*

"How would you divide the $40,000 between Service 1 and Service 2, so that the amounts given for Service 1 and Service 2 indicate **the size of the benefits to health** *from Service 1 compared with Service 2?"*

Note: The health benefit from each service lasts for **one** *year. Each following year will require further funding.*

You will be asked to write the amounts you think Medicare should pay for each service in an answer box like this:

 Service 1   = $ XXXXX. (Example only)
 Service 2   = $ YYYYY
Service 1 + 2 = $40,000

<u>**Comparing life and quality of life**</u>

You are being asked to make decisions about two very important goals**:**

the length of life and the quality of life.

Some people place more emphasis on **life and death** (Service 1 saves a person's life).

Other people think **quality of life** is more important (Service 2 increases a person's quality of life).

There is no right or wrong answer. That is why we are asking for your judgment
- some people may spend most money on the quality of life….service 2
- some people may spend most money saving life….service 1

The size of the benefit to health depends upon two judgments
- the importance of saving life
- the importance of the quality of life

Service 1 saves life but leaves patients with a poor quality of life.

Service 2 saves people from poor health and gives them excellent health.

<u>**How do we judge the Value of Quality of Life**</u>.

This is judged by how much of the $40,000 you will spend on it. We want you to think about everything which may be affected by the health state and which you believe is important. This can include the effect on family, friends and others as well as the patient.

It includes your assessment of the patient's happiness, fulfilment…anything you believe that should be considered relevant for Medicare.

These services could be received by any Australian.

The amounts you give to each service will be your evaluation of the health state A, and its position along the scale from death to excellent health.

For instance, if you assigned $30,000 to Service 1 and $10,000 to Service 2, then you are saying that the particular Health State A is three quarters of the way to excellent health. If you gave $20,000 to each service, then your evaluation of the Health State A is that it is halfway to excellent health.

Notice that the total health benefit of Service 1 and Service 2 together is equivalent to saving a person's life and restoring them to excellent health for the year, and Australians are prepared to pay a maximum of $40,000 per year to achieve this health benefit.

EXAMPLE:

Think about patients living in Health State A described in the box below. Always note that while some areas are less than excellent, other areas are excellent.

Excellent Health

Service 2 *improves a patient's health from health state A to excellent health.*

Health State A

🙂	**living independently**	Patients have **great difficulty** walking and a **lot of difficulty getting around outside.**
🙂	social & family relationships	**excellent**
🙂	mental health	**excellent**
🙂	**coping**	**only partly cope** with life's problems
🙂	**pain**	experience **serious pain but less than once a week.**
🙂	seeing, hearing, communicating	**excellent**

Service 1 *saves a patient from dying and improves their health to health state A.*

Death

'Excellent' in a box indicates 'very excellent health' for a person of that age.

EXAMPLE (cont):

Example 1. If you think the Health State A in the example on the left page is **very close** to Excellent Health or that saving life is very important, you might think Medicare should pay more for service 1.

Hence, you might give the answers below

> **Service 1   = $ 30,000**
>
> **Service 2   = $10,000**
>
> **Service 1 + 2 = $40,000**

Example 2. . If you think Health State A in the example is **very serious**, you might think that the size of the health benefit from service 2 is much greater than from service 1.

Hence, you might give the answers below

> **Service 1   = $ 5,000**
>
> **Service 2   = $ 35,000**
>
> **Service 1 + 2 = $40,000**

The amount of money paid for each service should indicate what you think is the size of the health benefit from both Service 1 and Service 2, taking into account everything you think is important in making this decision.

Question 1 *(E10)*:

Service 2 improves a patient's health from health state A to excellent health.

Health State A

😐	*living independently*	Patients • have **great difficulty walking** and cannot walk **without a walking stick or frame**, or **someone to help** them.
🙁	*social & family relationships*	• **cannot** carry out **many** parts of their **family** and **community** role because of their health.
🙂	*mental health*	*excellent*
😐	*coping*	• **only occasionally** feel in **control** of their lives. • feel they can **cope** with life's problems **very little**.
🙂	*no pain*	*excellent*
😐	*seeing*, *hearing*, *communicating*	• have **a lot of difficulty** seeing things, and **hear very little**.

Service 1 saves a patient from dying and improves their health to health state A.

Death

Write the amounts you think Medicare should pay for each service in this box:

Service 1   = $ ....
Service 2   = $ ....
Service 1 + 2 = $40,000

What influenced your answer?..

..

..

5 More questions follow

Some questions about yourself

1. You are: ❑ male ❑ female

2. In what year were you born? 19_____

3. Where were you born? ❑ Australia ❑ Other _____

4. How well do you understand/speak English? *Please tick one box:*

very well	well	not well/poorly
❑	❑	❑

5. Currently what is your highest level of education? *Please **tick one** box:*

    ❑ primary school

    ❑ high school

    ❑ trade qualification, apprenticeship ☞ discipline: _____

    ❑ Technical & Further Education (TAFE) ☞ discipline: _____

    ❑ university/college ☞ discipline: _____

    ❑ postgraduate ☞ discipline: _____

6. Which best describes your current work situation. Tick as **many boxes** as apply:

    ❑ full time: self-employed or employee

    ❑ part time or casual: self-employed or employee

    ❑ unemployed, seeking work

    ❑ retired or on a pension

    ❑ homemaker

    ❑ student

    ❑ other ☞ please describe: _____

4. What is your gross HOUSEHOLD income (from all sources)? *Please tick one box:*

0-$30,000	$30,001-60,000	over $60,000
❑	❑	❑

7. How would you rate your current level of health, for someone of your age?

Excellent	Very Excellent	Excellent	Fair	Poor	Very Poor
❑	❑	❑	❑	❑	❑

8. Do you currently have a significant illness?

    ❑ no ❑ yes Name of illness: _____

All contact details will be kept confidential and will be seen only by the researchers involved with this current project.

Name: _____

Address: _____

_____

Phone: _____ Mob _____

Email: _____

Please include any comments about this questionnaire which you think might help us with our research._____

Appendix 4 Partial Questionnaire 2

PREAMPLE to FOLLOWUP Qnr B

Thank you for completing version 1 of this questionnaire and attending the interview.

We appreciate your help with our research into the relative value of different health states. This research is developmental, aimed at creating a new questionnaire for deciding how to divide the health budget between different services.

Different ways of asking questions can often influence the answers. This is normal and inevitable when the questions are difficult and when there are many issues to take into account. It is also normal for people to change their minds after a period of time and after they have thought about the questions (often without realising they have done so!)

For this reason, we are asking you to answer our questions <u>one final time</u>.

The questions in this questionnaire are almost exactly the same as in the first questionnaire. The health states are unchanged. We want you once again to divide a budget between two services, Service 1 and Service 2.

The only difference in this version is that we ask you to think further about some of the possible implications of your decisions. These are explained on page 3&4 before we ask you to evaluate the first health state.

At the end of each question we also invite you to tell us anything about the questions or your answers which you think might help us to understand why you chose your answers and why you might have found the questions difficult to answer.

Once again we are very grateful for your help and perseverance with the project. Should you have any questions please ring me on 9905 0754.

Yours Sincerely,

Jeff Richardson
Professor and Foundation Director   *v34 B1 S1*

Background

The purpose of this followup questionnaire is to ask you to think about the questions you answered in previous stages of the research, after the implications of your answers have been stated in a somewhat different way. This type of followup questionnaire is usual to test or validate the initial results.

The implications we would like you to think about are described on the next page. Please read this page carefully.

As previously the questions ask you to **imagine that you are on a Parliamentary committee** which must decide how much Medicare should pay for different health services, and to decide which services are to be included in Medicare and which are not.

Australians and the Australian government believe that Medicare should spend up to $40,000 per year on health services which will avoid death and return a patient to excellent health for one year.

We want you to divide the $40,000 between 2 services.

Service 1: This prevents death but the patient is not fully cured. The person will remain in **Health State A.**

Service 2: improves a patients health from **Health State A** to **Excellent Health.**

Note: A different Health State A is described in each question. The health benefit from each service lasts for **one year**. Each following year will require further funding.

This can be illustrated as in the following diagram:

Service 2 _improves a patient's health from health state A to excellent health._

Service 2

Health State A

Service 1 _saves a patient from dying and improves their health to health state A._

Service 1

Death
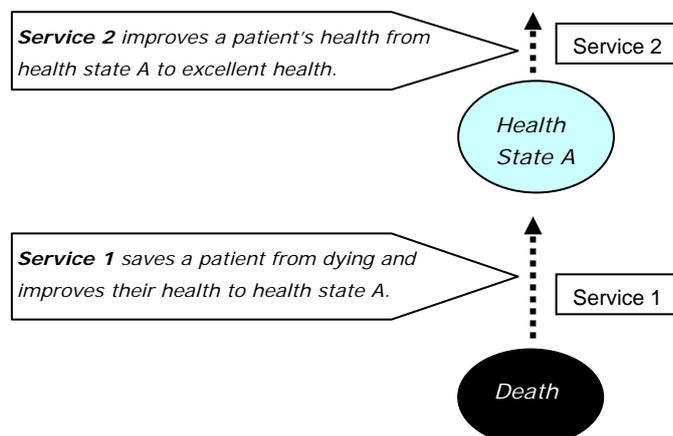
Implications of your answers

If the services cost more than you advise Medicare to allocate, they will not be funded.

For example, suppose your committee advised Medicare to spend up to the following amounts on the two services:

> Service 1   = $25,000
> Service 2   = $15,000
>
> Service 1 + 2 = $40,000
>
> ***Amounts are an example only!***

Medicare authorities will use the information in this example in the following way:

If Service 1 costs less than the *$25,000 your committee recommends,* it will be included in Medicare; if it costs more, it won't be included and people will die.

If Service 2 costs less than *$15,000,* it will be included in Medicare; if it costs more, it won't be included and people will remain in health state A.

The total amount to be allocated is $40,000, If the amount given to save life (using service 1) is increased then the amount given to improve the quality of life (using service 2) will fall. More people may live but with a poorer quality of life.

The opposite is also true. If you give more to improving the quality of life then the number of people receiving life saving services may fall.

Once the decisions about the inclusion or exclusion of services in Medicare have been made they will not be changed.

The implications for life, death and the quality of life of your answers cannot be avoided. These decisions are already being made, explicitly in the evaluation of services, by Medicare authorities. However we are seeking your opinions on these questions as a representative of the public.

Instructions

> *In each of the following questions, you will be asked to think about a different health state and reply to the question:*
>
> *"Taking into account everything you think is important in making the decision, how would you divide the $40,000 between Service 1 and Service 2, so that the amounts given for Service 1 and Service 2 indicate the size of the health benefits from Service 1 compared with Service 2?"*

Notice that the **total health benefit** of **Service 1** and **Service 2 together** is **equivalent to saving a person's life** and **restoring them to excellent health for the year**, and Australians are prepared to pay a maximum of $40,000 per year to achieve this benefit.

Both Service 1 and Service 2 may be given to the same patient, or Service 1 to one patient, and Service 2 to another patient.

The amount of money paid for each service should indicate what you think is the size of the health benefit from both Service 1 and Service 2, taking into account everything you think is important in making this decision.

WTP –E1

Health State A

☺ *living independently*	Patients •have difficulty walking and **a lot of difficulty getting around outside**, hence can do jobs around the house **only very slowly** without help. •find personal care tasks like toileting and dressing **difficult** and **need help** to do them.	
☺ *social & family relationships*	•have close and intimate **relationships** which make them **generally happy,** and their **family** and **community** roles are **unaffected** by their health**.**	
mental health	*good*	
coping	*good*	
no pain	*good*	
seeing, hearing, communicating	*good*	
	(E1)	

Death → Service 1 → [table] → Service 2 → **Good Health**
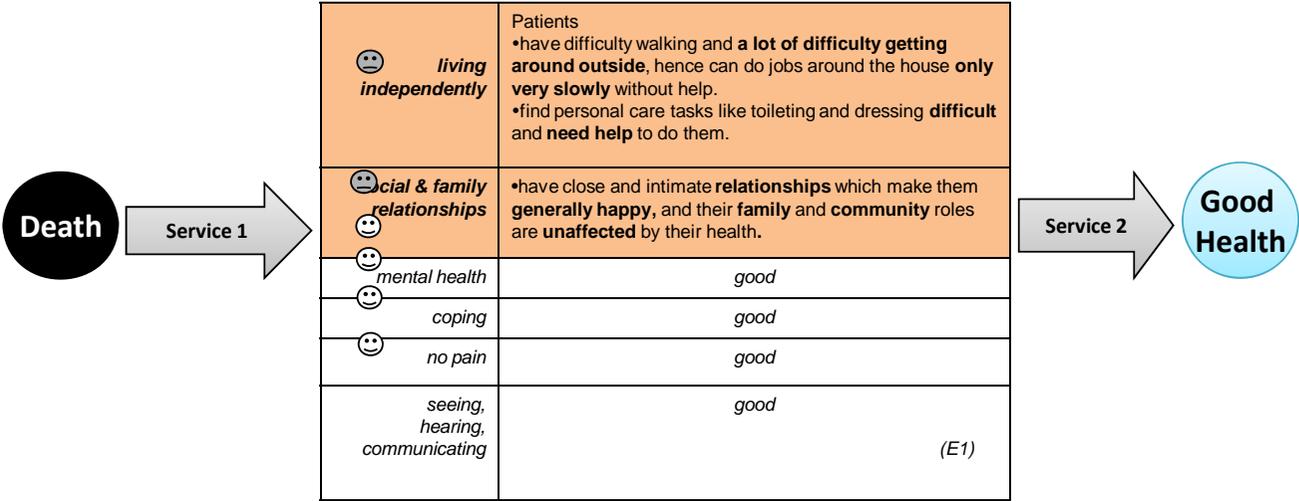
Service 1 + Service 2 = $40,000

Appendix 6 Props TTO

TTO - E1

Health State A

		Patients
🙁	***living independently***	•have difficulty walking and **a lot of difficulty getting around outside**, hence can do jobs around the house **only very slowly** without help. •find personal care tasks like toileting and dressing **difficult** and **need help** to do them.
🙂 ***social & family relationships*** 🙂		•have close and intimate **relationships** which make them **generally happy,** and their **family** and **community** roles are **unaffected** by their health**.**
🙂 *mental health*		*good*
🙂 *coping*		*good*
🙂 *no pain*		*good*
seeing, hearing, communicating		*good* *(E1)*

0   1   2   3   4   5   6   7   8   9   10

🙂 *living independently*	Patients have **good** health. Their physical, mental, emotional and social wellbeing is good.			**Death**
🙂 *social & family relationships*				
🙂 *mental health*				
🙂 *coping*				
🙂 *no pain*				
🙂 *seeing, hearing, communicating*				

Appendix 7 Props PTO

PTO –E1

Death within 1 month

Service 1 saves a patient from dying and improves their health to good health.

Service 2 saves a patient from dying and improves their health to health state A.

Service 1

Service 2

How many patients receive service 1?

100 patients receive service 2

		Patients have **good** health. Their physical, mental, emotional and social wellbeing is good.
☺	Living independently	
☺	social & family relationships	
☺	mental health	
☺	coping	
☺	no pain	
☺	seeing, hearing, communicating	

☺	*living independently*	Patients •have difficulty walking and **a lot of difficulty getting around outside**, hence can do jobs around the house **only very slowly** without help. •find personal care tasks like toileting and dressing **difficult** and **need help** to do them.
☺	*social & family relationships*	•have close and intimate **relationships** which make them **generally happy,** and their **family** and **community** roles are **unaffected** by their health**.**
☺	mental health	good
☺	coping	good
☺	no pain	good
☺	seeing, hearing, communicating	good
		(E1)

Appendix 8 Individual correlation coefficients

	P1	P2	R	TTO		P1	P2	R	TTO	PTO
P1	1.00					1.00				
P2	0.47	1.00				0.60	1.00			
R	0.39	0.41	1.00			0.55	0.61	1.00		
TTO	0.46	0.33	0.48	1.00		0.48	0.40	0.52	1.00	
PTO	0.24	0.22	0.30	0.44	1.00	0.41	0.39	0.52	0.52	1.00