

Eric Finkelstein¹, See Mieng Tan¹, Clara Mukuria², Nan Luo³, Yin Bun Cheung⁴, Felicia Ang¹, Mihir Gandhi^{1,4} ✉

¹ Lien Centre for Palliative Care, Duke-NUS Medical School, Singapore · ² CM HE Consulting, Sheffield, United Kingdom · ³ Saw Swee Hock School of Public Health, National University of Singapore, Singapore · ⁴ Centre for Biomedical Data Science, Duke-NUS Medical School, Singapore

EQ-HWB-9 INSTRUMENT · 9 DIMENSIONS ACROSS HEALTH & WELLBEING

UK ENGLISH EMV2.1 · 5-LEVEL · 7-DAY RECALL

Q1 Mobility	Q2 Daily activities	Q3 Exhaustion	Q4 Loneliness	Q5 Cognition	Q6 Anxiety	Q7 Sadness / depression	Q8 Control	Q9 Physical pain
----------------	------------------------	------------------	------------------	-----------------	---------------	----------------------------	---------------	---------------------

01 BACKGROUND

The EQ Health and Wellbeing (EQ-HWB) is a generic measure designed to bridge health and social care outcomes, with a 9-item short form (EQ-HWB-9) proposed for HTA and economic evaluation. Yet its content validity in patients with advanced, life-limiting illness remains largely unverified — a critical evidence gap for palliative care populations.

02 OBJECTIVE

To evaluate the **content validity** of the Experimental EQ-HWB-9 UK (English) EMV2.1 among patients with advanced illnesses in Singapore — through three lenses:

RELEVANCE Items resonate with patients' lived experience of advanced illness.	COMPREHENSIVENESS Key health & wellbeing aspects fully captured.	COMPREHENSIBILITY Items understood as intended by respondents.
---	--	--

03 METHODS

A five-stage protocol

Semi-structured cognitive debriefing with concurrent verbal probing and iterative qualitative content analysis.

Recruit Adults with advanced illness; English-literate.	Interview Semi-structured cognitive debriefing.	Probe Think-aloud + concurrent verbal probing.	Code Iterative qualitative content analysis.	Synthesise Themes on relevance, comprehension, gaps.
---	---	--	--	--

04 PARTICIPANTS

n=13 Patients with advanced illnesses

SEX 9F · 4M Female — Male	AGE 41–79 years, broad span	ETHNICITY 11 / 1 / 1 Chinese / Malay / Indian
--	--	--

PRIMARY DIAGNOSIS · N = 13

3 CANCER	3 LUNG	3 HEART	3 RENAL	1 AUTO-IMMUNE
-------------	-----------	------------	------------	------------------

06 IMPLICATIONS & RECOMMENDATIONS

Six refinements for advanced illness populations

Targeted modifications to enhance content validity of EQ-HWB-9 in advanced illness, drawn directly from participant feedback.

01 Refine item specificity Anchor mobility items in concrete contexts — e.g., "at home", "outside the house."	02 Address semantic overlap Separate or harmonise "sad"/"depressed"; reconsider use of "anxious."	03 Surface clarifying examples Visually elevate italicised examples for control and cognition.	04 Reorder thematically Group ability/control items (Q1, Q2, Q8, Q9); cluster emotion items.	05 Broaden emotional wellbeing Add positively-framed items — e.g., happiness — for advanced illness populations.	06 Validate in larger samples Replicate in non-English speakers and across stages of advanced illness.
---	---	--	--	--	--

07 CONCLUSION

EQ-HWB-9 demonstrated **good relevance and acceptability** among patients with advanced illnesses in Singapore. Refining item specificity, addressing semantic overlap, reordering thematically, and broadening emotional-wellbeing coverage could meaningfully enhance content validity in palliative care populations.

FUNDING & ACKNOWLEDGEMENTS

EuroQol Research Foundation. No conflicts of interest. With thanks to patients & partners — Singapore General Hospital (SGH), National Cancer Centre Singapore (NCCS), National Heart Centre Singapore (NHCS), National University Hospital (NUH), Assisi Hospice, HCA Hospice.

CORRESPONDENCE

Mihir Gandhi (mihir.gandhi@duke-nus.edu.sg)

05 KEY FINDINGS

What patients told us

Themes from cognitive debriefing on relevance, comprehensibility, recall, response options, comprehensiveness and item ordering.

13^{/13} UNIVERSALLY RELEVANT
All participants found items relevant to their health.

13^{/13} LENGTH ACCEPTED
All comfortable with the 9-item short-form format.

COMPREHENSIBILITY

5 / 13 substantiated answers with personal examples

- Instructions universally clear to all participants.
- Personal examples help substantiate answers.
- P13 needed prompting on Q1 placement & meaning of *anxious*.

"Very clear and easy to understand."
P05 · CANCER · 58M

Universally clear; examples aid comprehension

RESPONSE OPTIONS

10 / 13 comfortable · n=3 suggested simplifying

- Most comfortable with the 5-level scale.
- Some suggested reducing to 3 by combining adjacent levels.
- Distinguishing "a little of the time" and "sometimes" can be hard.

"Slight and moderate can be one."
P07 · RENAL · 67F

Mostly comfortable; simplification suggested

RECALL · 7 DAYS

11 / 13 comfortable · n=2 suggested varying recall

- 7-day recall appropriate for most participants.
- Some experiences not easily day-quantifiable.
- Alternatives proposed: 3 days, 1 month, hours.

"If you say three days, even better."
P02 · CANCER · 57F

Generally appropriate; alternatives suggested

COMPREHENSIVENESS

4 / 13 wanted broader emotional / lifestyle coverage

- Add positive emotional wellbeing items (e.g., happiness).
- Italicised examples for *thinking clearly*, *control* often overlooked.
- Lifestyle and sociodemographic items suggested.

"If you say wellbeing — do you feel happy?"
P02 · CANCER · 57F

Emotional and lifestyle gaps noted

TERMINOLOGY

9 / 13 flagged terminology issues

- "Inside / outside" abstract; needs location context.
- "Sad" vs "depressed": interchangeable for some, distinct for others.
- "Anxious" misunderstood by some; simpler word preferred.

"Inside outside is very abstract."
P03 · CANCER · 41M

Wording flagged; semantic ambiguity

ITEM ORDER

3 / 13 suggested re-ordering for clearer thematic flow

- Most found existing order acceptable.
- Recommend grouping thematically related items (Q1, 2, 8, 9).
- Repeated "In the last 7 days" felt redundant (P03).

"Q1, 2 and 8 may be lumped into one."
P05 · CANCER · 58M

Mostly acceptable; some grouping suggested