How far have we come with EQ-5D-5L value sets? An updated systematic literature review of 55 valuation studies

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INTRODUCTION & OBJECTIVE

- EQ-5D is the most widely recommended instrument in guidance from health technology assessment bodies.[1]
- Additionally, preference-based instruments like the EQ-5D help capture the impact of conditions and treatments on individuals.
- Since the reviews by Rowen et al. (2022) [2] and Poudel et al. (2022) [3], the number of published EQ-5D-5L value sets has grown substantially.
- This systematic literature review aimed to update and extend the evidence base by identifying EQ-5D-5L value sets derived from both general population and patient samples and by comparing methodological characteristics, valuation techniques, and reporting practices across studies.

METHOD

- A systematic literature review was conducted in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines.
- The protocol specific to this study has been registered in the International Prospective Register of Systematic Reviews (PROSPERO; CRD420251130239).
- Inclusion criteria:
  - Studies that derived EQ-5D-5L value sets.
  - Preferences elicited from either the general population or specific patient groups.
  - Reported sufficient methodological details to allow assessment of valuation techniques, modelling approaches, and utility estimates.
- Searches were performed in MEDLINE (via PubMed), Cumulative Index to Nursing and Allied Health Literature (CINAHL via EBSCO), Web of Science (Clarivate), PsycINFO (Ovid), and Scopus (Elsevier), supplemented by grey literature and reference list searches.
- Search period: Inception published up to 28 June 2025.
- Data on valuation methods, modelling strategies, and participant characteristics were extracted.
- Reporting quality was assessed using the CREATE checklist, with ≥80% indicating good quality.
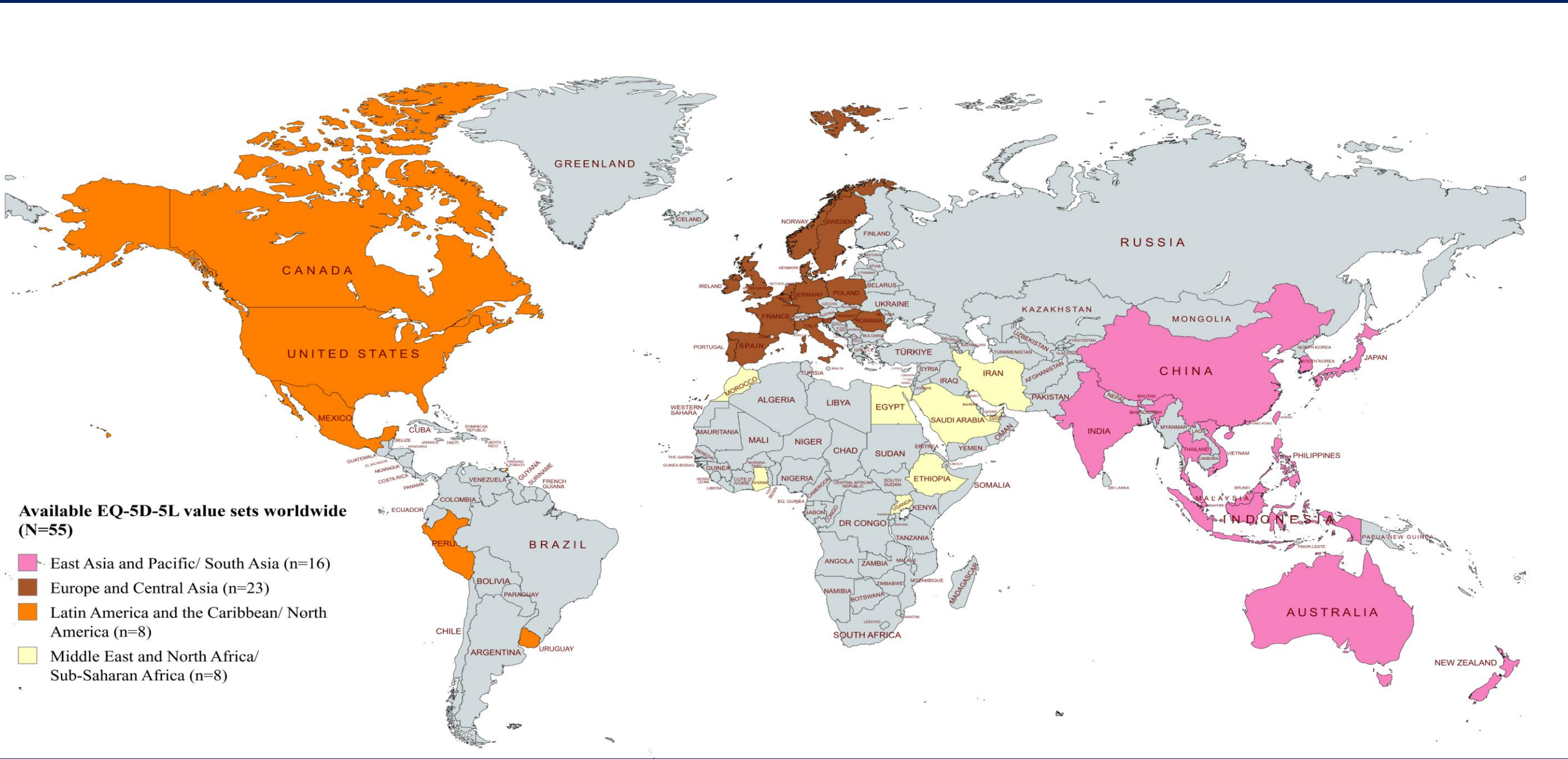
RESULTS

- Of the 7,558 records screened, 51 studies were identified that were used to derive 55 value sets, 46 studies had been undertaken with the general population, five with patients with specific conditions.
- Value sets were derived across all World Bank regions: Europe/Central Asia (n = 23), East Asia/Pacific/South Asia (n = 16), Latin America/Caribbean (n = 8), and Middle East/North Africa/Sub-Saharan Africa (n = 8).
- Hybrid valuation (TTO + DCE) was most common (51%), with 87.3% of these using the EQ-VT standardised valuation protocol.
- Tobit models were frequently used for TTO data; newer studies applied more sophisticated methods including cross-attribute level effects and Bayesian models.
- Logical consistency was the most frequently reported model performance criterion, assessed in 36 value sets.
- Reporting was highest for preference elicitation techniques (100%), then mode of data collection, respondent characteristics, and number of health states per respondent (98%), but could be improved in areas such as sample size/power calculations, response rates, and scoring algorithms.

Figure 1. PRISMA 2020 flow diagram
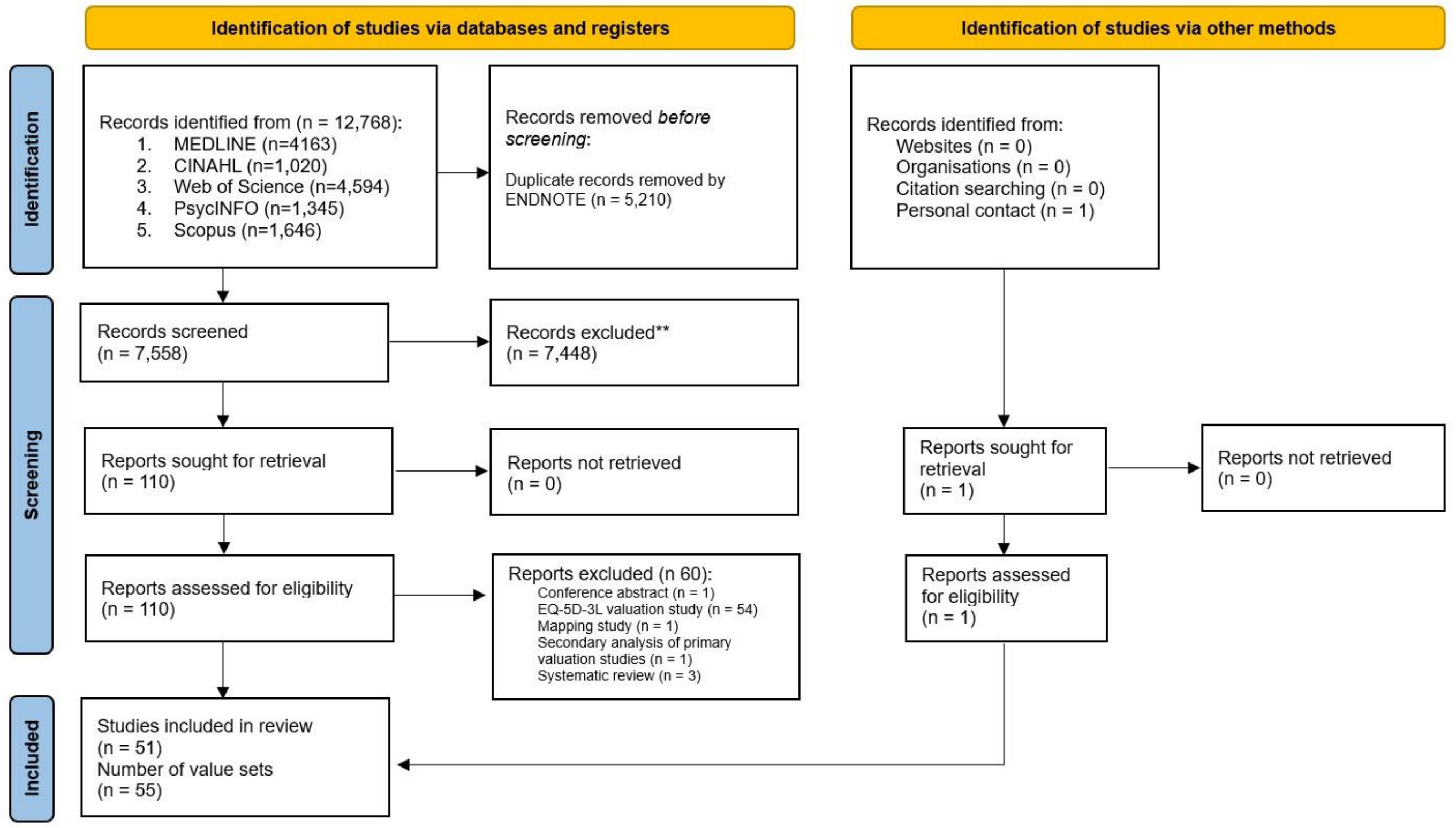
Note: PRISMA 2020 flow diagram illustrating the identification, screening, eligibility, and inclusion of studies in this review.

Figure 2. Global availability of EQ-5D-5L value sets (N = 55)

Table 1. Summary characteristics of the included EQ-5D value sets (N = 55 value sets from 51 articles)

Characteristic	n (%)
Year published	
2021-2025	28 (50.9)
2016-2020	27 (49.1)
Population type (Preference)	
General population (Societal)	47 (85.5)
Condition-specific populations (Non-societal)	8 (14.5)
Geographical region (defined by World Bank Group)	
East Asia and Pacific/ South Asia	16 (29.1)
Europe and Central Asia	23 (41.8)
Latin America and the Caribbean/ North America	8 (14.5)
Middle East and North Africa/ Sub-Saharan Africa	8 (14.5)
Mean age (SE)	46.5 (0.97)
Mean male proportion (SE)	47.7 (1.36)
Sampling method	
Probabilistic sampling	16 (29.1)
Non-probabilistic sampling	32 (58.2)
Not reported	6 (10.9)
Mixed	1 (1.8)
Mode of administration	
Interview-administered	46 (83.6)
• *Face-to-face*	39 (70.9)
• *Video conferencing*	3 (5.5)
• *Hybrid*	4 (7.3)
Self-administered	9 (16.4)
• *Online survey*	7 (12.7)
• *Postal survey*	2 (3.6)
Version of EQVT	
EQ-VT	48 (87.3)
• *Version 1.0*	5 (9.1)
• *Version 1.1*	4 (7.3)
• *Version 2.0*	12 (21.8)
• *Version 2.1*	20 (36.4)
• *EQ-PVT*	4 (7.3)
• *EQ-VT lite*	3 (5.5)
Non-EQ-VT	7 (12.7)
Health states	
Experiential	2 (3.6)
Hypothetical	52 (94.5)
Personal Utility	1 (1.8)
Valuation technique	
cTTO	15 (27.3)
DCE	8 (14.5)
cTTO and DCE	28 (50.9)
Other (cTTO-tTTO, VAS, Open TTO, Personal utility)	4 (7.3)

cTTO: composite time trade-off; DCE: discrete choice experiment; EQ-VT: EuroQol Valuation Technology; EQ-PVT: EuroQol Portable Valuation Technology; tTTO: traditional time trade-off; VAS: Visual analogue scale

DISCUSSION

- The global reach of EQ-5D-5L value sets continues to grow, extending into many lower- and middle-income countries and reflecting a worldwide commitment to valuing health.
- Continued value set development in regions where data remain limited will help ensure all health systems, especially those embracing value-based approaches, can leverage EQ-5D-5L for policy, clinical, and quality improvement purposes.
- Progressive enhancements to the EQ-VT protocol, including improved quality control tools, along with innovations such as the offline EQ-PVT and EQ-VT Lite, have streamlined and expanded data collection, including in resource-limited settings.
- Besides reporting the scoring algorithm, studies should publish complete utility values for all 3125 EQ-5D-5L health states and provide accompanying code (e.g. in Excel, R, Stata, or SPSS) to support accurate and consistent calculation of utilities.
- Although methodological trends were summarised, their influence on HTA outcomes was not examined. Future work should investigate how valuation methods shape HTA decisions and their real-world application.

CONCLUSIONS

The review offers a comprehensive synthesis of the current landscape of valuation studies for the EQ-5D-5L instrument, demonstrating broad geographical representation, methodological rigour, and recency of the valuation evidence base.

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