

The uptake and impact of the EQ-5D-5L value set in NICE technology appraisals within oncology



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Background and objectives

- The EuroQol-Five Dimensions-Three Levels (EQ-5D-3L) questionnaire is an established method of evaluating utilities for use in cost-effectiveness analyses.¹ The EQ-5D-Five Levels (EQ-5D-5L) questionnaire was introduced in 2009 with aim of improving the sensitivity of the EQ-5D instrument to small changes in health status.²
- In 2018, Delvin *et al.* published the EQ-5D-5L value set for England.³ Since the publication of the value set, concerns have arisen around its quality and validity.⁴
- The National Institute for Health and Care Excellence (NICE) commissioned a quality review of the EQ-5D-5L value set in 2018. The review concluded that there were serious deficiencies in the time-trade off (TTO) data and concerns with the specification and estimation of the statistical model.⁵
- As a result of this quality review, NICE released a position statement on the use of the EQ-5D-5L value set in technology appraisals (TAs):

"NICE currently does not recommend using the 5L valuation set. Companies, academic groups and others preparing evidence submissions for NICE should use the 3L valuation set for reference-case analyses."⁶

- Evidence suggests that utilising the EQ-5D-5L value set may result in reductions to changes in quality-adjusted life years (QALYs) when compared to the EQ-5D-3L value set.⁷ The aim of this review is to establish if and how the EQ-5D-5L value set is being used in NICE TAs.

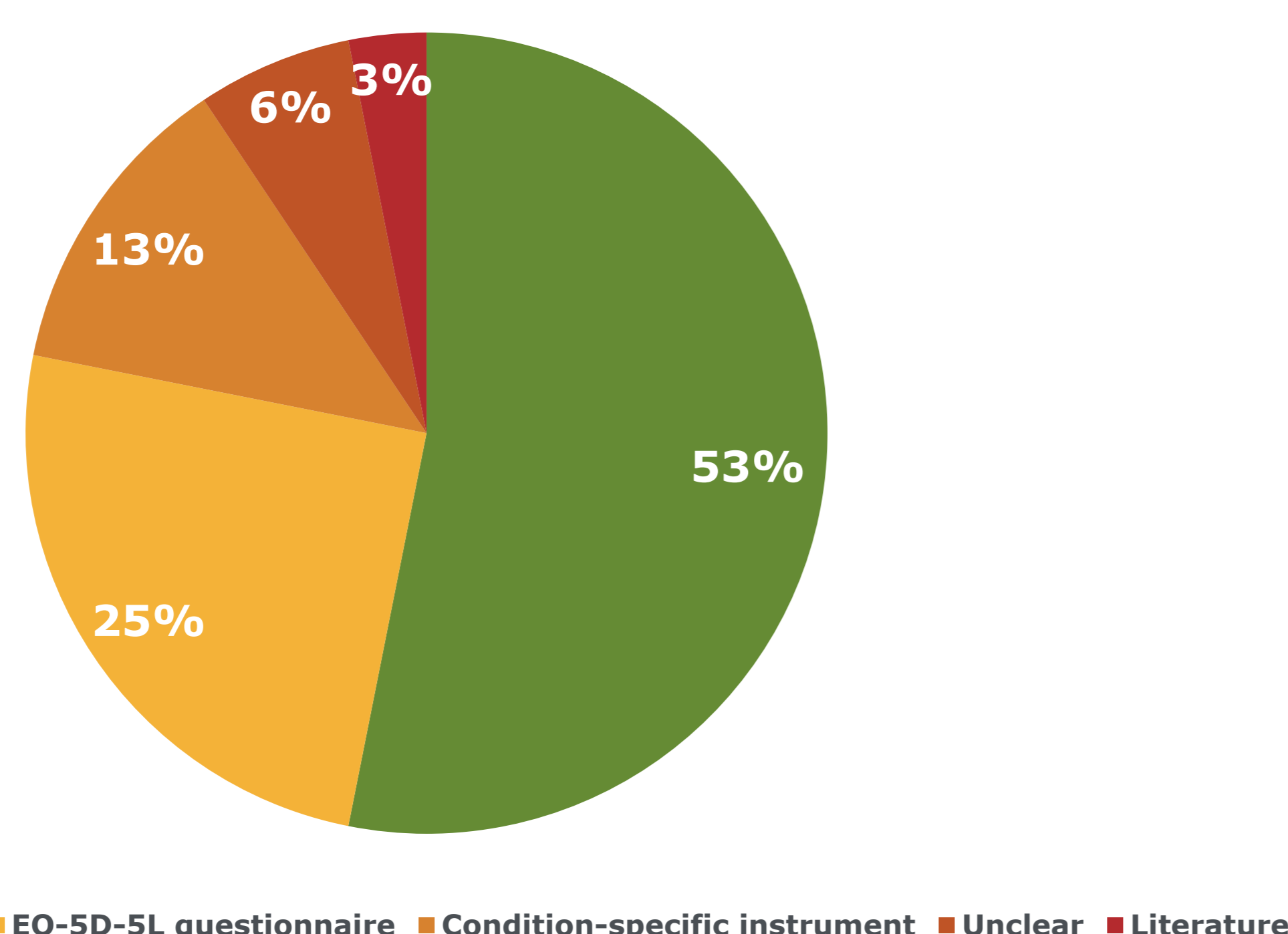
Methods

- A targeted literature review of published NICE TAs within tumour-based oncology was conducted in June 2019.
- TAs were included in the review if: 1) guidance had been published after January 2018; 2) a company submission was available; and 3) an Evidence Review Group (ERG) critique was available.

Results

- A total of 32 TAs were identified across 10 cancer types: breast (n=5); lung (n=8); skin (n=6); urothelial (n=3); kidney (n=3); liver (n=2); prostate (n=2); ovarian (n=1); neuroblastoma (n=1) and neuroendocrine (n=1).
- Quality-of-life was measured through the EQ-5D-3L and EQ-5D-5L questionnaires in 17 (53%) and 8 (25%) TAs, respectively. Condition specific quality-of-life instruments were used in 4 (13%) TAs, while 1 (3%) TA sourced quality-of-life scores from the literature. In 2 (6%) TAs it was unclear whether the EQ-5D-5L or EQ-5D-3L questionnaire was used.

Figure 1: Quality-of-life instruments used in oncology NICE TAs (n=32)



- All 8 TAs using the EQ-5D-5L questionnaire, mapped their respective scores to the EQ-5D-3L United Kingdom tariff via the van Hout 'cross-walk' algorithm⁷; 1 at the request of the ERG (BMJ-TAG; TA528) and 7 prior to the initial submission.⁸⁻¹⁶ Only 4 of the 8 TAs presented results of utility sensitivity analyses, all of which demonstrated a small or no improvement in cost-effectiveness when utilities based on the EQ-5D-5L value set by Delvin *et al.* were modelled (Table 1).

Table 1: Summary of NICE EQ-5D-5L oncology TAs (n=8)

TA number	Cancer type	ERG	Mapped to 3L via van Hout algorithm	Sensitivity analyses
500 ⁸	Lung	York	Y	NR
517 ⁹	Skin	BMJ	Y	NR
528 ¹⁰	Ovarian	BMJ	Y (ERG request)	5L HS utility scores were higher than the mapped 3L HS utility scores
562 ¹²	Skin	Liverpool	Y	NR
563 ¹¹	Breast	SHTAC	Y	ICER 3L: £250,065 5L: £250,065
578 ¹³	Lung	KSR	Y	ICER 3L: £19,366 5L: 1. £17,960 2. £18,162
579 ¹⁴	Breast	BMJ	Y	NMB 3L: -£17,775 5L: -£17,743
580 ¹⁵	Prostate	Aberdeen	Y	ICER 3L: £28,853 5L: £28,138

Conclusion

- This review suggests that manufacturers are continuing to use the EQ-5D-3L over the EQ-5D-5L questionnaire in their TA submissions. In the TAs that applied EQ-5D-5L based utility scores, sensitivity analyses suggested that cost-effectiveness may be slightly improved when the 5L is adopted.
- Although the use of the EQ-5D-5L questionnaire appears to have increased in the last year, its impact on NICE TAs within oncology remains limited.

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