

Value Sets Accompanying Preference-Weighted Measures of Health-Related Quality of Life: A Systematic Review of Their Availability and Characteristics

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BACKGROUND & AIMS

- Preference-weighted measures (PWMs) are instruments used in health economic evaluation whose value sets enable cost-utility analysis through quality-adjusted life years (QALYs).
- Several Health Technology Assessment (HTA) agencies have endorsed specific PWMs for use in economic evaluations (e.g., EQ-5D-5L by NICE; EQ-5D by CDA-AMC). However, comprehensive information on the availability and characteristics of value sets across instruments remains limited.
- Health state preferences vary across geographic and cultural contexts, and may change over time, underscoring the importance of locally derived, up-to-date value sets.
- This review aimed to systematically assess the number, geographical coverage, and methodological characteristics of value sets available for six PWMs referenced in HTA guidelines (EQ-5D-5L, EQ-5D-3L, SF-6D, AQoL, HUI, and QWB), and to identify implications for HTA.

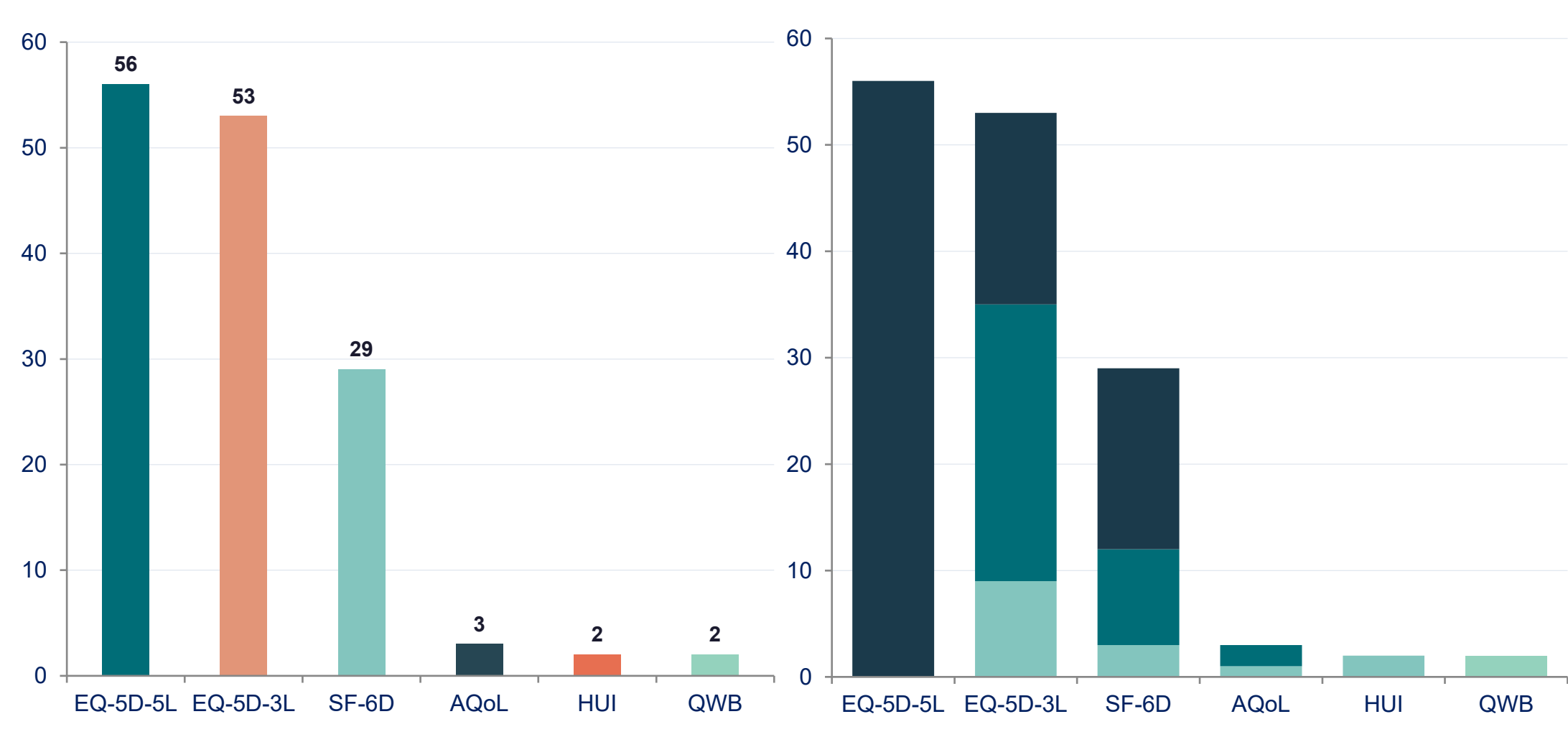
METHODS

- Data Sources:** We searched five medical databases from inception to August 2025. Grey literature was also identified through Health Technology Assessment (HTA) agencies, the EuroQol Group, and ISPOR.
- Eligibility Criteria:** Studies were included if they reported value set development for six PWMs, using established preference elicitation techniques, and involved either general population or clinical samples.
- Study Selection and Data Extraction:** Screening and data extraction were conducted independently by two reviewers. To ensure quality control, 10% of included studies underwent double data extraction.
- Key domains extracted** included sampling strategy and study design; valuation technique and modelling approach; mode of administration; quality control procedures and protocol adherence; sample representativeness; and geographic and temporal coverage.

RESULTS

Study Characteristics

- 136 studies identified reporting 145 value sets across 55 countries (Figure 1)
- EQ-5D-5L: 56 (38.6%); EQ-5D-3L: 53 (36.6%); SF-6D: 29 (20.0%); AQoL: 3 (2.1%); HUI: 2 (1.4%); QWB: 2 (1.4%)
- EQ-5D value sets span 55 countries (27 with both EQ-5D-3L and EQ-5D-5L); SF-6D: 14 countries; AQoL, HUI, QWB: 1 country each (Table 1)
- Most adopted a societal perspective (92.4%)
- Predominantly conducted in high-income settings (69.0%)



Temporal Patterns (Figure 2)

- 59.7% of societal value sets published 2016–2025
- All EQ-5D-5L value sets published after 2015
- AQoL (2004–2014), HUI (1996–2002), QWB (1976–1988) all predate 2015

Quality Control & Standardisation

- Use of standardised protocols: EQ-5D-5L 89.3%, EQ-5D-3L 75.5%, SF-6D 44.8%, AQoL/HUI/QWB 0%
- Valuation techniques differed across EQ-5D-3L, EQ-5D-5L, and SF-6D (Figure 3).
- Quality monitoring undertaken: 83.9% of EQ-5D-5L, 22.6% of EQ-5D-3L, 0% of SF-6D/AQoL/QWB valuation studies

Sample Representativeness (Table 2)

- Age and sex/gender most frequently reported (78–80% of EQ-5D-5L vs 47–51% of EQ-5D-3L studies)
- Median representativeness variables: EQ-5D-5L=3, EQ-5D-3L=2, SF-6D=2, AQoL/HUI/QWB=0
- AQoL, HUI, QWB reported no representativeness considerations for age or sex

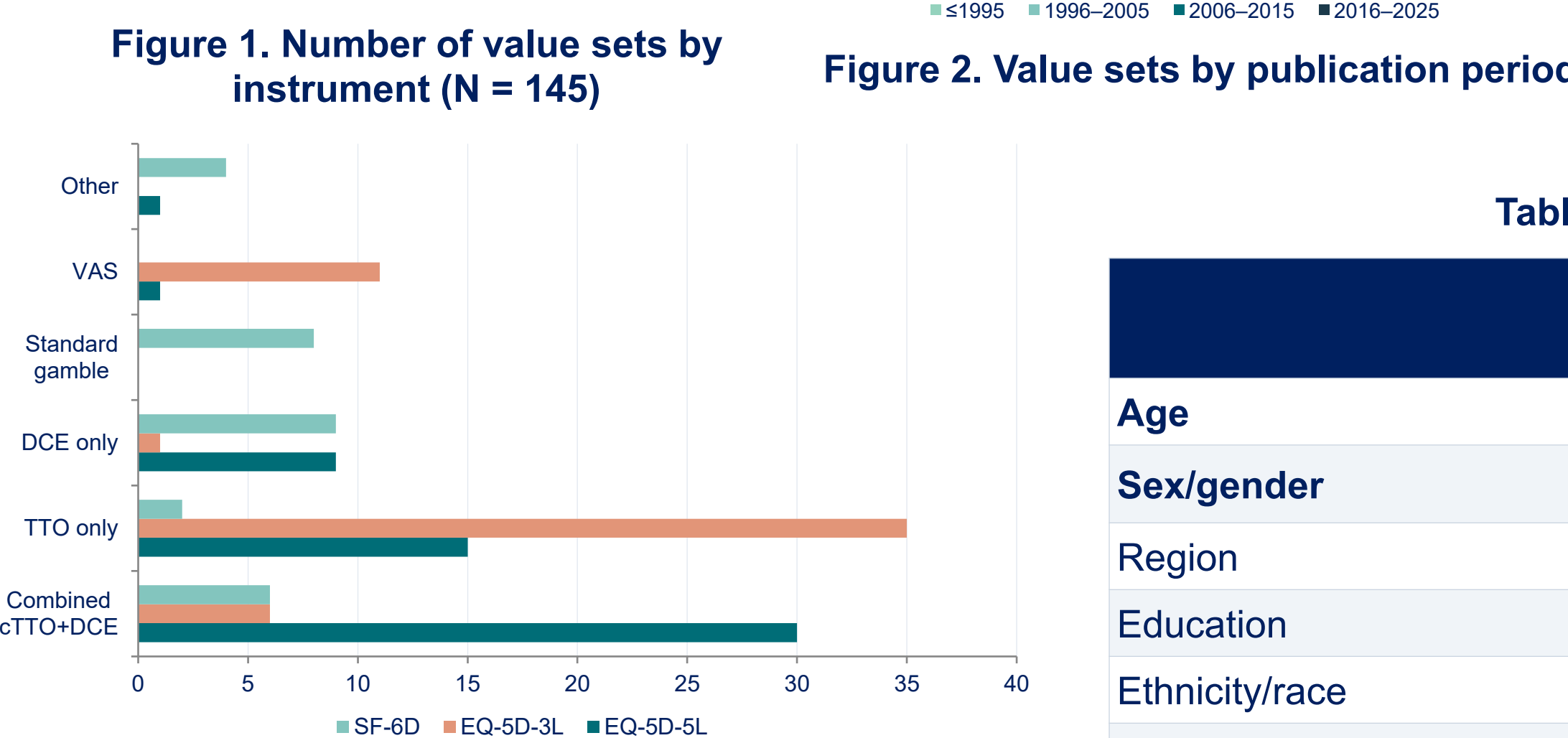


Figure 3. Valuation techniques used in EQ-5D-3L, EQ-5D-5L, and SF-6D valuation studies

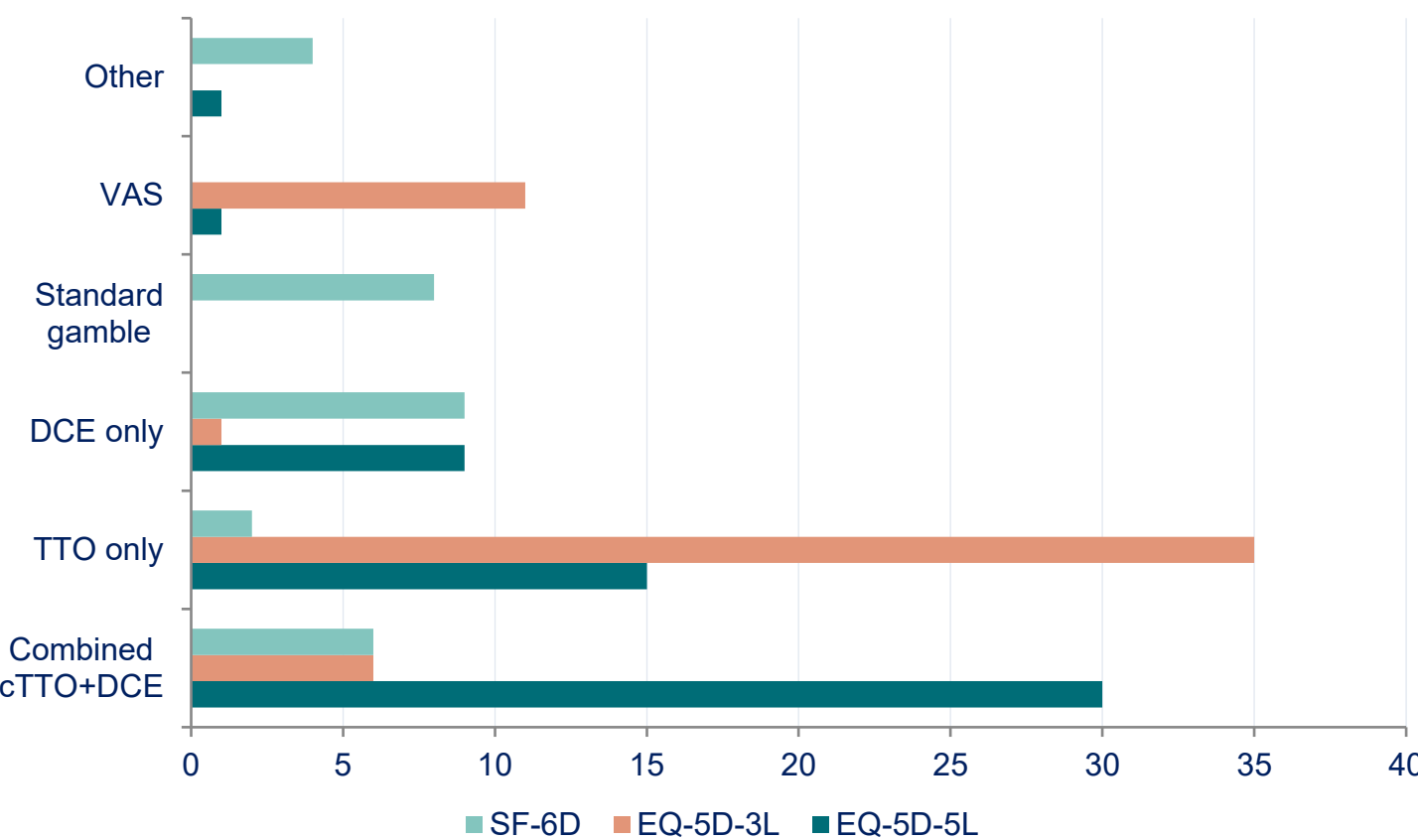


Table 2. Representativeness Variables Reported, n (%)

	EQ-5D-5L (n=56)	EQ-5D-3L (n=53)	SF-6D (n=29)	AQoL/HUI/QWB (n=7)
Age	44 (78.6)	25 (47.2)	17 (58.6)	0 (0)
Sex/gender	45 (80.4)	27 (50.9)	16 (55.2)	0 (0)
Region	28 (50.0)	10 (18.9)	6 (20.7)	0 (0)
Education	15 (26.8)	0 (0)	10 (34.5)	0 (0)
Ethnicity/race	8 (14.3)	5 (9.4)	1 (3.4)	0 (0)
Urban/rural	9 (16.1)	4 (7.5)	1 (3.4)	0 (0)
Median variables	3	2	2	0

Table 1. Characteristics of Value Sets for Six PWMs

Characteristic	EQ-5D-5L n=56, n (%)	EQ-5D-3L n=53, n (%)	SF-6D n=29, n (%)	AQoL n=3, n (%)	HUI n=2, n (%)	QWB n=2, n (%)
Year published						
1995 or before	-	-	-	-	-	2 (100)
1996–2005	-	9 (17.0)	3 (10.3)	1 (33.3)	2 (100)	-
2006–2015	-	26 (49.1)	9 (31.0)	2 (66.7)	-	-
2016–2025	56 (100)	18 (34.0)	17 (58.6)	-	-	-
Countries covered	44	38	14	1	1	1
World Bank Region						
Europe & Central Asia	24 (42.9)	20 (37.7)	9 (31.0)	-	-	-
East Asia & Pacific	15 (26.8)	14 (26.4)	11 (37.9)	3 (100)	-	-
Latin America & Carib.	4 (7.1)	7 (13.2)	1 (3.4)	-	-	-
Middle East & N. Africa	5 (8.9)	4 (7.5)	2 (6.9)	-	-	-
North America	4 (7.1)	4 (7.5)	6 (20.7)	-	2 (100)	2 (100)
South Asia	1 (1.8)	2 (3.8)	-	-	-	-
Sub-Saharan Africa	3 (5.4)	1 (1.9)	-	-	-	-
Mixed	-	1 (1.9)	-	-	-	-
Economic Status						
High	39 (69.6)	33 (62.3)	21 (72.4)	3 (100)	2 (100)	2 (100)
Upper-Middle	9 (16.1)	15 (28.3)	7 (24.1)	-	-	-
Low/Lower-Middle	8 (14.3)	5 (9.4)	1 (3.5)	-	-	-
Sampling method						
Probabilistic	17 (30.4)	29 (54.7)	10 (34.5)	1 (33.3)	2 (100)	1 (50.0)
Non-probabilistic	32 (57.1)	20 (37.7)	15 (51.7)	-	-	-
Mixed	1 (1.8)	1 (1.9)	1 (3.4)	2 (66.7)	-	-
Not reported	6 (10.7)	3 (5.7)	3 (10.3)	-	-	1 (50.0)
Sample size (completed)						
Mean (SD)	2322 (4832)	4187 (13649)	1614 (1680)	551 (164)	354 (211)	866 (1)
Range	122–25867	153–90450	126–6661	364–670	205–504	866–867
“Standardised” valuation protocol use						
Yes	50 (89.3)	40 (75.5)	13 (44.8)	-	-	-
No	6 (10.7)	13 (24.5)	16 (55.2)	3 (100)	2 (100)	2 (100)

DISCUSSION & CONCLUSIONS

- PWMs vary in value set availability, geographic coverage, recency, and methodological standardisation, and should be considered alongside psychometric assessment properties.
- EQ-5D-3L and EQ-5D-5L value sets dominate the evidence base (75.2%, 109/145), covering 55 countries with standardised protocols and locally derived preferences, unlike other instruments.
- AQoL, HUI, and QWB are restricted to single countries, with value sets predating 2015, raising concerns about their relevance to current societal preferences.
- Methodological heterogeneity was observed across valuation studies in sampling, administration, and modelling, though the use of the EQ-VT protocol has reduced this for EQ-5D-5L.

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