

Measuring Quality of Life in Economic Evaluation:  
Which Way Forward?  
Sydney University, 25 July 2008

**A Comparison of Multi Attribute  
Utility Instruments**

Professor Jeff Richardson

Monash University

<http://www.buseco.monash.edu.au/centres/che/>

Reference: Hawthorne G, Richardson J & Day N 2003, A Comparison of Five multi Attribute Utility Instruments, Working Paper 140, Health Economics Unit, Monash University, Melbourne

<http://www.buseco.monash.edu.au/centres/che/pubs/wp140.pdf>

# Properties of the major utility instruments

Scale	Coverage* (a)	Type of description <sup>1</sup> (b)	No of dimensions	Valuing method <sup>2</sup>	Psychometric properties		Combination model	Instrument boundaries <sup>4</sup>
					Construct <sup>3</sup>	Validation		
Rosser-Kind	XX	Impairment	2	ME	No	No	None	-1.49 — 1.00
QWB	X	Impairment/ disability	4	VAS	No	Yes	Additive	0.00 — 1.00
15D	✓✓	Impairment	15	VAS	No	Yes	Additive	+0.11 — 1.00
HUI I	X	Impairment	4	TTO	No	No	Multiplicative	-0.21 — 1.00
HUI II	✓	Impairment/ disability	7	VAS/SG	No	Yes	Multiplicative	-0.03 — 1.00
HUI III	✓✓	Impairment/ disability	8	VAS/SG	No	Yes	Multiplicative	-0.36 — 1.00
EQ-5D	X	Handicap	5	TTO	No	No	Regression/ Additive	-0.59 — 1.00
DALY	XX	Disease	N/A	PTO	No	No	RS/PTO <sup>5</sup>	N/A
WHOQoL-Bref	✓✓	Handicap	4	N/A	Yes	Yes	Additive	N/A
SF6D	✓✓	Handicap	6	SG	Yes	No	Additive	+0.46 — 1.00
AQoL	✓✓	Handicap	4	TTO	Yes	Yes	Multiplicative	-0.04 — 1.00

# Correlation between instruments (unadjusted)

	AQoL	HUI III	15D	EuroQoL	SF-36
HUI III	.762				
15D	.821	.799			
EuroQoL	.751	.653	.760		
SF36 utility	.733	.664	.741	.725	
Mean	.767	.715	.775	.722	.716

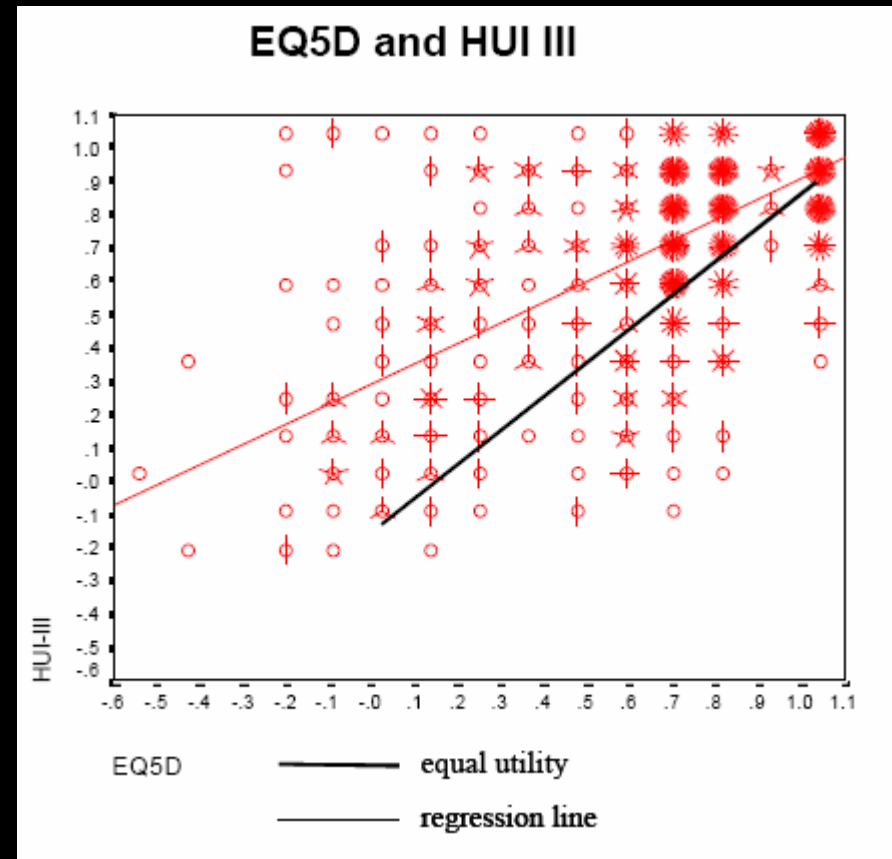
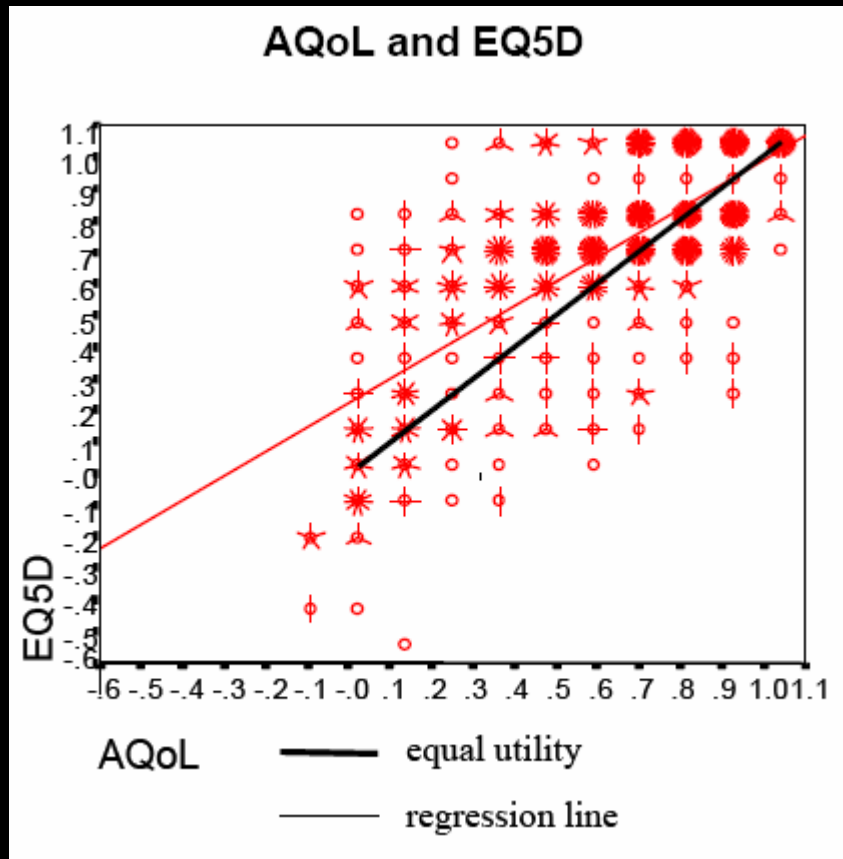
## Notes:

Population, Outpatient and Ward cases, N = 906 - 968

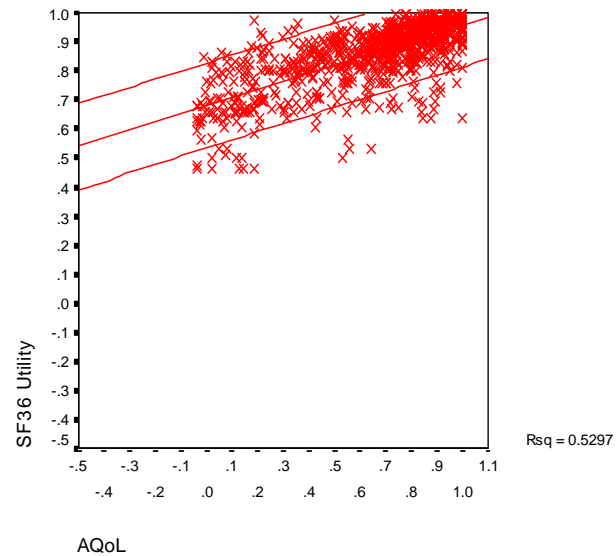
# Case study

Health Dimension	HUI-3	EuroQol
Physical health and mobility	<ul style="list-style-type: none"> <li>• Walks without difficulty</li> <li>• Full use of hands and fingers</li> <li>• <b>Unable to see well even with glasses</b></li> <li>• <b>Some hearing difficulty</b></li> </ul>	<ul style="list-style-type: none"> <li>• No problems walking around</li> </ul>
Activities of daily living	<ul style="list-style-type: none"> <li>• Bathes, eats and dresses normally</li> </ul>	<ul style="list-style-type: none"> <li>• No problems with personal care</li> <li>• No problems performing usual activities</li> </ul>
Bodily pain, General Health	<ul style="list-style-type: none"> <li>• Moderate pain, occasionally disturbing normal activities</li> <li>• Health rated as fair</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate pain or discomfort</li> </ul>
Social function	<ul style="list-style-type: none"> <li>• No problems with communicating</li> </ul>	
Emotional and mental health	<ul style="list-style-type: none"> <li>• Occasionally fretful, angry or depressed</li> <li>• Somewhat forgetful, but able to think clearly</li> </ul>	<ul style="list-style-type: none"> <li>• Not anxious or depressed</li> </ul>
<b>SF-36: AVERAGE HEALTH</b>	<b>0.14 (0.74)</b>	<b>0.80</b>

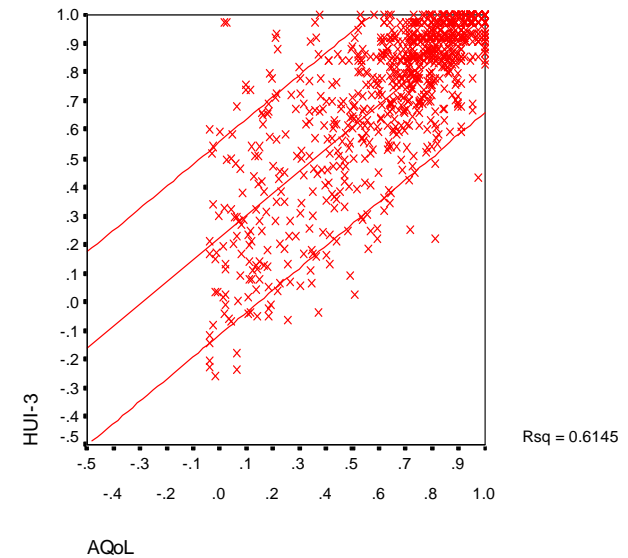
# Scattergrams of instrument scores



## Scattergrams of Instrument Scores

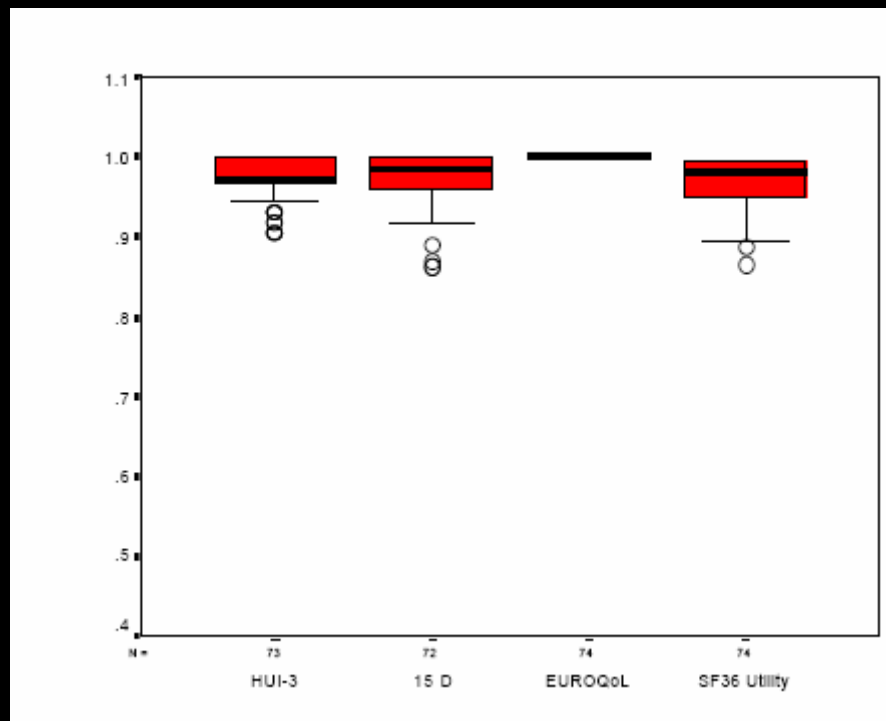


Note: All informants, Unadjusted scores, 18 wildly inconsistent cases trimmed

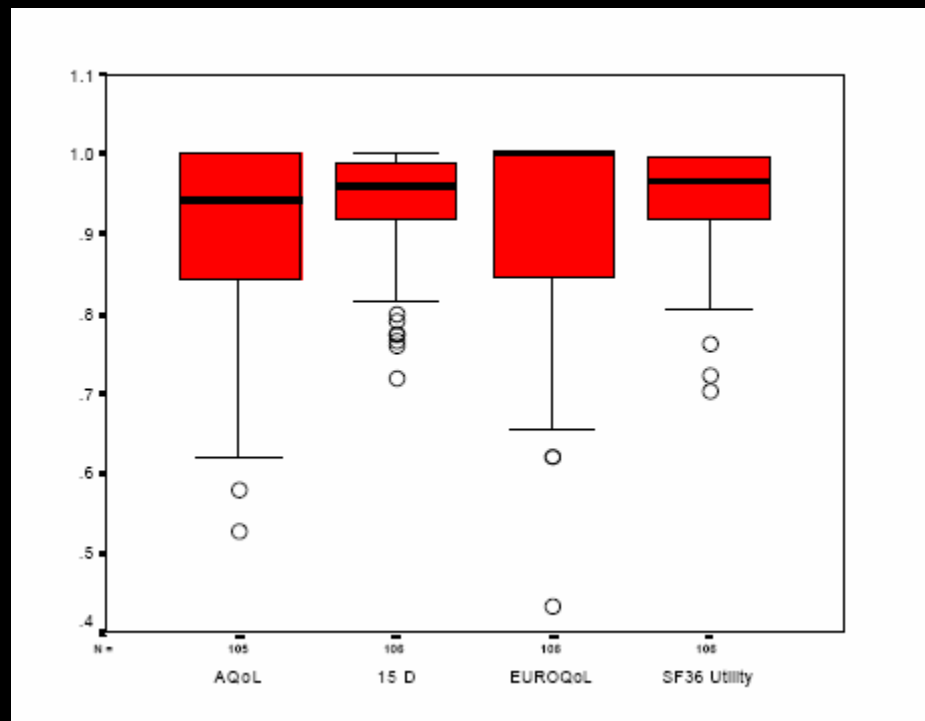


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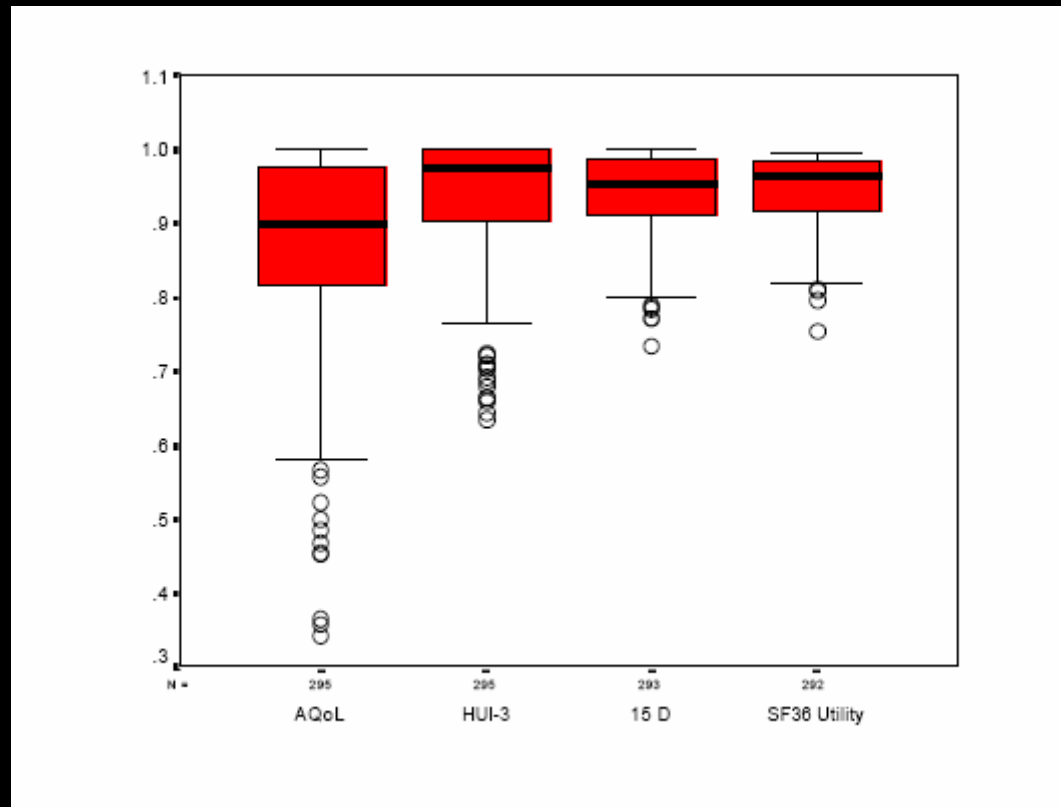
AQoL = 1.0



HUI III = 1.0



## EuroQoL = 1.0



# Regression coefficients: TTO dependent = Self TTO

Predictor Variable	B Coeff	R Square
AQoL	0.429	0.204
HUI 3	0.386	0.166
15 D	1.096	0.289
EuroQol	0.308	0.119
SF6D Utility	1.344	0.238

## Table 2 Dimensions included in five utility instrument

Dimensions	ĀQoL	PsyQoL	EQ5D	15D	SF6D	HUI III
<b>'Within the Skin'</b>						
1. Mobility	*	**	*	*	**	*
2. Physical ability/vitality	*	**		**	***	*
3. Pain	*	***	*	*	*	*
4. Senses	**	**		*****		****
5. Bodily care	*	*	*		*	
6. SWB/satisfaction		****				
7. Depression/Anxiety	*	****	*	**	**	
8. Cognitive ability		*		*		*
9. Memory		*				*
<b>Handicap</b>						
1. Social function	*	***			*	
2. Family role	*	*				
3. Work function		*			*	
4. Activities of daily living	*	**	*	*	*	
5. Communication	*	*		*		**
6. Emotion		**				*
7. Intimacy/Isolation	*	*				
8. Sexual relationships		*		*		
9. Medical aids use						
10. Medical treatment						

Indicate the number of items used in calculation of utility scores.

Source: Hawthorne G, Richardson J and Day NA 2001, 'A comparison of the assessment of quality of life (AQoL) with four other generic utility instruments', *Annals of Medicine*, vol 33, no 5, pp 358-370p 363