

Validation Evidence of Healthcare Utilisation Measures for Paediatric Populations: a Systematic Review

MSR173

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BACKGROUND

- **Healthcare service utilisation** is a key health-related outcome to: (1) capture access to and use of care, (2) identify unmet needs, (3) assess health system performance and equity, and (4) optimise health care planning and resource allocation.
- **Administrative data** are accurate and commonly used, yet it is limited by restricted access, tedious procedures, and system fragmentation. It doesn't capture school-based care, family care and productivity loss.
- **Healthcare utilization questionnaires (HUQs)** are emerging, with strengths of easy administration, timely collection, and inclusion of paediatric services.
- **Validation evidence** of HUQs in paediatric populations remains relatively scarce. It's unclear about the accuracy of parent-reported data and factors associated with HUQ validity.

OBJECTIVES

- **Primary:** To synthesize validation evidence on healthcare utilisation questionnaires used in children and adolescents.
- **Secondary:** To evaluate their methodological quality and provide recommendations to inform future HUQ development and application in paediatric populations.

METHODS

- **Protocol:** PROSPERO 420261278692, following Consensus-based Standards for the selection of health Measurement Instruments (COSMIN).
- **Literature search:** Medline, Embase, PsycINFO, CINAHL, Health and Psychosocial Instruments. Additional from Database of Instruments for Resource Use Measurement.
- **Search terms:** "resource", "utilization", "questionnaire", "validation", "paediatric".
- **Inclusion:** studies reporting HUQ development, psychometric properties, and validation in non-adults age <18.
- **Validation evidence:** (1) face/ content validity, (2) internal reliability, (3) test-retest/ interrater reliability, (4) structural validity, (5) construct validity, (6) structural/ factorial validity, (7) criterion validity, and (8) factors associated with psychometric properties.
- **Quality assessment:** COSMIN risk of bias checklist with 10 boxes. Each criterion in checklist was rated by a 4-point scale.
- **Data synthesis:** narrative summary.

RESULTS

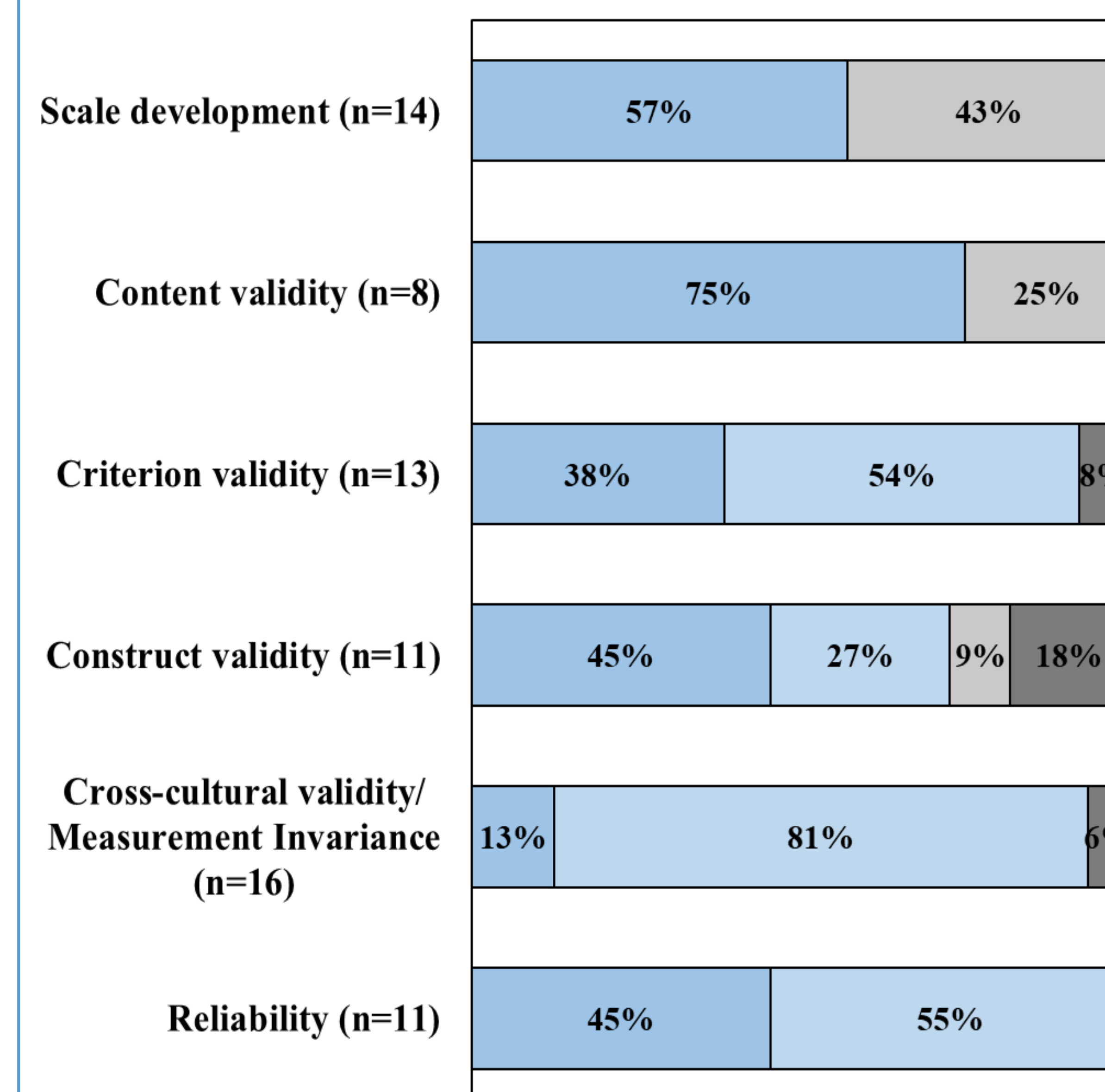
- **Study inclusion:** 33 of 1207 studies were included.
- **Study characteristics:** conducted across 15 countries, mainly in US (52%), Canada (24%) and European countries (15%).

RESULTS

- **HUQ characteristics (n=25)**
 - (1) Language: English (100%), French, German, Spanish, others (n<=3)
 - (2) Disease: mental and behavioural (20%), neurodevelopmental (ASD, ADHD) (16%), respiratory (12%), infectious (12%)
 - (3) Remote/Self-administer: >50%
 - (4) Parent/Patient-report: 92%/ 36%
 - (5) Medical care: 100%, specialist, GP, inpatient, emergency, medication, nursing, complementary medicine
 - (6) Social care: 48%, day/ community care, assisted living, support group, school-based/ family service
 - (7) Productivity loss: parent 24%, children 16%, family care 12%

HUQ validity by attributes

■ Sufficient (+) ■ Inconsistent (±) ■ Indeterminate (?) ■ Insufficient (-)



RESULTS

- **Quality of evidence:** (1) Scale development: 36% rated adequate, (2) Content: 50%, (3) Criterion: 54%, (4) Construct: 50%, (5) Cross-cultural: 0%, (6) Reliability: 82%
- **Practical selection** (rated as level A)
 - (1) Service Assessment for Children and Adolescents
 - (2) Use of Traditional Complementary/ Alternative Medicine
 - (3) Child/ Youth Health Care Questionnaire on Satisfaction, Utilization, and Needs (Full or Short form)

CONCLUSIONS

- **Limited and heterogenous** evidence for HUQs in paediatric populations.
- Only **5** of 25 HUQs met the minimum criteria for recommendation. **Selection** should match age, disease, service coverage, and measurement quality.
- Future studies should prioritise robust scale development, coverage of child-specific services, and cross-cultural validation in diverse populations and settings

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