

CURRENT TREND OF UTILITY VALUES IN NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE (NICE) TECHNOLOGY APPRAISAL GUIDANCE

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Background

There are various types of instrument to measure health-related quality of life (utility values). The utility values in a cost-effectiveness analysis are selected from multiple candidates, considering the measurement scale and data sources. The NICE 2013 Methods Guide ¹⁾ recommends using EQ-5D-3L as a measurement scale in the reference case of cost-effectiveness assessment. NICE conducts a comprehensive evaluation and determines whether health technologies are recommended to be used in the NHS in England and Wales, with reference to the clinical and cost-effectiveness results submitted by manufacturers followed by the critical review from the Evidence Review Group (ERG). This evaluation process is called “Single technology appraisal process”. The recommendations as the results of the evaluations are published as “Technology appraisal guidance” (TAs) on the NICE website ²⁾.

Objective

We investigated how utility values were selected by manufacturers and the ERGs and what was discussed about utility values during the appraisal process for development of TAs in UK NICE.

Methods

We reviewed the NICE TAs and committee papers available on the NICE website²⁾, including the types of instrument; data sources of utility values; utilization (i.e., mapping) in the submission by manufacturers and the ERGs; the final determinations by NICE. Our review included individual TAs for pharmaceuticals published between April 2018 and March 2019. We excluded TAs which were 1) multiple TAs; 2) cost-comparison studies; 3) evaluation for non-pharmaceutical; 4) terminated TAs due to no submission from manufacturers.

Results

After exclusion of 13 TAs (3 multiple TAs; 2 cost-comparison TA; 1 non-pharmaceutical TA; 7 terminated TAs) from 56 TAs (TA517-TA572), 43 TAs which contain 150 unique utility values were identified. Thirty-five of the 43 TAs were for cancer treatments. (Table 1)

Manufacturers' submission

- Sixty-four utility values (43%) and 13 utility values (9%) were obtained by using EQ-5D (3L) and EQ-5D-5L in the manufacturers’ submissions, respectively. (Figure 1)
- Seventy-three utility values (49%) were mainly taken from pivotal clinical trials, followed by 62 (41%) from published studies including previous NICE TAs. (Figure 2)
- Mapping was performed for 33 utility values (22%) in the manufacturers’ submissions.(Figure 3)

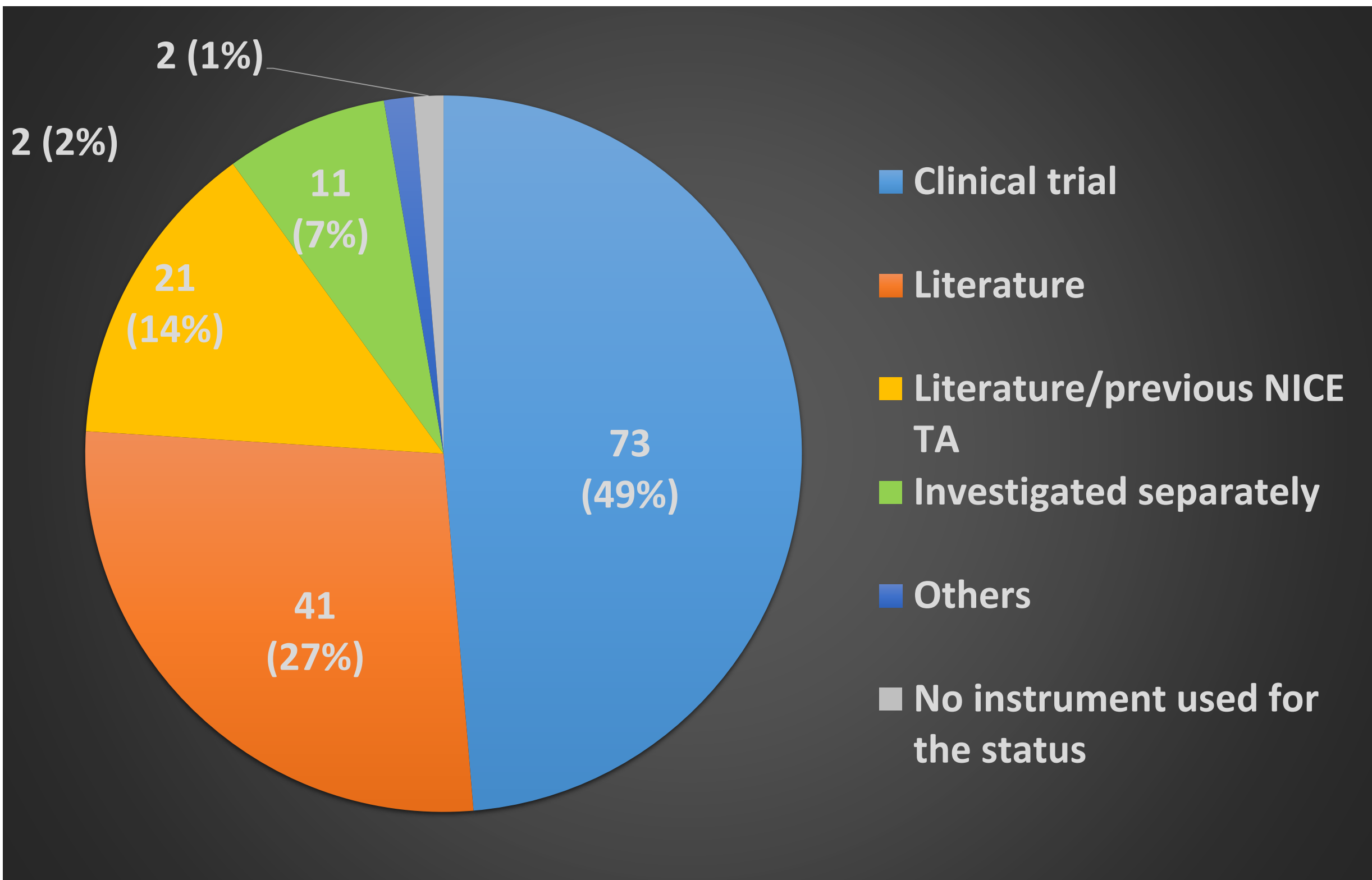


Figure 2. Data sources of utility values (N=150)

ERGs and final appraisals

- The ERGs agreed to 74 utility values (49%) selected by manufacturers, while 67 utility values (45%) were criticized and 9 utility values (6%) were not clear from TAs and committee papers.
- Of the 67 utility values criticized by the ERGs, 47 utility values (70%) were finally replaced to the values selected by the ERGs, while 13 utility values (19%) remained in the final appraisals (Figure 4).
- Of the utility values originally submitted by the manufacturers, 58% (87/150) was used for final TA guidance (Figure 5).
- The reasons that 44 utility values were replaced in line with the ERGs opinions in final appraisals were as follows: more appropriate ways of age adjustment were applied in 14 utility values (32%); re-classification of the health states were applied in 11 utility values (25%); more appropriate data source was selected in 7 utility values (16%); other reasons in 12 utility values (27%).

Discussions

- Tosh et al ³⁾ reviewed the TAs in terms of conformance with the NICE 2004 reference case, while we reviewed the TAs regarding selection of utility values between manufacturers and the ERGs.
- The literature information was not traced back to the original source, so the detail contents described in the literature were not fully confirmed (therefore, there are many “unknown”).
- Because only public information was used, there were pieces of information that were not fully understood.
- In addition, details of the discussions between manufacturers, ERGs and NICE appraisal on utility values were sometimes not fully described in the TAs or committee papers, therefore, we could not fully understand which opinions the final determinations were favored of.

Conclusions

- EQ-5D, which was recommended in the NICE 2013 reference case, was a major instrument of measuring the health-related quality of life in the manufactures’ submissions. Many manufacturers followed the NICE reference case. The results in this study show that there were substantial differences in the selection of utility values between manufactures and the ERGs during the appraisal process. Around half of the original utility values submitted by manufacturers were adopted in the final guidance. Manufacturers may need more discussion done with the ERGs on draft scope to avoid discrepancy in opinion prior to the appraisal process.

References

1) NICE. Guide to the methods of technology appraisal 2013 (<https://www.nice.org.uk/process/pmg9/chapter/foreword>)
2) <https://www.nice.org.uk/guidance/published?type=ta>
3) Tosh JC, Longworth LJ, George E. Utility values in National Institute for Health and Clinical Excellence (NICE) Technology Appraisals. *Value in Health* 2011. 14; 102-9.

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Table 1. TAs selected in this study

	Classification	No of TAs
TAs issued in the target period	TA517 – TA572	56
Excluded TAs	1) multiple TAs	3
	2) cost-comparison	2
	3) non-pharmaceutical	1
	4) terminated TAs	7
Number of TAs we included in the study		43

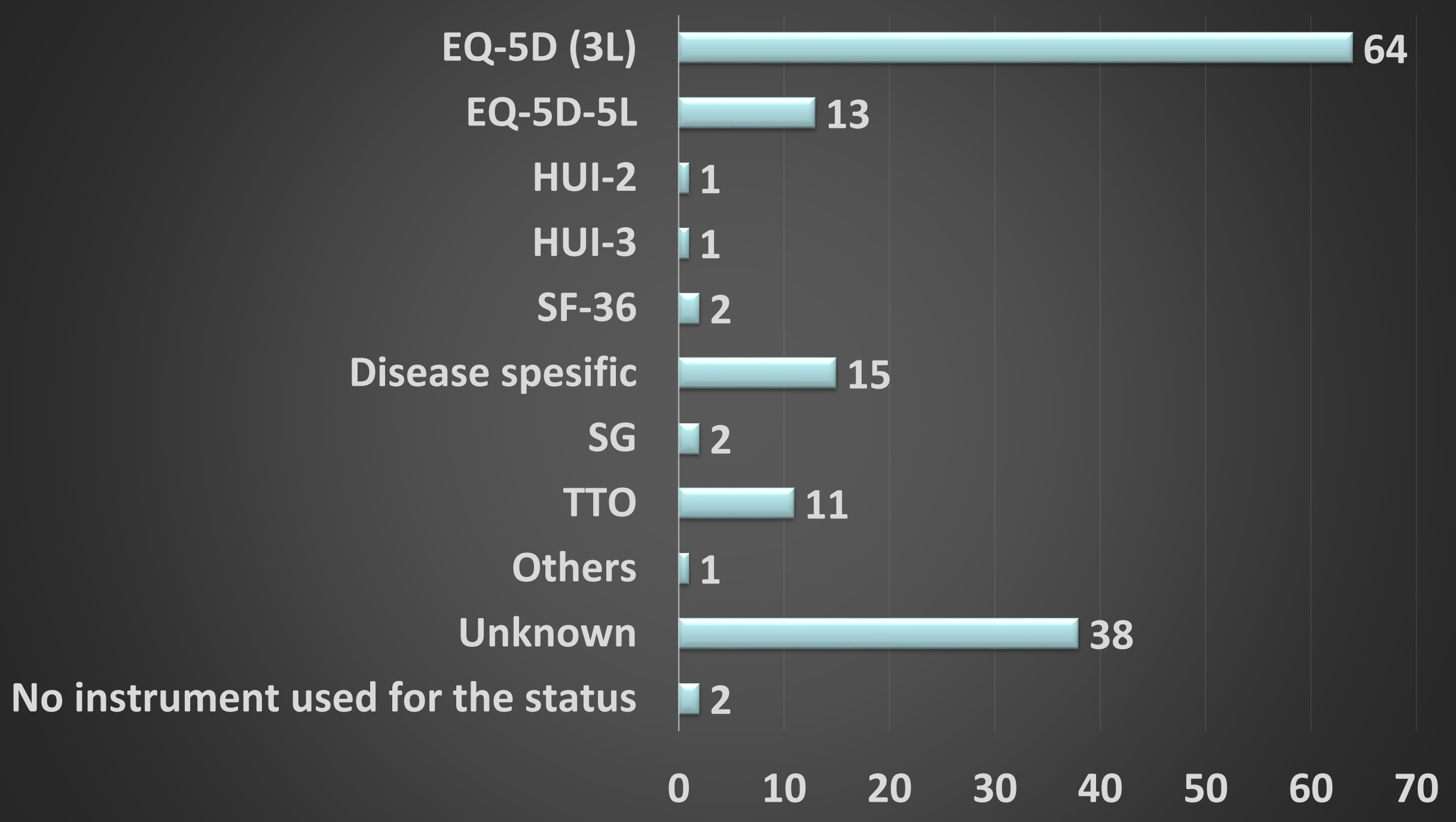


Figure 1. Types of instrument to measure utility values (N=150)

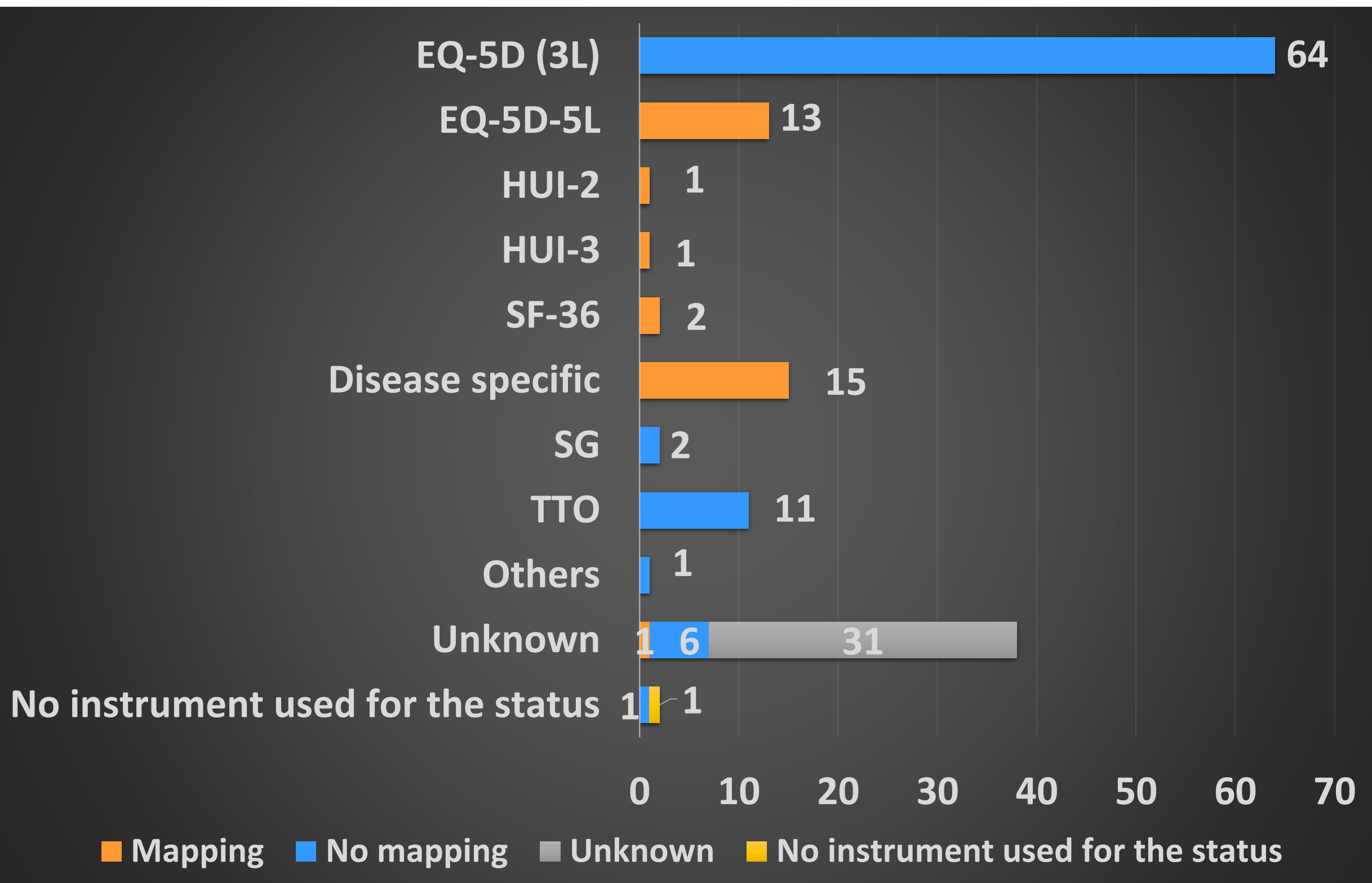


Figure 3. Mapping (N=150)

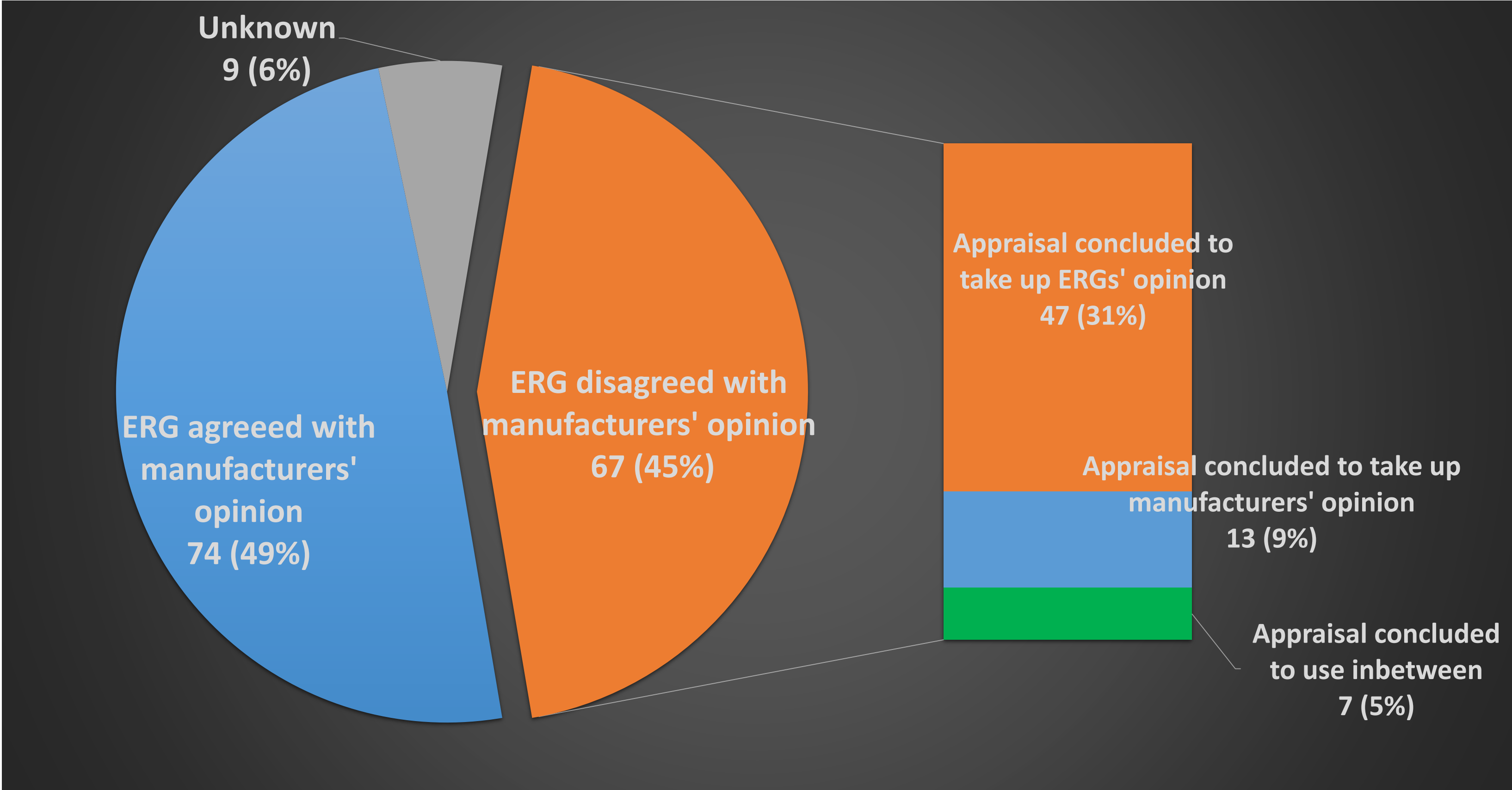


Figure 4. ERG critique on manufacturers submission and appraisal conclusions (N=150)

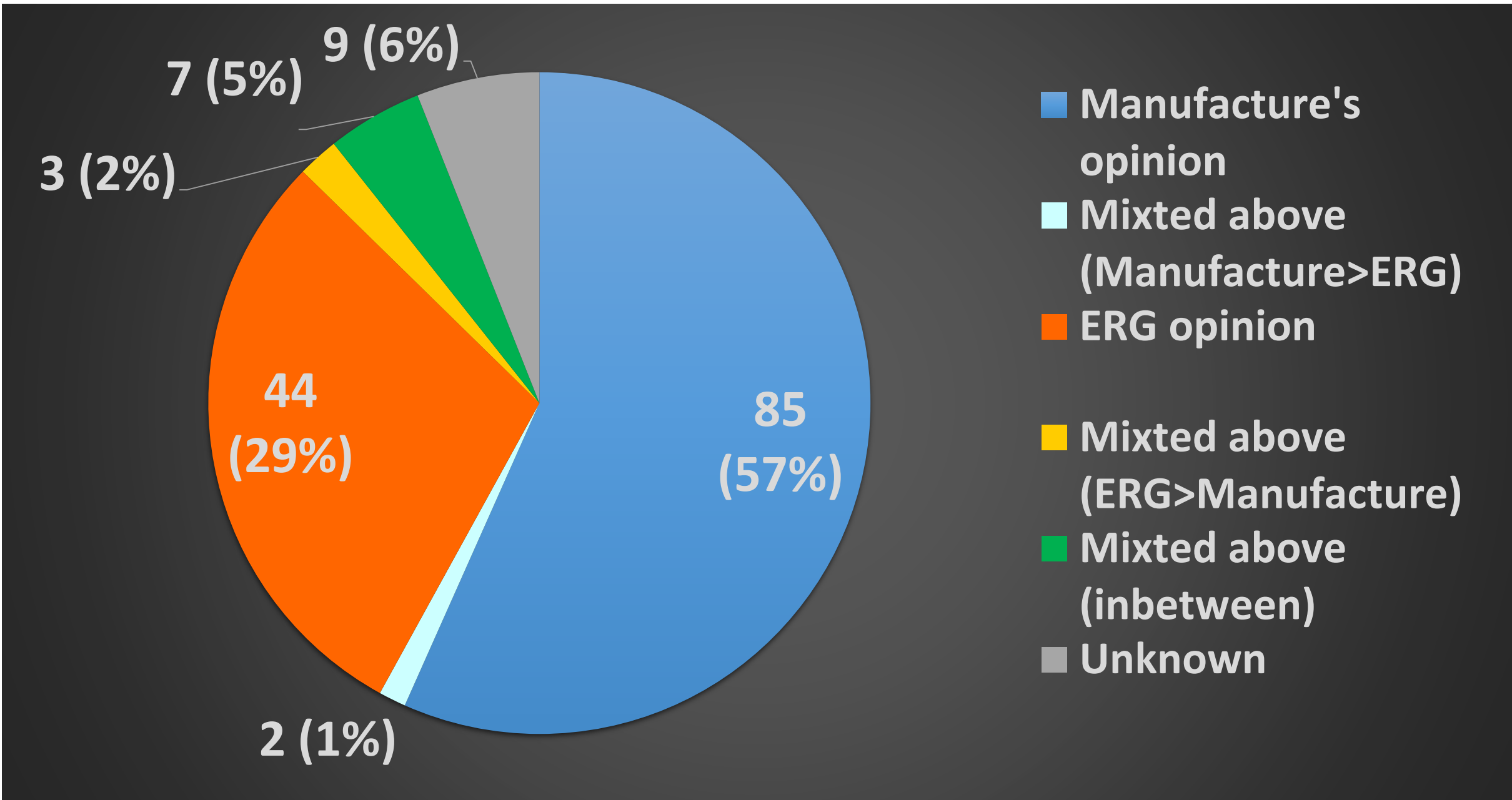


Figure 5. Final determinations of utility values in Appraisals (N=150)