

But will they trade health? Developing an economic value framework for oncology

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Background

Value frameworks in health care are proliferating often with very little input from economists. In particular, a number of oncology value frameworks have emerged, perhaps due to the greater costs of novel therapies in the cancer space. But none of these value frameworks include weights that economists would recognise as legitimate values. If attributes beyond health are truly valued then it is reasonable to suppose that health would be traded for other attributes of value. One test of value would be to see if stakeholders would trade a health attribute for non-health attributes.

Study objective

Building on previous qualitative work that identified health and non-health attributes of cancer treatment, the aim of this study was to design and pilot test a discrete choice experiment (DCE) to identify trade-offs between identified attributes.

Methodology

Previously reported qualitative focus group work with cancer patients, oncology clinicians and oncology nurses identified the following as important attributes alongside the traditional health gain associated with treatment:

- treatment convenience;
- existence of treatment alternatives;
- disease rarity;
- quality of evidence;
- prognosis without treatment.

These results informed the design and undertaking of a DCE piloted in June 2017 with a convenience sample (n=45) where subjects were asked to choose between covering two alternative treatments in a new health plan. Quality-adjusted life expectancy (QALE) is used as a payment vehicle and the pilot tested whether respondents would be willing to give up health gains associated with treatment for the other identified attributes. An example DCE question from the designed survey is presented in **Box 1** below.

Box 1: example of DCE Question

In this questionnaire we want you to imagine that you have been tasked with advising a new government committee. This committee is in the process of designing a new, experimental health insurance plan. The committee have asked you to review a number of treatment options for different diseases and to choose which you would suggest for them to fund in this new healthcare plan. Please assume that everything else about the treatment options is the same, including the **COST**.

Which of these treatments would you choose?

	Treatment A	Treatment B	
Inconvenience of treatment to patients and family	SLIGHTLY INCONVENIENT : Treatment is locally available, requires a low frequency of hospital visits and will not require patients to stop working	SLIGHTLY INCONVENIENT : Treatment is locally available, requires a low frequency of hospital visits and will not require patients to stop working	Neither
Are there alternative treatments available?	NO : If this treatment does not work there are no future care options and is the end of the line for the patient	YES : If this treatment does not work there are other alternative care options available to the patient	
Number of people affected with disease in US population/per yr	1 in 500	1 in 10,000	
Quality of available evidence on treatment	LOW : little data available from poorly-designed studies	LOW : little data available from poorly-designed studies	
Quality-Adjusted Life Expectancy WITHOUT treatment	24 MONTHS	12 MONTHS	
Quality-Adjusted Life Expectancy gained WITH treatment	1 MONTH	3 MONTHS	
Which treatment would you prioritise?	<input type="checkbox"/>	<input type="checkbox"/>	

Results

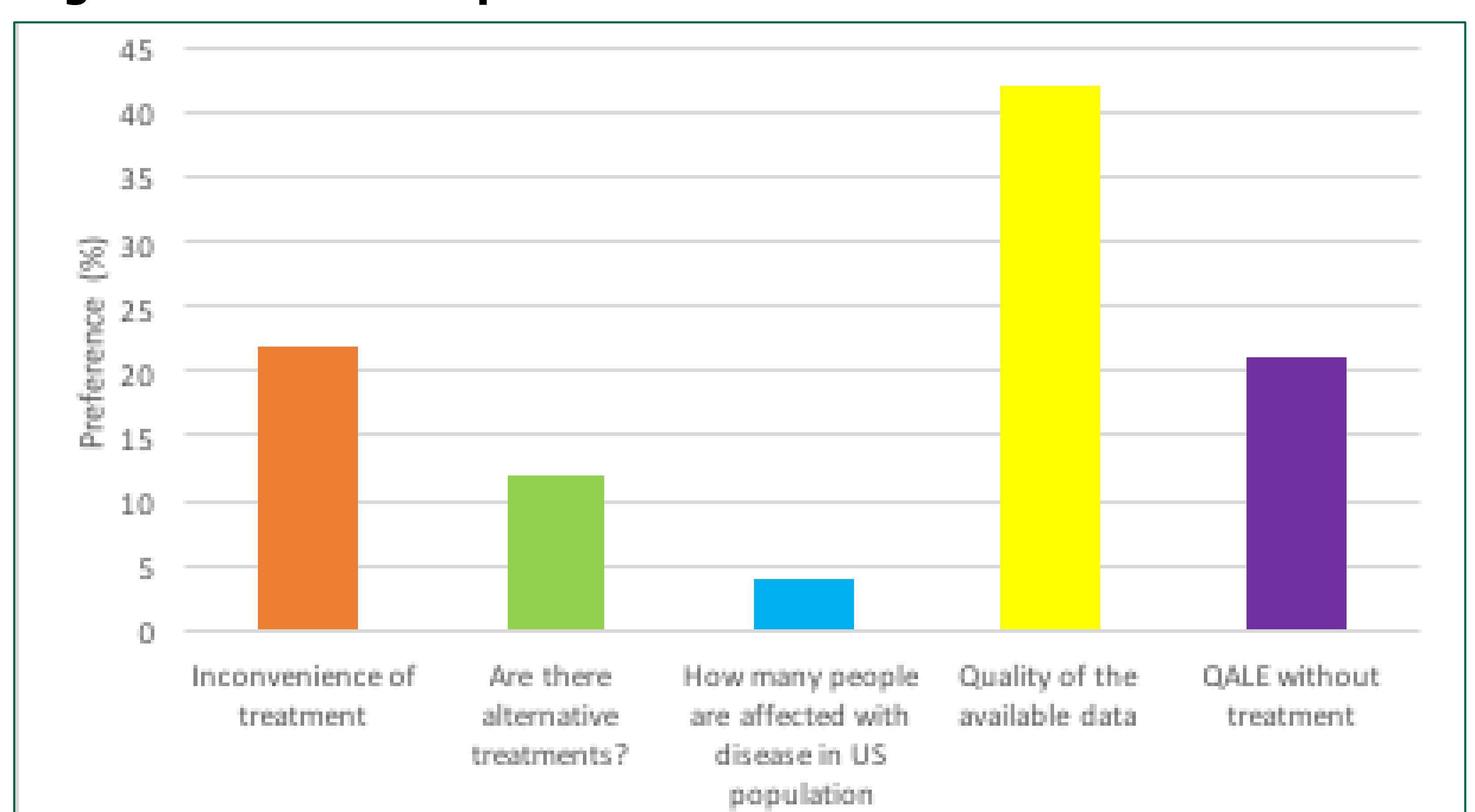
Mixed logit regression (**Table 1**) identified statistically significant preferences for less inconvenient treatments, treatments with no alternatives, higher evidence quality, helping those with shorter prognosis and provide more QALE gains. Only the number of people affected (rarity of disease) was insignificant.

Table 1: Mixed Logit Regression

ATTRIBUTE	B (SE)	P-VALUE	95% CI
Inconvenience of treatment			
Very	-		
Slightly	0.89 (0.22)*	0.00	0.46, 1.31
Alternative treatments available			
No	-		
Yes	-0.5 (0.22)*	0.02	-0.93, -0.07
Number of people affected by disease/year			
1 in 10,000	-		
1 in 5,000	-0.18 (0.21)	0.39	-0.61, 0.24
1 in 500	0.05 (0.23)*	0.83	-0.4, 0.49
Quality of evidence			
Low	-		
Average	0.15 (0.21)	0.48	-0.26, 0.56
High	1.64 (0.34)*	0.00	0.98, 2.30
QALE without treatment			
0 months	-		
12 months	-0.09 (0.21)	0.68	-0.5, 0.33
24 months	-0.9 (0.31)*	0.00	-1.51, -0.28
QALE gained with treatment			
QALE in months	0.65 (0.11)*	0.00	0.43, 0.86

In addition, the relative importance of each attribute was calculated and the results shown in Figure 1. At this stage of testing, and given the nature of using a convenience sample, the focus is placed on whether the results are significant and the relative value rather than attributing meaning to the magnitude of results. Nevertheless, the emphasis placed on data quality may have represented the bias of a health care based convenience sample.

Figure 1: Relative importance of each attribute



Conclusion

The pilot phase of this ongoing study demonstrates that whilst the health-gains of cancer therapies are predominantly prioritised, other attributes are important and participants were prepared to trade health gains. The pilot results will be used to inform the design of a larger study to identify the relative weight for the creation of a value framework in oncology with economically robust weights, and to explore the differences in weights expressed by different stakeholders.