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The Australian Paediatric Multi-Instrument Comparison (P-MIC) Study: Data Quality, Feasibility, Acceptability, and Construct Validity of the EQ-5D-Y-3L, EQ-5D-Y5L, CHU9D, PedsQL, HUI, PROMIS-25 and AQoL-6D

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OBJECTIVES

To explore quality, feasibility, acceptability and validity of generic measures of child HRQoL using a unique dataset generated by the P-MIC study

METHODS

POPULATION

Australian children and adolescents aged 2–18 years.

Tertiary paediatric hospital, Melbourne, Australia

Online panel general population sample

Online panel condition group sample (x9 condition groups)

DATA COLLECTION

Initial survey
Demographics, non HRQoL & HRQoL instruments.

4-weeks or small subset 2-days

Follow-up survey
Change in health qxs and HRQoL instruments.

Children ≥7 years asked to self-report HRQoL

INSTRUMENTS

Core HRQoL
Received by all (EQ-5D-Y-3L, EQ-5D-Y-5L, CHU9D, PedsQL)

Additional HRQoL
Only online panel randomised to receive one (AQoL-6D, HUI 2/3, PROMIS-25)

Condition specific
Only online panel condition groups receive corresponding instrument

RESULTS: FEASIBILITY

Children 5-18 years

Completed initial survey	**5,945**
-hospital sample	759
-online sample general population	1,531
-online sample condition groups	3,655
Completed follow-up survey	**2,346** (39.5%)
-hospital sample	610 (80.4%)
-online sample	1,736 (33.5%)

42.7% of children have a chronic health condition
36.4% caregiver with Bachelor degree
28.7% single parents

QUALITY

Small numbers of very inconsistent responses for similar items for pain, daily routine: ranging 0.6% to 3.1%

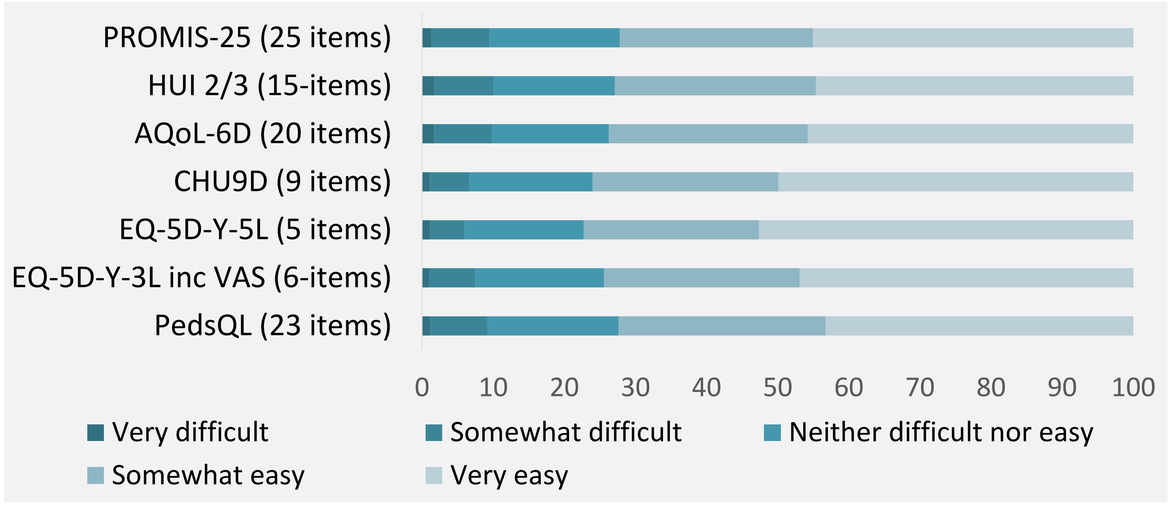
QUOKKA P-MIC website

P-MIC protocol paper

P-MIC Technical methods

ACCEPTABILITY

Participant self reported difficulty completing each instrument



Average time range: 147secs AQoL-6D to 43secs EQ-5D-Y (3L)

VALIDITY

% children with a chronic condition reporting lowest severity/frequency all items

PedsQL (23 items)	0.4
EQ-5D-Y-3L (5 items)	17.8
EQ-5D-Y-5L (5 items)	14.8
CHU9D (9 items)	4.0
AQoL-6D (20 items)	1.1
HUI3 (8 domains)	7.6

Red cells indicates ceiling effect (≥15%)

Known groups

Total or sum score	Mean - no condition	Mean - chronic condition	Effect Size (Cohen's D)
PedsQL total score	75.3	58.7	1
EQ-5D-Y-3L sum score	6	7.4	-0.9
EQ-5D-Y-5L sum score	6.4	8.9	-0.9
CHU9D sum score	13.9	18.8	-0.8
AQoL-6D sum score	32.7	42.9	-1
HUI 3 sum score	10.4	13.5	-0.9

Green cells indicates large effect size (≥0.8)

CONCLUSIONS:

- This study is the largest of its kind internationally
- Recruitment via hospital yielded high quality data and good follow up
- Recruitment via online panels also yielded high quality data but required greater commitment to checking eligibility and had lower follow up
- All instruments acceptable and feasible
- Strong known group validity for all instruments

NEXT STEPS:

- Expand to International P-MIC
- Further psychometric analysis including by conditions, age and proxy
- Analyse children under 5 years
- Assess differences and aspects of HRQoL covered and utility values

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