Impact of the New UK EQ-5D-5L Value Set on Health-State Utility Values: A Multi-Country Comparison Across Disease Groups

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Introduction

- The directly elicited UK EQ-5D-5L value set (Rowen et al., 2026), recently adopted by NICE, provides an alternative to mapping EQ-5D-5L responses to EQ-5D-3L utilities using the Hernández-Alava crosswalk.[1,2]
- Differences between the approaches may vary across the utility scale, countries and disease groups.

Aims

- To quantify differences between utilities derived using the directly elicited UK EQ-5D-5L value set ('Rowen') and utilities mapped to the UK EQ-5D-3L value set using the Hernández-Alava crosswalk ('Hernández-Alava').
- To examine how these differences vary by reference utility, disease type (cancer versus non-cancer) and participants' country.

Methods

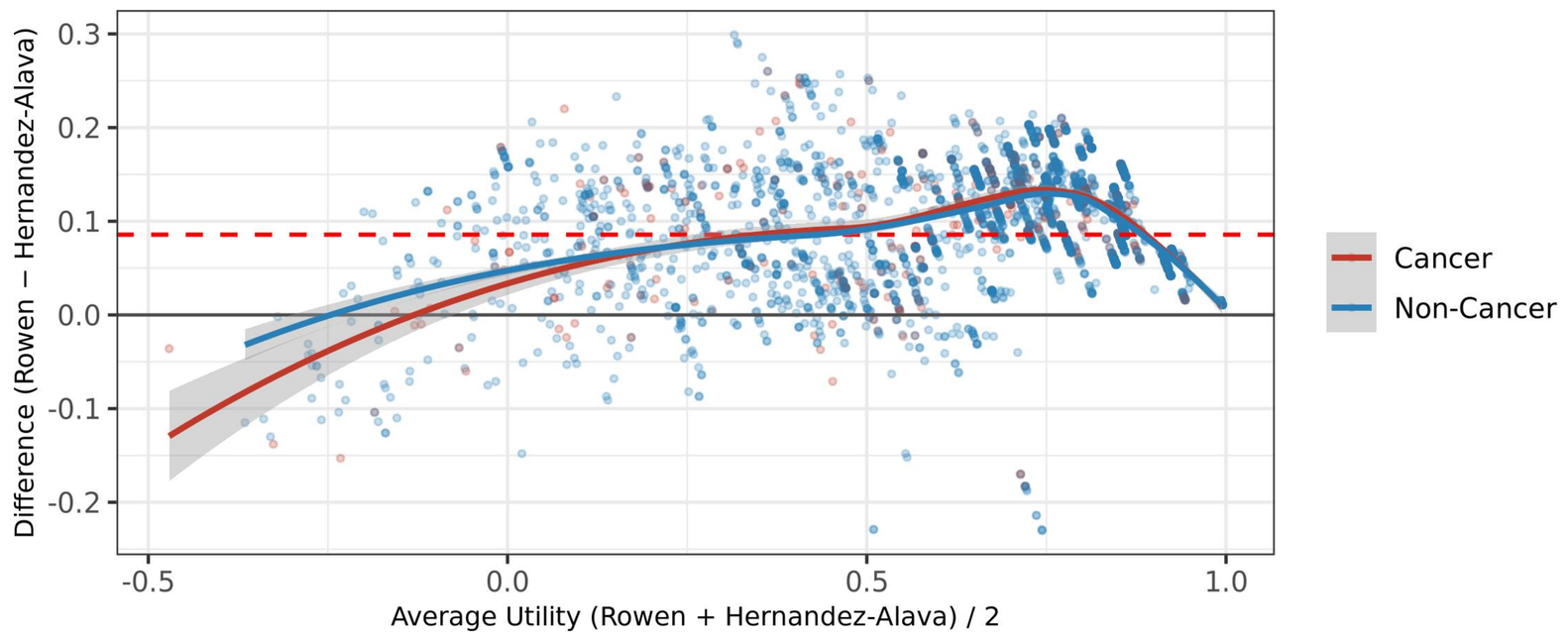
- Data were obtained from the Multi-Instrument Comparison project: a cross-national online survey across multiple disease areas in Australia, Canada, Germany, Norway, the UK and the USA.[3]
- A total of 5,710 adults were included; the sample included 770 participants with cancer and 4,940 with non-cancer conditions. Country samples ranged from 858 participants in Canada to 1,062 in Norway.
- Each EQ-5D-5L response was scored using the Rowen and Hernández-Alava value sets.[1,2]
- Individual-level differences were calculated as:

  Difference (Δ) = Rowen utility − Hernández-Alava utility

- Differences were summarized overall, by country and by disease group (cancer and non-cancer).
- Primary analyses quantified the mean utility difference (Δ) within quartiles of the Hernández-Alava utility.
- Sensitivity analyses used quartiles of the average of the Rowen and Hernández-Alava utility.

Results

Figure 1. Utility difference by average utility



Abbreviations: Δ, Rowen − Hernández-Alava utility; average utility, (Rowen + Hernández-Alava)/2; LOESS, locally estimated scatterplot smoothing. Red dashed line indicates overall mean Δ.

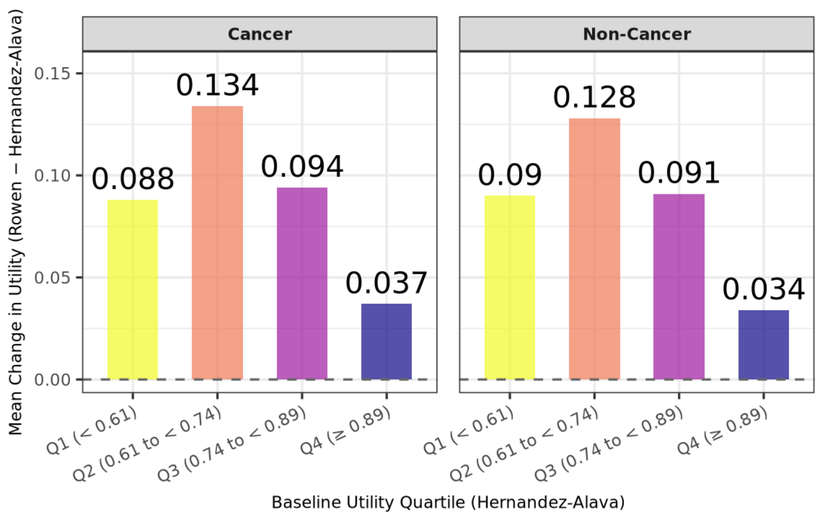
Overall utility difference

- Mean utility was 0.779 with Rowen and 0.693 with Hernández-Alava. Mean Δ was 0.086 (SD 0.059; 95% CI 0.084–0.087); Rowen was higher for 96.6% of participants. (**Figure 1**)
- Across Hernández-Alava utility quartiles, mean difference peaked at 0.128 for utilities of 0.61–<0.74 (Q2) and decreased to 0.035 for utilities ≥0.89 (Q4). (**Table 1**)
- Average-utility quartiles showed the same pattern: mean Δ was 0.085, 0.125, 0.100 and 0.035 from Q1 to Q4.

Cancer and non-cancer groups

- Mean Δ was 0.088 in cancer (95% CI 0.084–0.093) and 0.085 in non-cancer (95% CI 0.084–0.087).
- Rowen utilities were higher for 96.9% and 96.6%, respectively.
- Both groups showed the largest difference in Q2: 0.134 for cancer and 0.128 for non-cancer. (**Figure 2**)

Figure 2. Mean utility difference by baseline Hernández-Alava utility quartile



Countries

- Mean Δ ranged from 0.07 to 0.09 across countries.
- Rowen utilities were higher for 95.6%–97.8% of participants.
- Cancer and non-cancer groups showed similar mean differences within countries.

Table 1. Utility difference by Hernández-Alava utility quartile

Baseline H quartile	N	H	R	Mean Δ	R > H %
Overall	**5,710**	**0.693**	**0.779**	**0.086**	**96.6**
Q1 <0.61	1,424	0.334	0.424	0.090	89.7
Q2 0.61–<0.74	1,422	0.682	0.811	0.128	97.8
Q3 0.74–<0.89	1,393	0.810	0.901	0.091	98.9
Q4 ≥0.89	1,471	0.941	0.975	0.035	100.0

Abbreviations: N, number of patients; H, Hernández-Alava utility; R, Rowen utility; Δ, difference (R − H); Q, quartile.

Sensitivity analysis

- A similar pattern was produced when quartiles were defined using the average of the Rowen and Hernández-Alava utility values.
- The largest difference remained in Q2, with mean differences of 0.127 for cancer and 0.125 for non-cancer. The smallest difference remained in Q4, with mean differences of 0.037 for cancer and 0.034 for non-cancer.
- These results indicate that the observed quartile pattern was not dependent on using the Hernández-Alava utility to define the quartiles.

Conclusions

- Rowen produced higher utility values than Hernández-Alava for almost all participants (96.6%).
- The overall mean Δ was 0.086, but the difference was not constant across the utility scale.
- The difference peaked at Hernández-Alava utilities of 0.61–0.74 and was smallest near the upper end of the scale, likely due to the upper constraints of the utility score.
- The pattern was consistent across countries and disease groups and robust to the alternative quartile definition.
- Utilities are likely to be higher with Rowen in most disease areas; HTA implications depend on the patient utility distribution.
- Further research and real-world monitoring are needed across disease areas, severity levels and jurisdictions.

References

1. Rowen D, et al. A United Kingdom value set for the EQ-5D-5L. Value Health. 2026;29(5):858-69.
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3. Richardson J, et al. Cross-national comparison of twelve quality of life instruments: MIC paper 1. Research Paper 76. Monash University; 2012.

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