

AUSTRALIAN HEALTH UTILITY VALUE SET FOR MACNEW-7D HEART DISEASE-SPECIFIC MEASURE

Sanjeewa Kularatna¹, Gang Chen², Richard Norman³, Clara Mukuria⁴, Donna Rowen⁴, Sameera Senanayake¹, Ruvini Hettiarachchi¹, Brendan Mulhern⁵, Katie Fozzard¹, William Parsonage¹, Steven McPhail¹

1. Australian Centre For Health Services Innovation, Queensland University of Technology, 2.Centre for Health Economics, Monash Business School, Monash University, 3. School of Population Health, Curtin University, 4.School of Health and Related Research, University of Sheffield, 5. Centre for Health Economics Research and Evaluation, University of Technology Sydney

BACKGROUND

There are recent examples from National Institute for Health and Care Excellence (NICE), Pharmaceutical Benefits Advisory Committee (PBAC) and Medical Services Advisory Committee (MSAC) where Quality Adjusted Life Years played an essential role in measuring outcome in heart disease related resource allocations.

The generic measures such as the EQ-5D are found to underestimate heart disease related quality of life improvements. This can undervalue advancements of heart related interventions.

- We developed a heart disease specific classification system (MacNew-7D) using available heart disease specific quality of life instrument.
- This study presents the Australian utility value set for the MacNew-7D.

METHODS

Discrete choice experiment (DCE) was used to elicit preference of the respondents. Online national survey was conducted using panel respondents with quota sampling to achieve representativeness of the Australian population. There were 200 choice sets with 8 sets per respondent. An example choice set is given below:

Please imagine that you will live in the following health scenarios for the given time period, followed by death. Then choose which one you would prefer to live in. Please assume that, apart from the information given, all else would remain equal.

	Health Scenario A	Health Scenario B
Physical limitations	Extremely limited physically	Extremely limited physically
Activities	Feel excluded from doing things with other people all the time	Do not feel excluded from doing things with other people
Vitality	Feel worn out or low in energy some of the time	Feel worn out or low in energy some of the time
Frustration	Feel frustrated, impatient or angry some of the time	Feel frustrated, impatient or angry all of the time
Self-confidence	Unsure and lacking in self-confidence hardly any of the time	Unsure and lacking in self-confidence all of the time
Shortness of breath (while doing your day-to-day physical activities)	Some shortness of breath	Some shortness of breath
Chest pain	Do not have chest pain	Chest pain all of the time
Duration	1 year , then die	10 years , then die
Which health state do you prefer?	0	0

RESULTS

Table 1. Distribution of the quality of life according to MacNew-7D

Dimension	Level 1 n (%)	Level 2 n (%)	Level 3 n (%)	Level 4 n (%)
Mac-New-7D				
Physical restriction	1192 (62.6)	476 (25.0)	158 (8.3)	77 (4.0)
Excluded from doing things with other people	1206 (63.4)	302 (15.9)	317 (16.7)	78 (4.1)
Worn out or low in energy	677 (35.6)	423 (22.2)	636 (33.4)	167 (8.8)
Frustrated, impatient or angry	844 (44.4)	495 (26.0)	488 (25.6)	76 (4.0)
Unsure and lacking in self-confidence	822 (43.2)	419 (22.0)	494 (26.0)	168 (8.8)
Shortness of breath while doing your day-to-day physical activities	1189 (62.5)	514 (27.0)	143 (7.5)	57 (3.0)
Chest pain	1523 (80.0)	226 (11.9)	120 (6.3)	34 (1.8)

Table 2. Estimated coefficients for the selected model

Selected Model		Anchored Values		
	Coefficient	SE	Utility Decrement	Coefficient 95% CI
Duration	0.4421	0.0149		
Physical restriction x duration				
	2	-0.0480	0.0074	-0.1087 (-0.0774 to -0.1400)
	3	-0.0544	0.0068	-0.1232 (-0.0938 to -0.1525)
	4	-0.1589	0.0078	-0.3595 (-0.3259 to -0.3930)
Exclusion of activities x duration				
	2	-0.0430	0.0076	-0.0972 (-0.0649 to -0.1295)
	3	-0.0466	0.0069	-0.1055 (-0.0766 to -0.1344)
	4	-0.0829	0.0082	-0.1875 (-0.1528 to -0.2222)
Worn out x duration				
	2	-0.0063	0.0068	-0.0143 (0.0155 to -0.0440)
	3	-0.0120	0.0059	-0.0272 (-0.0017 to -0.0528)
	4	-0.0120	0.0059	-0.0272 (-0.0017 to -0.0528)
Frustration x duration				
	2	-0.0149	0.0067	-0.0337 (-0.0045 to -0.0628)
	3	-0.0255	0.0064	-0.0578 (-0.0296 to -0.0859)
	4	-0.0764	0.0075	-0.1727 (-0.1405 to -0.2049)
Self-confidence x duration				
	2	0.0000		0000
	3	-0.0284	0.0060	-0.0642 (-0.0379 to -0.0904)
	4	-0.0495	0.0055	-0.1119 (-0.0895 to -0.1343)
Shortness of breath x duration				
	2	-0.0134	0.0080	-0.0304 (0.0047 to -0.0654)
	3	-0.0332	0.0078	-0.0751 (-0.0418 to -0.1084)
	4	-0.1197	0.0078	-0.2707 (-0.2383 to -0.3031)
Chest pain x duration				
	2	-0.0214	0.0084	-0.0485 (-0.0121 to -0.0849)
	3	-0.0556	0.0069	-0.1257 (-0.0958 to -0.1555)
	4	-0.1247	0.0081	-0.2821 (-0.2485 to -0.3157)
Log likelihood				
		-8582		
AIC		17205		
BIC		17371		

CONCLUSION

Findings indicated that the MacNew-7D utility value set is likely to be suitable for estimating quality-adjusted life years derived from the MacNew heart disease health-related quality of life questionnaire.

LOOKING TO CONNECT?

Email:
sanjeewa.kularatna@qut.edu.au

Twitter:
@sanjee48

