

ISPOR Real-World Evidence Summit 2025
Tuesday, 30 September | 9:30 - 10:30
Tokyo Prince Hotel, Room: Ho-O-no-Ma 1

Issue Panel

Culture-Specific Health-Related Quality of Life Measurement: Is It Necessary for Asia?

Health-related quality of life measurement in Health Technology Assessment

- Health-related quality of life (HRQoL)
 - *A multidomain concept that represents the patient's general perception of the effect of illness and treatment on physical, psychological, and social aspects of life (FDA, 2009)*
- HRQoL measurement for health technology assessment
 - Direct measurement using elicitation techniques
 - Indirect measurement using standardized instruments
- Preference-based HRQoL instruments
 - A health descriptive system (the 'questionnaire')
 - A value set (the "scoring method")

Generic vs. culture-specific instruments

Example generic instruments

- EQ-5D-5L
- SF-6D
- HUI
- PROPr

Culture-specific instruments

- HINT-8
- CHROME
- AP-7D

Agenda

- ***A Paradigm Shift from Western to Asian Perspectives: The Development of the China Health Related Outcomes Measures – Generic Version (CHROME-G)***
- ***Culture-Specific Health-Related Quality of Life Measurement: Is It Necessary for Asia? - Asia PBM seven dimensions (AP-7D)***
- ***Global Comparability Meets Local Relevance: The Case for EQ-5D in Asia***
- Geneal discussion



Dr Shitong Xie
Tianjin University, China



Dr Yasuhiro Morii
National Institute of Public Health, Japan



Dr Zhihao Yang
Guizhou Medical University, China

A Paradigm Shift from Western to Asian Perspectives: The Development of the China Health Related Outcomes Measures – Generic Version (CHROME-G)

Shitong Xie, PhD

School of Pharmaceutical Science and Technology, Tianjin University, Tianjin, China



Published articles



Chinese Journal of Health Policy, August 2020, Vol. 13, No. 8

· 经验借鉴 ·

国内外普适性健康效用量表综述研究

谢树刚^{1,2*} 陈杰楠^{1,2} 贺小宁^{1,2} 吴 磊^{1,2} 谢 伟³ 赵 珊⁴
1. 天津大学药物科学与技术学院 天津 300072
2. 天津大学社会科学调查与数据中心 天津 300072
3. 加拿大麦克马斯特大学健康研究方法、证据与影响系 加拿大汉密尔顿 L8S4L8
4. 国家卫生健康委员会卫生发展研究中心 北京 100044

【摘 要】目的：对国内外现有普适性健康效用量表进行综述，着重描述量表健康状态描述系统的维度水平设置与构建过程。方法：在 PubMed、Embase、中国知网和万方数据库中，对国内外公开发表的普适性健康效用量表相关研究进行文献检索与信息提取，识别出现有的全部普适性健康效用量表。进一步检索纳入量表的原始研究文献，从中提取与分析量表的基本信息，量表健康状态描述系统的维度水平设置与构建过程，并从生理、心理和社会三个方面对量表包含的各维度进行归纳与分析。结果：通过检索，筛选最终得到 36 篇中英文文献，并从中识别出 18 个普适性健康效用量表，进而追溯检索得到关于这些量表的原始研究文献共计 30 篇。18 个量表的维度数量在 3～15 个之间，维度下设水平数量在 2～7 个之间，可描述的健康状态数量则介于 64～2.37×10⁶ 个之间。全部 18 个量表均包含生理方面的维度；分别有 16 个、10 个量表包含有心理和社会方面的维度。而生理、心理和社会三方面的维度又分别包括 10 个、4 个和 5 个具体类别。这些量表主要通过基于现有资料直接确定量表包含维度、通过构建条目池，并结合心理测量学方法确定量表包含维度这两种途径，构建量表的健康状态描述系统。结论：近年来新研究的量表在生理维度的基础上更加强调对心理与社会维度的测量，且健康状态描述系统的构建过程更加规范与标准。

【关键词】普适性；健康效用量表；描述系统
中图分类号：R197 文献标识码：A doi:10.3969/j.issn.1674-2982.2020.08.009

Review of generic preference-based measures for health-related quality of life around the globe
XIE Shi-gang^{1,2}, CHEN Pei-nan^{1,2}, HE Xiao-ning^{1,2}, WU Jing^{1,2}, XIE Feng³, ZHAO Kun⁴
1. School of Pharmaceutical Science and Technology, Tianjin University, Tianjin 300072, China
2. Center for Social Science Survey and Data, Tianjin University, Tianjin 300072, China
3. Department of Health Research Methods, Evidence and Impact, McMaster University, Hamilton L8S4L8, Canada
4. National Health Development Research Center, National Health Commission of China, Beijing 100044, China

【Abstract】Objective: To conduct an ample review of the existing generic preference-based measures for health-related quality of life around the globe. Methods: Databases including PubMed, Embase, CNKI and WanFang Data, literature retrieval and information extraction were carried out on relevant studies of the universal health utility scale published until April 2020 worldwide, and all the existing generic health utility measures were identified. The original development articles included in the measures were further searched to extract the basic information of the measures, the conduction process, and the structure of the health state descriptive system. All of the dimensions included in the measures were summarized and analyzed from three aspects of physical (physiological), mental (psychological), and societal, respectively. Results: Through searching and screening, a total of 36 articles (both in Chinese and English literatures) were obtained, among which 18 generic preference-based measures were identified and 30 original search and development articles of these 18 measures were extracted. The number of dimensions of these 18 measures varied between the range of 3～15, the num-

* 基金项目：国家自然科学基金(71673197,71804122)
作者简介：谢树刚(1993—)，男，博士，主要研究方向为卫生经济学。E-mail: xieet@tju.edu.cn
通讯作者：吴磊。E-mail: jingwei@tju.edu.cn

Pharmacoeconomics
https://doi.org/10.1007/s40273-022-01151-9
ORIGINAL RESEARCH ARTICLE

China Health Related Outcomes Measures (CHROME): Development of a New Generic Preference-Based Measure for the Chinese Population

Jing Wu^{1,2}, Xiaoning He^{1,2}, Pinan Chen^{1,2}, Shitong Xie^{1,4}, Xue Li^{1,4}, Hao Hu¹, Kun Zhao⁶, Feng Xie^{1,7,8} for the CHROME Study Group

Accepted: 25 April 2022
© The Author(s), under exclusive licence to Springer Nature Switzerland AG 2022

Abstract
Background and Objectives Existing generic preference-based measures were all developed in Western countries. Evidence shows that the Chinese population may have different perceptions about health and health-related quality of life. This study aimed at developing a descriptive system of a new generic preference-based measure under the initiative of China Health Related Outcomes Measures (CHROME).
Methods Qualitative data were collected through semi-structured interviews conducted in-person or online. Respondents were recruited from both the general public and populations with chronic diseases. Open-ended questions about the respondent's perception of general health and important aspects of health-related quality of life were asked. Probing questions based on a systematic review of existing generic preference-based measures were also used. The framework analysis was used to synthesize the qualitative data. Candidate items for the descriptive system were selected following the ISPOR and COSMIN guidelines. Expert panel review and cognitive debriefings were conducted for further revisions.
Results Qualitative interviews were conducted among 68 respondents, with 48.5% male and a mean age of 47.8 years (range: 18–81 years). In total, 1558 codes were identified and then aggregated to 31 sub-themes and corresponding six themes to inform the development of the initial version of the descriptive system. Feedback from the expert panel survey and meeting ($n = 15$) and the cognitive debriefing interviews ($n = 30$) was incorporated into the revised version of the measure. Finally, the generic version of CHROME (CHROME-G) included 12 items across six domains, namely, pain, fatigue, appetite, mobility, vision, hearing, sleeping, daily activities, depression, worry, memory, and social interactions. The descriptive system used a mix of four-level and five-level response options and a 7-day recall period.
Conclusions The CHROME-G is the first generic preference-based measure to be developed based on the inputs from the Chinese populations.

1 Introduction

Economic evaluations of healthcare technologies generate key cost-effectiveness evidence to inform coverage decision making [1, 2]. A cost-utility analysis with the outcome measure of quality-adjusted life-years is recommended in many countries, including China [1, 2]. China's latest version of economic evaluation guidelines published in 2020

recommends the use of generic preference-based measures (PBMs) in measuring health utilities for quality-adjusted life-years [3]. Instead of recommending a specific instrument, the guidelines prefer the use of the instruments with a value set developed from a representative sample of the Chinese general population [1, 4–6]. Currently, among the commonly used generic PBMs are the EQ-5D (including EQ-5D-3L and EQ-5D-5L) and SF-6D (the latest version SF-6Dv2), which have Chinese versions and corresponding value sets available [4–7].

All existing generic PBMs were developed in Western countries [8, 9]. Evidence shows that the Chinese population might have different perceptions about health and health-related quality of life (HRQL) compared with people in Western countries [10–12]. Socio-cultural adaptation may

Xue et al. BMC Public Health (2024) 24:3485
https://doi.org/10.1186/s12889-024-20999-4

BMC Public Health

RESEARCH

Open Access

The generic version of China Health Related Outcomes Measures (CHROME-G): psychometric testing and comparative performance with the EQ-5D-5L and SF-6Dv2 among the Chinese general population

Shitong Xie^{1,2}, Jing Wu^{1,2*}, Pinan Chen^{1,2}, Xiaoning He^{1,2}, Kun Zhao⁶, Feng Xie^{1,5} and for the CHROME Study Group

Abstract

Objectives The CHROME-G is the first generic preference-based measure developed in China. This study aimed to validate and compare the psychometric properties of the CHROME-G with the EQ-5D-5L and SF-6Dv2 among the Chinese general population.

Methods A representative sample of the Chinese general population in terms of age, gender, education, and urban/rural residence was recruited for an online survey. During the survey, respondents completed three instruments (first the CHROME-G, then the EQ-5D-5L and SF-6Dv2 in random order), demographic, and health-related questions. The re-test survey was carried out after two weeks. Ceiling/floor effects were first assessed. Convergent and divergent validity was examined using Spearman's rank correlation. Known-group validity was examined using the non-parametric Kruskal-Wallis H test and effect size. Test-retest reliability was assessed using the intraclass correlation coefficient and weighted Kappa statistics.

Results One thousand respondents (51.1% male, mean age 44.7 years) completed the first survey, with 378 also completing the retest survey. The mean a SD completion time was 2.03 ± 0.38 min for the CHROME-G, and 1.37 ± 0.54 and 1.13 ± 0.38 min for the EQ-5D-5L and SF-6Dv2. Only the EQ-5D-5L had a ceiling effect of 35.1%. The range of Spearman rank correlations was 0.45–0.62 for convergent validity and 0.14–0.46 for divergent validity. Among different health subgroups, the effect size for the CHROME-G, EQ-5D-5L and SF-6Dv2 was 1.344–3.416, 1.363–3.325 and 1.097–2.228, respectively. The ICC for test-retest was 0.791 for the CHROME-G compared with 0.994 and 0.971 for the EQ-5D-5L and SF-6Dv2.

Conclusions The CHROME-G showed good and comparable psychometric properties with the EQ-5D-5L and SF-6Dv2.

Keywords CHROME-G, Psychometric property, EQ-5D-5L, SF-6Dv2, Health-related quality of life

* Correspondence: jingwu@tju.edu.cn
jingwu@tju.edu.cn
Full list of authors information is available at the end of the article



© The Author(s) 2024. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

Received: 23 July 2024 | Accepted: 5 September 2024
DOI: 10.1111/jebm.12642

ARTICLE

WILEY

Validation of the Generic Version of China Health Related Outcomes Measures (CHROME-G) among individuals with type 2 diabetes in China

Meixuan Li^{1,2,3} | Shitong Xie^{4,5} | Minyan Yang^{1,2,3} | Yanan Wu^{1,3} | Zijun Li^{1,3} | Rui Li⁶ | Xiuxia Li^{1,2,3} | Xue Li⁶ | Yijun Liu⁷ | Jing Wu^{4,5} | Kun Zhao^{6,8} | Feng Xie⁹ | Kehu Yang^{1,2,3}

¹Evidence-Based Medicine Center, School of Basic Medical Sciences, Lanzhou University, Lanzhou, Gansu, China
²Evidence-Based Science Research Center, Health Technology Assessment Center, School of Public Health, Lanzhou University, Lanzhou, Gansu, China
³Genetic Key Laboratory of Evidence-Based Medicine, Lanzhou University, Lanzhou, Gansu, China
⁴School of Pharmaceutical Science and Technology, Tianjin University, Tianjin, China
⁵Center for Social Science Survey and Data, Tianjin University, Tianjin, China
⁶Department of Health Technology Assessment, China National Health Development Research Center, Beijing, China
⁷Department of Integrated Traditional Chinese and Western Medicine, Wuxue People's Hospital, Wuxue, Gansu, China
⁸Wuxue School of Public Health, Tsinghua University, Beijing, China
⁹Faculty of Health Sciences, Department of Health Research Methods, Evidence and Impact, McMaster University, Hamilton, Ontario, Canada

Correspondence

Kehu Yang, Evidence-Based Medicine Center, School of Basic Medical Sciences, Lanzhou University, Lanzhou, Gansu, China.
Email: yangkeh@lzu.edu.cn

Heng-Xie, Faculty of Health Sciences, Department of Health Research Methods, Evidence and Impact, McMaster University, Hamilton, Ontario, Canada.
Email: xie@mcgill.ca

Funding information

Key Talent Project of Gansu Province, Grant/Award Number: 22772020; National Natural Science Foundation of China, Grant/Award Number: 72174142; National Science Foundation of Tianjin, China, Grant/Award Number: 21JJCQN00060; 23JCQN001450

Abstract

Objective: The Generic Version of China Health Related Outcomes Measures (CHROME-G) was a new preference-based health-related quality of life (HRQL) instrument designed specifically for the Chinese population. This study aimed to validate and compare measurement properties of CHROME-G with EuroQol-5 Dimensions-5 Levels (EQ-5D-5L), Short-Form-6 Dimensions version 2 (SF-6Dv2), and Diabetes-Specific Quality of Life (DSQL) scales among the elderly Chinese population with type 2 diabetes.

Methods: A representative sample population was recruited across the country. Internal consistency was assessed using Cronbach's alpha. Hypotheses testing including convergent validity and known-groups validity were evaluated using Spearman's rank correlation and effect sizes, respectively. Sensitivity was examined using relative efficiency and receiver operating characteristic curve.

Results: A total of 131 individuals with type 2 diabetes (54.20% male; mean age 69.03 years) were enrolled. Cronbach's alpha was 0.94 for DSQL, 0.93 for CHROME-G, 0.87 for EQ-5D-5L, and 0.88 for SF-6Dv2. For the convergent validity of CHROME-G, 24/29 (82.76%) correlations met the predefined hypotheses, with Spearman's rank correlation coefficients ranging from 0.51 to 0.96. Among the different health subgroups, the

Meixuan Li and Shitong Xie contributed equally to this work.

© 2024 Chinese Clinical Research Center, West China Hospital of Sichuan University and John Wiley & Sons Australia Ltd

J Evid Based Med. 2024;1–13.

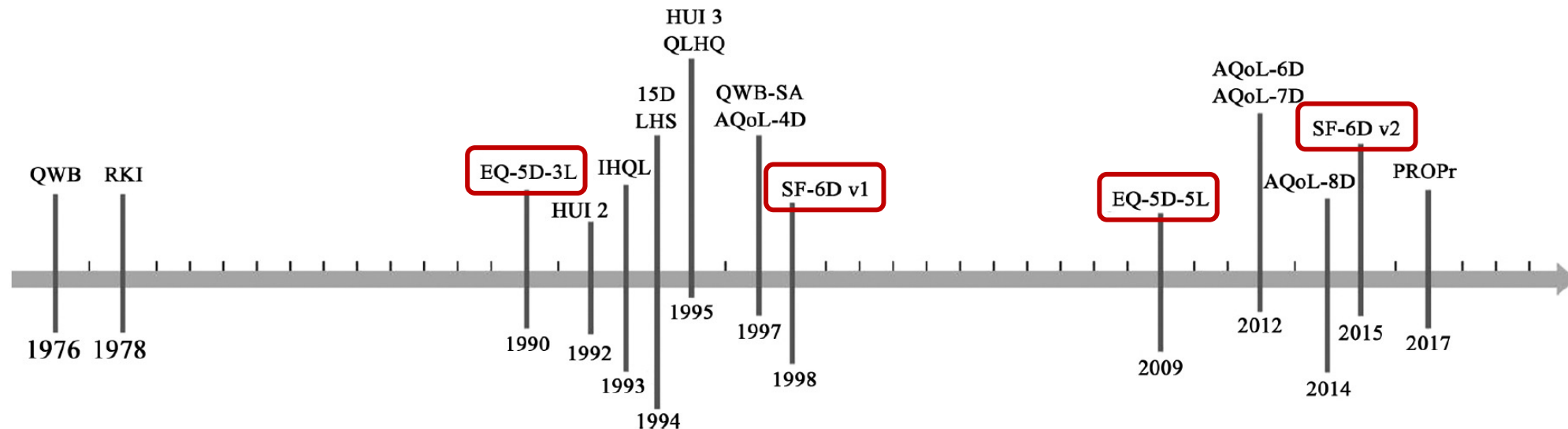
wileyonlinelibrary.com/journal/jebm

[1] Xie S, Chen P, He X, et al. Review of generic preference-based scales for health-related quality of life at the universal scale. [J] *Chinese Journal of Health Policy*, 2020, 13(8): 58-68.
[2] Wu J, He X, Chen P, et al. China Health Related Outcomes Measures (CHROME): Development of a New Generic Preference-Based Measure for the Chinese Population. [J] *Pharmacoeconomics*. 2022;40(10):957-969. doi:10.1007/s40273-022-01151-9
[3] Xie S, Wu J, Chen P, et al. The generic version of China Health Related Outcomes Measures (CHROME-G): psychometric testing and comparative performance with the EQ-5D-5L and SF-6Dv2 among the Chinese general population. [J] *BMC Public Health*. 2024;24(1):3485. Published 2024 Dec 18. doi:10.1186/s12889-024-20999-4
[4] Li M, Xie S, Yang M, et al. Validation of the Generic Version of China Health Related Outcomes Measures (CHROME-G) among individuals with type 2 diabetes in China. [J] *J Evid Based Med*. 2024;17(3):615-625. doi:10.1111/jebm.12642

Systematic reviews of the GPBMs



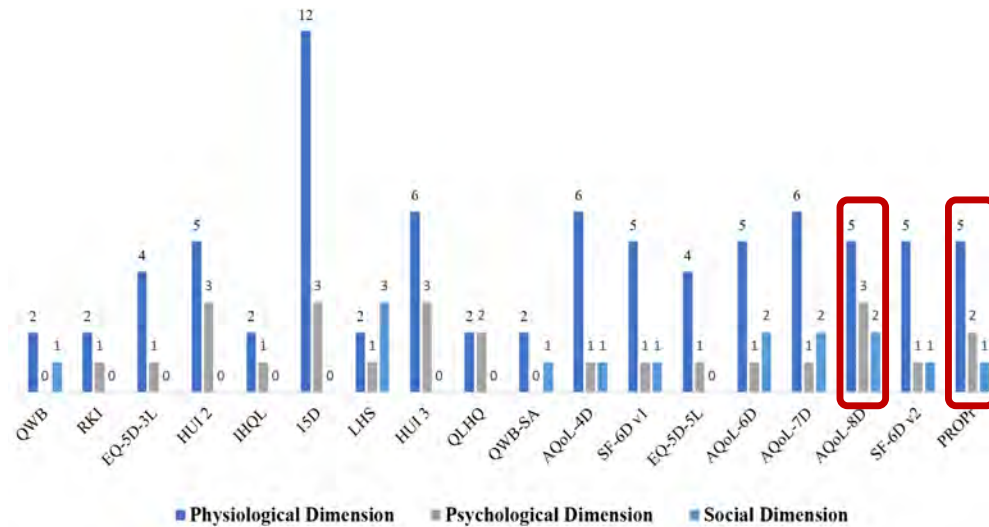
- A systematic literature review was conducted by searching PubMed, Embase, China National Knowledge Infrastructure, and China WanFang Data up to April 2020 to identify all the existing generic preference-based measures (GPBMs).
- ✓ 18 GPBMs from 1976 to 2017, **all developed in western countries**
- ✓ EQ-5D and SF-6D have Chinese versions and corresponding value sets available



QWB: Quality of Well-being Scale; RKI: Rosser Kind Index; EQ-5D-3L: EuroQol 5 dimensions (3 levels); HUI2: Health Utility Index 2; IHQL: Index of Health Related Quality of life; 15D: 15 Dimensions; LHS: London Handicap Scale; HUI3: Health Utility Index 3; QLHQ: The Quality of Life and Health Questionnaire; QWB-SA: Quality of Well-being Self-administered; AQoL-4D: Assessment of Quality of Life 4 dimensions; SF-6D v1: Short Form 6 dimensions (version 1); EQ-5D-5L: EuroQol 5 dimensions (5 levels); AQOL-6D: Assessment of Quality of Life 6 dimensions; AQOL-7D: Assessment of Quality of Life 7 dimensions; AQOL-8D: Assessment of Quality of Life 8 dimensions; SF-6D v2: Short Form 6 dimensions (version 2); PROPr: Patient-Reported Outcomes Measurement Information System-Preference Scoring System.

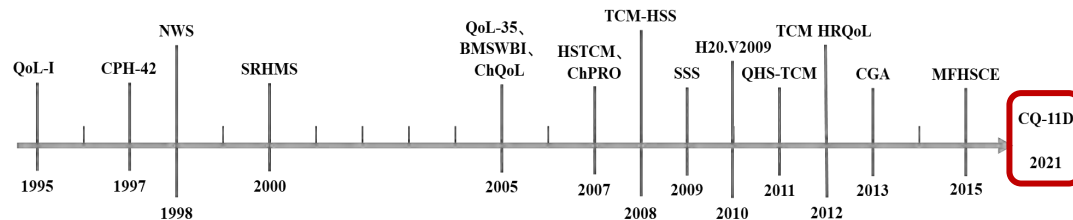
Systematic reviews of the GPBMs

- The number of dimensions covered by these GPBMs ranges from 3 to 15.
 - ✓ Physical dimensions are most common; recently developed measures (such as AQL-8D and PROPr) placed more emphasis on mental and social health
 - ✓ Most covered dimensions: physical function, pain and discomfort, emotional issues



Chinese specific views on HRQoL

- A systematic literature review was conducted by searching PubMed, Embase, China National Knowledge Infrastructure, and China WanFang Data up to April 2021 to identify all the quality of life (QoL) measures.
- ✓ 16 QoL measures from 1995 to 2015, 4 of them mentioned measuring health-related quality of life (HRQoL)
- ✓ 6 measures developed based on the theory of traditional Chinese medicine (TCM)



QoL-I: Quality-of-life Inventory; CPH-42: Current Perceived Health-42 Questionnaire; NWS: New Well-being Scale; SRHMS: Self-rated Health Measurement Scale; QoL-35: 35-item Quality of Life Questionnaire; BMSWBI: Body-Mind-Spirit Well-Being Inventory; ChQoL: Chinese Quality of Life Instrument; HSTCM: Health Scale of Traditional Chinese Medicine; ChPRO: Chinese Patient-reported Outcomes; TCM-HSS: Health Status Scale of Traditional Chinese Medicine; SSS: Sub-health Self-rating Scale; QHS-TCM: Questionnaire of Health Status of Traditional Chinese Medicine; CGA: Comprehensive Geriatric Assessment Scale for Chinese Elderly; MFHSCE: Multidimensional Health Assessment Scale for Chinese Elderly; CQ-11D: Chinese medicine quality of life-11 dimensions.



Chinese specific views on HRQoL

- Evidence showed that the Chinese population might have different perceptions about health and HRQoL compared with people in Western countries.



complexion



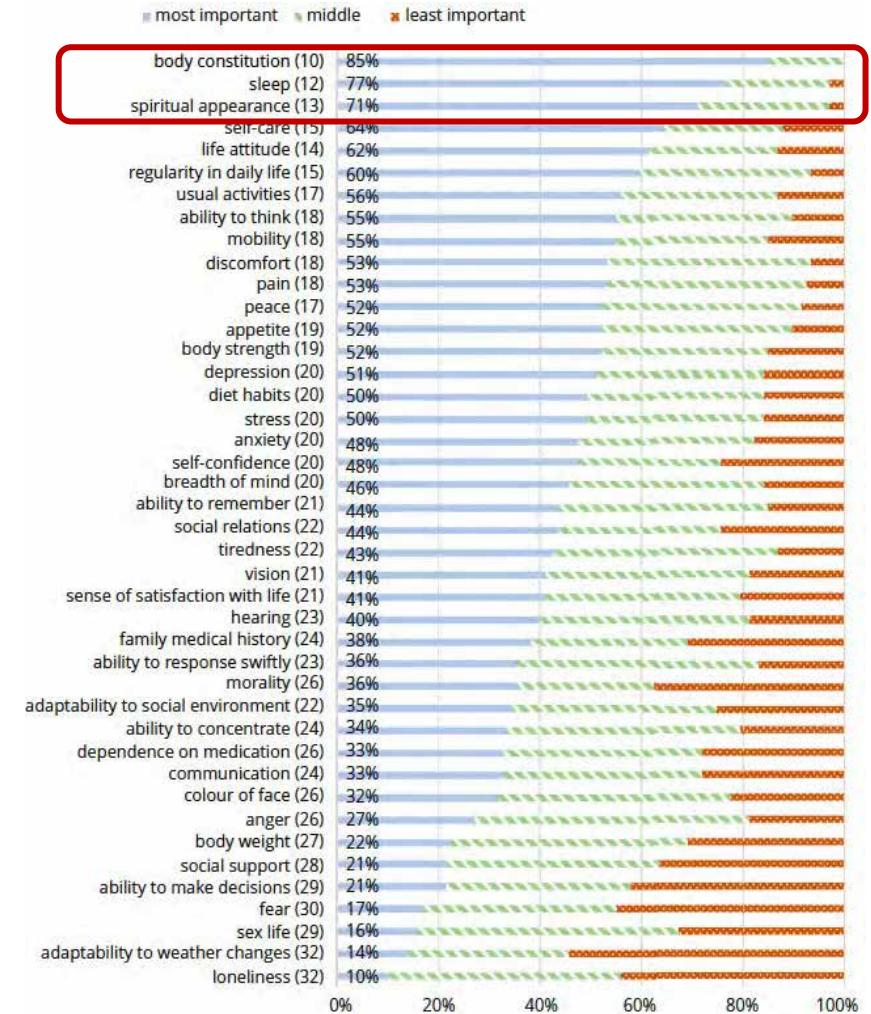
constitution



spirit of eye



susceptibility



The frequency distribution* of each health item in the three importance categories and the mean rank[†] of each health item (as shown in brackets)

* The three importance categories information was only captured in 107 participants' interviews.

[†]The mean rank (adding all participants' ranks for a health item then dividing the total number by 110) is shown in brackets besides each health item.

[1] Mao, Z., Ahmed, S., Graham, C. et al., Similarities and Differences in Health-Related Quality-of-Life Concepts Between the East and the West: A Qualitative Analysis of the Content of Health-Related Quality-of-Life Measures. [J] Value in health regional issues, 2021,24:96–106.

[2] Mao, Z., Ahmed, S., Graham, C. et al., Exploring subjective constructions of health in China: a Q-methodological investigation. [J] Health and quality of life outcomes, 2020,18(1):165.

[3] Mao, Z., Ahmed, S., Graham, C. et al., The Unfolding Method to Explore Health-Related Quality of Life Constructs in a Chinese General Population. [J] Value in health : the journal of the International Society for Pharmacoeconomics and Outcomes Research, 2021,24(6):846–854.

Objective of our study



- **The China Health Related Outcomes Measures – generic version (CHROME-G) was an initiative aimed at developing a GPBMs specifically for Chinese populations.**
 - ✓ For more comprehensive and accurate measurement of the HRQoL or health utility of the general Chinese population



Sample for the qualitative interviews



- **Basic inclusion criteria**

- ✓ age ≥ 18 ; Chinese nationality; had lived in China for the past 5 years; were able to read and communicate in Chinese; without cognitive impairment

- **Total 68 respondents**

- ✓ **40 general population**

- Stratified by gender, age, education, urban/rural residence

- ✓ **28 patients population**

- Select 15 types of health conditions with the heaviest disease burden in China according to the Global Burden of Diseases, Injuries, and Risk Factors Study 2017
- Stratified by gender

- **Content saturation was reached after 63 interviews**

* 15 types of selected conditions were neck pain, depressive disorders, anxiety disorders, blindness and visual impairment, stroke, headache disorders, oral conditions, chronic obstructive pulmonary disease, diabetes mellitus, chronic kidney disease, dermatitis, maternal disorders, upper digestive system diseases, breast cancer, and colorectal cancer.

Demographic characteristics of the study sample

Characteristics	Qualitative interviews (<i>N</i> = 68)	
	Respondents from the general population (<i>N</i> = 40)	Respondents with chronic diseases ^a (<i>N</i> = 28)
<i>Sex</i>		
Female	20 (50.0%)	15 (53.6%)
Age, mean $\pm$ SD	46.0 $\pm$ 15.7	50.5 $\pm$ 18.8
<i>Age group, years</i>		
18–29	8 (20.0%)	4 (14.3%)
30–39	8 (20.0%)	8 (28.6%)
40–49	8 (20.0%)	1 (3.5%)
50–59	7 (17.5%)	4 (14.3%)
≥ 60	9 (22.5%)	11 (39.3%)
<i>Education</i>		
Primary or lower	10 (25.0%)	2 (7.1%)
Junior high school	16 (40.0%)	3 (10.7%)
Senior high school	7 (17.5%)	8 (28.6%)
College or higher	7 (17.5%)	15 (53.6%)
<i>Residence</i>		
Urban	24 (60.0%)	24 (85.7%)
Rural	16 (40.0%)	4 (14.3%)



Number of respondents representing the 31 provinces of mainland China

Data collection for the qualitative interviews



- **Semi-structured, face-to-face or online qualitative interviews**

- ✓ Two interviewers completed all the interviews between May and November 2020
- ✓ 10 (14.7%) interviews were face to face and the rest online

- **Interview guide**

- ✓ Informed consent form
- ✓ Demographic information
- ✓ **Open-ended questions**

- *To identify factors that respondent proposed on his/her own initiative*

“Why do you think your health status is not in a good condition?”

“How does XXX (factors that the respondent mentioned) affect your health-related quality of life?”

- *To identify factors that respondents proposed after probing*

“What about social relationships?”

“How does appetite affect your health-related quality of life?”

- ✓ Summary question



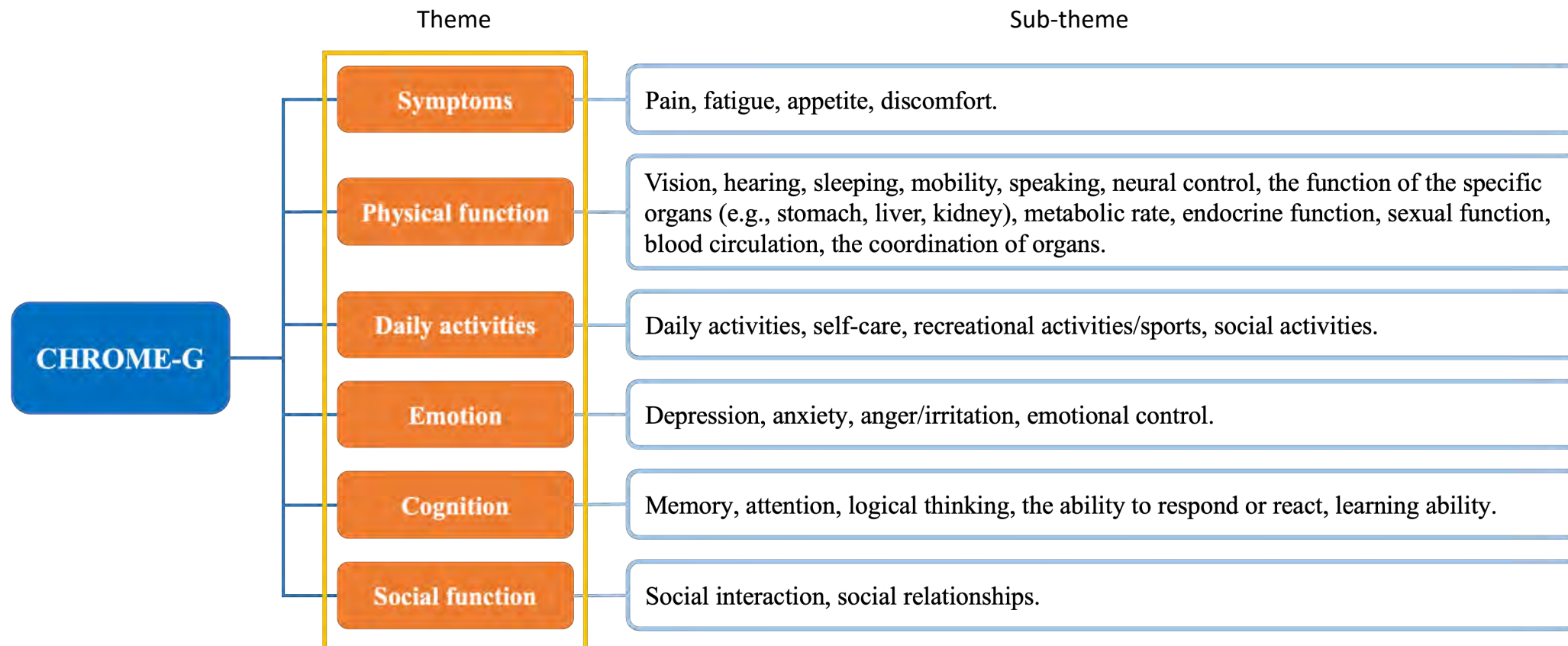
Dimension	Item
Physical aspect	
Physical movement	Mobility (going outside and walking); climbing stairs; body inclining; bending over; squatting; kneeling; jumping; dexterity; vigorous activities (such as running, lifting heavy objects, laboring in the field); moderate activities (such as moving table, pushing vacuum cleaner, playing golf, riding bike)
Daily activity	Going to work; going to school; housekeeping; self-care (such as eating, bathing, dressing, grooming); doing things with friends and family; usual activities; ability of life; medical need
Pain/ Discomfort	Pain; discomfort; symptom
Physical function	Sense (vision, hearing, speaking, voice); fertility; breathing; sleeping; urination and defecation; sexual function; diet (appetite, taste); digestion; body constitution (hot palms and feet, afraid of cold, easy to catch a cold); sweating; the function of five internal organs (heart, liver, spleen, lungs, kidneys)
Vitality	Energy; tired/ feeble; physical power; spirit
External image	Complexion (face and lips); spirit of eyes
Lifestyle	Diet habit; drinking and smoking
Mental aspect	
Negative emotion	Sad/ depressed/ downhearted/ unhappy; worried/anxiety/ nervous; fear; annoyed; disappointed; despair; fretful; angry/irritable; shock; complaining; hesitant; confused; lonely; helpless; listless; loss of confidence; feeling worthless; sense of burden; sense of defect; sense of insecurity; willing to give up
Positive emotion	Happy/joyful; passionate; grateful; confident; self-esteeming; satisfied; well-being/happiness; calm; carefree; joy of life; full of expectation; sense of security
Cognition	Learning; memory; thinking; solving problems; concentration; judgment; clear-headed
Life attitude	Optimistic; peace
Emotion control	Emotion control; emotion venting
Social aspect	
Social activities	Visiting family or friends; shopping; doing hobby activities, recreational activities, and religious activities; social and collective activities
Social relationship	Close relationships (with family and friends); interpersonal relationships (with colleagues, superior and subordinate); social integration/social isolation; social roles (roles in community and roles in sporting, church or cultural activities; taking social responsibility)

Probing: items extracted from the existing generic PBMs

Data analysis for the qualitative interviews



- The process of the framework analysis identified **1558 unique codes** across **129 code categories**, which were subsequently grouped into **31 sub-themes** and **6 theme**.



* Codes related to two non-health-related themes were excluded, namely, well-being (e.g., freedom, satisfaction, disappointment) and background (e.g., life rules/habits, social and financial status, ecological environment).

CHROME-G's domain identification and item generation



Step 1 Domain identification

- According to 7 principles, **13 sub-themes** were selected to form the domains
 - ✓ Capturing the constructs measured by the instrument under development
 - ✓ Relevant to all members of the target population
 - ✓ Worded in a clear manner and consistent with the expressions used by the target population
 - ✓ Measuring a single construct, rather than a multi-dimensional concept
 - ✓ Not likely to be prone to the ceiling or floor effects within the target population
 - ✓ Appropriate for the recall period
 - ✓ Appropriate for self-reporting

Step 2 Item generation

- Once written by the project team, items were modified through the expert advisory panel and the cognitive debriefing.
 - ✓ Expert advisory panel: **15 experts** in the field of instrument development, pharmacoeconomics, clinical, and healthcare policy decision-making
 - ✓ Cognitive debriefing: **30 Chinese general population respondents**; conducted in Tianjin, Nanjing, Xi'an, Chengdu and Fuzhou

CHROME-G's descriptive system



请依据您过去7天的健康状况，在每个问题下最符合的一个选项前打“√”。

1. 过去7天，您身体有疼痛吗？

☐ 没有疼痛

☐ 有点疼痛

☐ 比较疼痛

☐ 非常疼痛

2. 过去7天，您感到疲劳乏力吗？

☐ 没有疲劳乏力

☐ 有点疲劳乏力

☐ 比较疲劳乏力

☐ 非常疲劳乏力

3. 过去7天，您的胃口（食欲）怎么样？

☐ 正常

☐ 有点差

☐ 比较差

☐ 非常差

☐ 完全没有胃口

4. 过去7天，您晚上睡得怎么样？

☐ 正常

☐ 有点差

☐ 比较差

☐ 非常差

☐ 整夜无法入睡

5. 过去7天，您的视力怎么样？

☐ 正常

☐ 有点差

☐ 比较差

☐ 非常差

6. 过去7天，您的听力怎么样？

☐ 正常

☐ 有点差

☐ 比较差

☐ 非常差

7. 过去7天，您的记忆力怎么样？

☐ 正常

☐ 有点差

☐ 比较差

☐ 非常差

8. 过去7天，您走路有困难吗？

☐ 没有困难

☐ 有点困难

☐ 比较困难

☐ 非常困难

☐ 无法走路

9. 过去7天，您日常活动（例如拎东西、做家务）有困难吗？

☐ 没有困难

☐ 有点困难

☐ 比较困难

☐ 非常困难

☐ 无法进行日常活动

10. 过去7天，您感到心情低落吗？

☐ 没有低落

☐ 有点低落

☐ 比较低落

☐ 非常低落

11. 过去7天，您感到担心吗？

☐ 没有担心

☐ 有点担心

☐ 比较担心

☐ 非常担心

12. 过去7天，您的健康状况影响了您和他人的正常交往吗？

☐ 没有影响

☐ 有点影响

☐ 比较影响

☐ 非常影响

CHROME-G

Pain

Fatigue

Appetite

Sleeping

Vision

Hearing

Memory

Mobility

Daily activities

Depression

Worry

Social interactions

EQ-5D-5L

Pain/discomfort

Mobility

Usual activities

Anxiety/
depression

Self-care

SF-6Dv2

Pain

Vitality

Role limitation

Mental health

Social functioning

Physical functioning

Psychometric testing and comparative performance



- **Sample**
 - ✓ **1000 respondents** for the first survey, **328 respondents** for the retest survey (two weeks after the first survey)
 - ✓ Stratified by age, gender, education, urban/rural residence, and region of residence
- **Data collection (2021.12-2022.01)**
 - ✓ Self-completed online survey via mobile phone or computer
 - ✓ **First survey:** informed consent, quota screening, CHROME-G (including feedback), EQ-5D-5L and SF-6Dv2 (random order), basic information
 - ✓ **Retest survey:** quota screening, CHROME-G, EQ-5D-5L and SF-6Dv2 (same order as the first survey)
 - ✓ Quality control: time & IP address

Characteristics	First survey (N=1000) N (%)	Retest survey (N=378) N (%)	Chinese general population (%)
Gender			
Male	511 (51.1%)	206 (54.5%)	51.1%
Female	489 (48.9%)	172 (45.5%)	48.9%
Age, mean $\pm$ SD	44.69 $\pm$ 14.79	47.77 $\pm$ 13.34	N/A
Age group, years			
18-29	189 (18.9%)	45 (11.9%)	18.9%
30-39	195 (19.5%)	49 (13.0%)	19.6%
40-49	199 (19.9%)	95 (25.1%)	19.8%
50-59	191 (19.1%)	96 (25.4%)	19.1%
≥ 60	226 (22.6%)	93 (24.6%)	22.6%
Education			
Primary or lower	269 (26.9%)	109 (28.8%)	26.9%
Junior high school	390 (39.0%)	165 (43.7%)	39.1%
Senior high school	175 (17.5%)	60 (15.9%)	17.2%
College or higher	166 (16.6%)	44 (11.6%)	16.8%
Residence			
Urban	606 (60.6%)	217 (57.4%)	60.6%
Rural	394 (39.4%)	161 (42.6%)	39.4%
Region			
Northeast	80 (8.0%)	36 (9.5%)	7.7%
East	300 (30.0%)	110 (29.1%)	29.5%
North	120 (12.0%)	42 (11.1%)	12.5%
Central	160 (16.0%)	56 (14.8%)	16.0%
South	120 (12.0%)	44 (11.7%)	12.4%
Southwest	150 (15.0%)	56 (14.8%)	14.5%
Northwest	70 (7.0%)	34 (9.0%)	7.4%

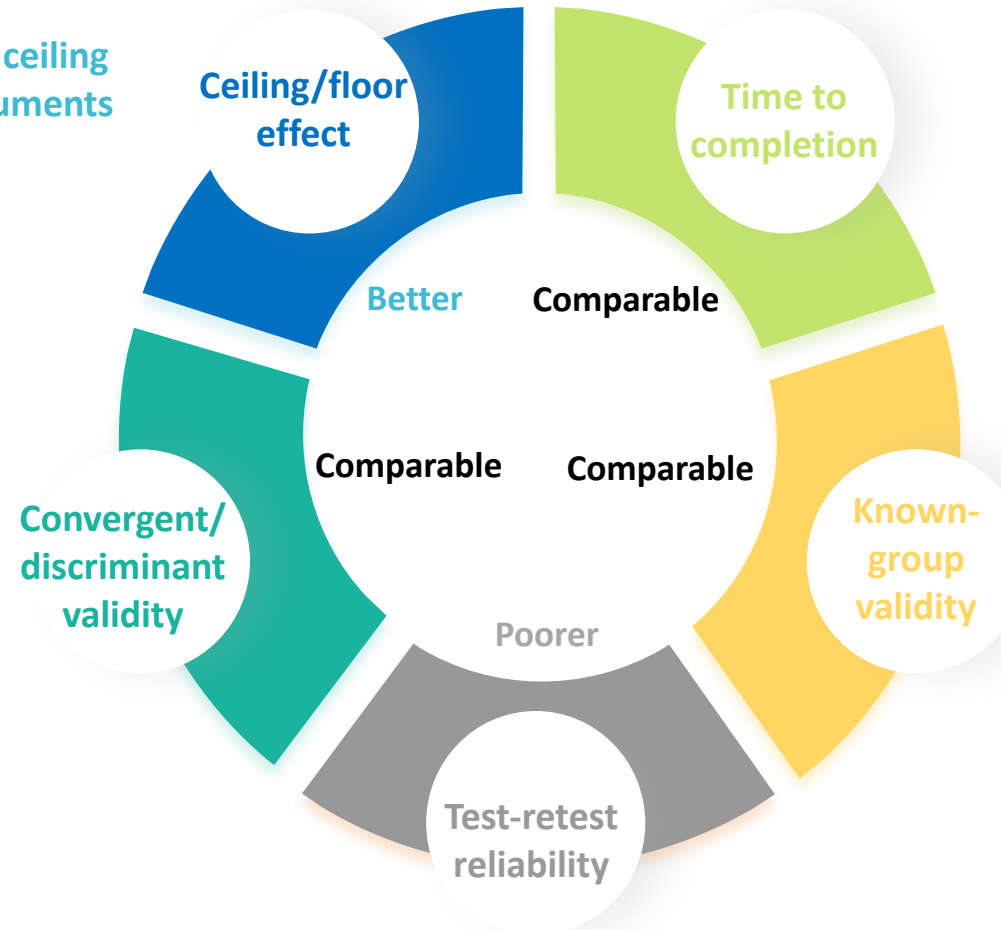
Psychometric testing and comparative performance



- Data analysis (CHROME-G vs. EQ-5D-5L vs. SF-6Dv2)

Only the EQ-5D-5L had a ceiling effect of 35.1%. No instruments had floor effect.

The range of Spearman rank's correlations was 0.45-0.62 for convergent validity and 0.14-0.46 for divergent validity.



CHROME-G: 2.03 ± 0.58 minutes

EQ-5D-5L: 1.37 ± 0.54 minutes

SF-6Dv2: 1.13 ± 0.38 minutes

The level sum scores of the three instruments were all significantly different ($p < 0.001$) across different health groups classified by self-reported health status, EQ-VAS scores, and number of self-reported chronic diseases.

The ICC for test-retest was 0.791 for the CHROME-G, compared with 0.994 and 0.971 for the EQ-5D-5L and SF-6Dv2.

Measurement properties in T2DM population



- Data analysis (CHROME-G vs. EQ-5D-5L vs. SF-6Dv2 vs. DSQL)

Characteristics	Sample size (n)	Proportion (%)
Gender		
Male	71	54.20
Female	60	45.80
Residency		
Urban	67	51.15
Rural	64	48.85
Education		
Primary or below	19	14.50
Junior high school	32	24.43
Senior high school	60	45.80
College or above	20	15.27
Marital status		
Unmarried	0	0
Married	124	94.66
Divorced	4	3.05
Widowed	3	2.29
Employment status		
Employed	6	4.58
Retired	117	89.31
Unemployed	8	6.11
Personal monthly income		
< 2000 RMB	21	16.03
2000-5000 RMB	84	64.12
5000-10000 RMB	22	16.79
> 10000 RMB	4	3.05
Medical insurance		
Urban employee	34	25.95
Urban and rural resident	97	74.05

Internal consistency

CHROME-G: 0.93 DSQL: 0.94
EQ-5D-5L: 0.87 SF-6Dv2: 0.88
DSQL $\approx$ CHROME-G $>$ SF-6Dv2 $\approx$ EQ-5D-5L

Convergent validity

24 out of 29 (82.76%) correlations for CHROME-G met predefined hypotheses ($r = 0.21\text{--}0.96$)
DSQL $>$ CHROME-G $\approx$ EQ-5D-5L $>$ SF-6Dv2

Known-Groups Validity

Differentiate health status and complication subgroups ($p < 0.05$), with effect sizes ranging from 0.19 to 1.26
DSQL $>$ CHROME-G $\approx$ EQ-5D-5L $\approx$ SF-6Dv2

Sensitivity

Relative Efficiency (vs EQ-5D-5L): CHROME-G = 3.18; DSQL = 4.38; SF-6Dv2 = 6.52
AUC: DSQL = 0.80/0.72; CHROME-G = 0.76/0.60; SF-6Dv2 = 0.69/0.62, EQ-5D-5L = 0.63/0.57
DSQL $>$ SF-6Dv2 $>$ CHROME-G $>$ EQ-5D-5L

Thank you!

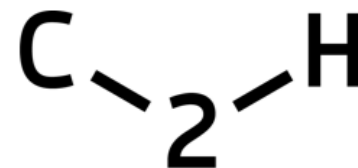
Shitong Xie, PhD, Email: xiest@tju.edu.cn



McMaster
University



Issue panel @ ISPOR RWE summit 2025 in Tokyo



Culture-Specific Health-Related Quality of Life Measurement: Is It Necessary for Asia?

- Asia PBM seven dimensions (AP-7D) -

Yasuhiro Morii

C2H, National Institute of Public Health, Japan

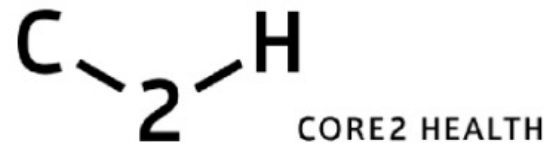
This presentation reflects the personal opinions of the presenter and does not represent the official position of C2H.

Background of developing AP-7D

- ✓ Most of the existing preference-based measures (PBMs) have been developed in Western countries
- ✓ Utilities measured using these PBMs may not reflect the true preference for people in other regions, such as Asian countries
- ✓ AP-7D (The Asian PBM seven dimensions), a region-specific PBM, is co-developed by HTAsiaLink, an international HTA network in Asia, and C2H, Japan, through interview surveys for Asian people.



×



Project phase

Instrument
development



Valuation
Survey



Validation

- ✓ Developed based on semi-structured interviews with 225 general people from 9 countries
- ✓ Translated into 9 languages

- ✓ Conducted using a common international protocol
- ✓ Japanese results submitted to a journal

- ✓ Considered using a preliminary value set
- ✓ Continuous effort will be required

Project phase

- ✓ The valuation surveys in Japan, Singapore, South Korea, Taiwan, and Thailand have been completed
- ✓ The instrument developments in Vietnamese and Khmer are ongoing

	2024	2025	2026~
Japan	○		
Singapore	○		
South Korea	○		
Taiwan	○		
Thailand	○		
Indonesia		○	
Mainland China		○	
Malaysia		○	
Philippines		○	
Vietnam			○
Cambodia			○

Developing a New Region-Specific Preference-Based Measure in East and Southeast Asia



Takeru Shiroiwa, PhD, Tatsunori Murata, PhD, Jeonghoon Ahn, PhD, Xue Li, PhD, Ryota Nakamura, PhD, Yot Teerawattananon, PhD, Zhao Kun, PhD, Asrul Akmal Shafie, PhD, Haidee Valverde, PhD, Hilton Lam, PhD, Kwong Ng, PhD, Mardiaty Nadjib, PhD, Raoh-Fang Pwu, PhD, Ryan Rachmad Nugraha, PhD, Yong-Chen Chen, PhD, Takashi Fukuda, PhD

ABSTRACT

Objectives: Almost all preference-based measures (PBMs) have been developed in Western countries, with none having been formulated in Asian countries. In this study, we construct a new generic PBM based on concept elicitation using interview surveys in East and Southeast Asian countries and qualitative analysis.

Methods: This cross-sectional study included 225 adults recruited from 9 East and Southeast Asian countries or regions (Indonesia, Japan, Korea, mainland China, Malaysia, the Philippines, Singapore, Taiwan, and Thailand). Trained interviewers conducted semistructured interviews with 25 participants from the general population of each country/region. Qualitative data were analyzed using a content analysis approach. The selection of items was determined based on interview surveys and team member discussions. The description of items was considered based on a detailed qualitative analysis of the interview survey.

Results: A new region-specific PBM—the Asia PBM 7 dimensions instrument—was designed. It reflects East and Southeast Asian values and comprises 7 items: pain, mental health, energy, mobility, work/school, interpersonal interactions, and burden to others.

Conclusions: The new region-specific instrument is one of the first PBMs developed in the context of non-Western countries. The Asia PBM 7 dimensions contains 7 items that address the core concepts of health-related quality of life that are deemed important based on East and Southeast Asian health concepts.

Keywords: East and Southeast Asia, preference-based measure, qualitative study, quality-adjusted life years.

Qualitative research (Interview survey)

- ✓ An interview survey are conducted to 225 general people in:
 - Indonesia, Japan, Korea, mainland China, Malaysia, the Philippines, Singapore, Taiwan, and Thailand (25 people from the respective country)
- ✓ The participants answered the following questions:
 - The interviewer read a list of conditions to the participants and asked them to indicate their experience with the conditions, and how that affected their daily life
 - How their current health status affected their lives
 - The areas of daily life that they would not want a decline in their health to impact

AP-7D instrument

Think about your health during the past week. Please select the box that best applies to you. Health includes both physical and mental health.

	Not at all	A little	Quite a bit	Very much
1. I was in pain or discomfort and it prevented me from doing what I wanted to do.	☐	☐	☐	☐
2. I was anxious or depressed.	☐	☐	☐	☐
3. I lacked the energy to do things.	☐	☐	☐	☐
4. I had difficulty walking (or moving with the support of a wheelchair).	☐	☐	☐	☐
5. My health affected my ability to work (outside or inside the home) or go to school	☐	☐	☐	☐
6. Because of my health, I had less interaction with family, close friends, and such.	☐	☐	☐	☐
7. Because of my health, I felt I was a burden to others.	☐	☐	☐	☐

7 domains with four levels

The 7 domains are:

- ✓ Pain/discomfort
- ✓ Mental health
- ✓ Energy
- ✓ Mobility
- ✓ Work/school
- ✓ Interpersonal interactions
- ✓ Burden to others



Comparison of four value sets derived using different TTO and DCE approaches: application to the new region-specific PBM, AP-7D

Takeru Shiroyiwa^{1*} , Tatsunori Murata², Yasuhiro Morii¹, Eri Hoshino³ and Takashi Fukuda¹

Abstract

Background AP-7D is a newly developed preference-based measure (PBM) in East and Southeast Asia. However, no value set has been established yet. Comparison of the characteristics of value sets obtained by different methods is necessary to consider the most appropriate methodology for valuation survey of AP-7D.

Method We surveyed the general population's preference of AP-7D health states by four valuation methods (a) composite time trade-off (cTTO); (b) simple discrete-choice experiment (DCE); (c) DCE with duration; and (d) ternary DCE. In Japan, we collected approximately 1,000 samples for cTTO tasks through a face-to-face survey and 2,500 samples for each of the three DCE tasks. Respondents were selected through quota sampling based on the sex and age. The cTTO data were analyzed using a linear mixed and tobit model; the DCE data were analyzed using a simple and panel conditional logit model. Where the results of the analysts showed inconsistencies, a constrained model was used.

Results Since all the unconstrained models, except simple DCE, showed one or more inconsistencies, the constrained model was used for the analyses. The minimum values for the models were as follows: TTO model, -0.101; simple DCE model, -0.106; DCE with duration model, -0.706; ternary DCE model, -0.306. The score for the DCE with the duration model was much lower than that for the other models. Although the value sets for AP-7D differed among the four valuation methods, the ternary DCE model showed intermediate characteristics between those of the cTTO and DCE with duration models. As compared with EQ-5D-5L, the distributions of all the scores on the Japanese AP-7D moved to the left. Although "Energy" was one of the domains with the least influence on the AP-7D score in all four models, "Burden to others" had the largest impact on the preferences.

Conclusion We constructed four value sets using different TTO and DCE methods. Our findings are expected not only to contribute to the development of AP-7D, but also other preference-based measures.

Keywords Preference-based measure, QALY, AP-7D, TTO, DCE

Results of preliminary value set

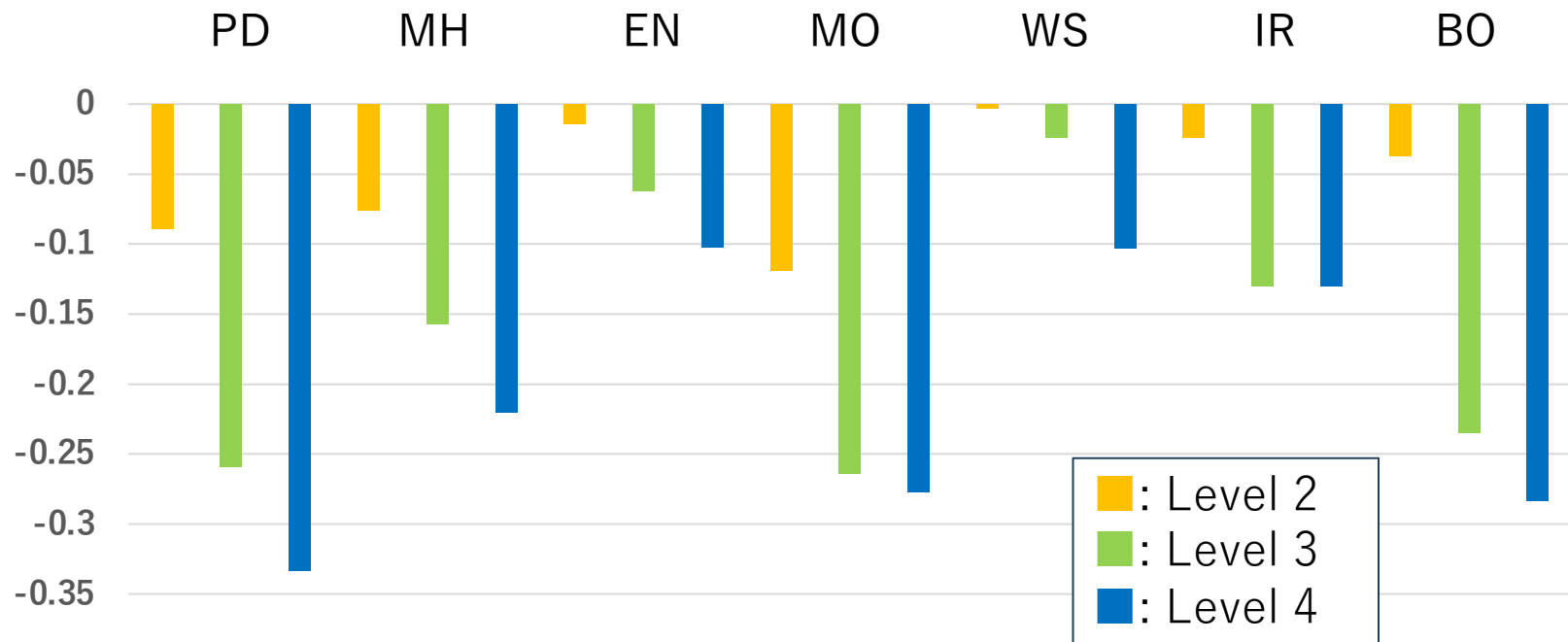
- ✓ A preliminary AP-7D valuation survey was conducted online with 2,500 general people for each method
- ✓ The methods were DCE, DCE with duration, ternary DCE, and cTTO
- ✓ Utility values from DCE and cTTO were well correlated
- ✓ The ternary DCE model showed intermediate characteristics among the 4 methods
- ✓ “Mobility”, “Pain/discomfort”, and “Burden to others” had the largest coefficients

Valuation survey (internationally common protocol)

Survey form	Web-based survey
Methods	• Discrete choice experiment (DCE) with duration • Ternary DCE
# of respondent	3000 (or 1500) for each method using a web panel - using quota sampling by sex and age
Inclusion criteria	• residents in the subject country or region, • using the local language • Aged 20-69 (-79 for Japan, Korea, and Taiwan)
Other information collected	• AP-7D and EQ-5D responses • Demographic information
Statistical analysis (conditional logit models)	• Mixed- and fixed-effect • Constrained and unconstrained models • Including N3 or N34 terms, or discount rate

Value set for Japan

- ✓ The result of the mixed-effect constrained model is adopted
- ✓ The coefficients for PD, MO, and BO are larger
- ✓ The worst score: -0.448, and the second best score: 0.997



Psychometric properties

- ✓ The preliminary value set and the data from the valuation survey were used
- ✓ Its test-retest reliability was good and comparable to EQ-5D-5L
- ✓ The AP-7D items were well correlated with the similar items of EQ-5D-5L, indicating relatively good convergent validity (e.g., MH and Anxiety/depression)

RESEARCH

Open Access



Convergent validity, reliability and responsiveness of the AP-7D and EQ-5D-5L based on the survey for the general people in five countries: a new cultural-specific preference-based measure developed in east and southeast asia

Yuta Suzuki^{1*}, Takeru Shiroywa¹, Tatsunori Murata², Emi Kamono³, Yasuhiro Morii¹ and Takashi Fukuda¹

My views on use of AP-7D

- ✓ Each measure can be used as long as its use is justified in context
- ✓ AP-7D is developed through interviews with Asian people
 - reflecting important health concepts for Asian people, and therefore AP-7D could have an advantage in Asia in terms of content validity
 - Content validity is usually established as a process before a value set
- ✓ Existing PBM measures, especially EQ-5D, have the advantage of more evidence (e.g., validation and scores for a wide range of populations for reference)
- ✓ Further Validation studies are required for AP-7D to promote its use (i.e., using a new value set, and for a range of population groups)

License policy

- ✓ License Fee: Free of Charge
- ✓ Registration: No need
- ✓ This instrument is licensed as [CC BY-SA](#) under a Creative Commons Attribution-NonCommercial 4.0 International License.



Thank you for listening!!
Visit our website for more info on AP-7D



Global Comparability Meets Local Relevance: The Case for EQ-5D in Asia



Zhihao Yang

2025 ISPOR Real-World Evidence Summit, Tokyo

Multi-country Trials on the Rise--Why a Unified PBM (like EQ-5D) Matters

- Number of countries in pivotal trials has nearly doubled in 25 years.
- Trials increasingly complex and multinational.
- For example, FDA MRCT guidance stresses single protocols across regions → outcome harmonisation.
- EQ-5D provides the shared language across countries.

References:

- *Clinical trial diversity: An opportunity for improved insight* (Clin Pharmacol Ther, 2022)
- *Globalization of clinical trials: an analysis of FDA-approved trials (1997–2012)* (UNC Thesis, 2014)
- *Exploratory multiregional clinical trials in East Asia: Current status and future perspectives* (Transl Clin Pharmacol, 2021)
- *Diversity in oncology clinical trials: Current landscape and future perspectives* (Cancer Med, 2023)

Evidence Base: 30 Years of Validation Across Populations and Conditions

- Validated in **hundreds of studies** across oncology, cardiology, neurology, psychiatry, musculoskeletal, infectious diseases, and more.
- Proven in **general populations and patient cohorts**, consistently showing reliability, validity, and responsiveness.
- **Head-to-head comparisons** confirm EQ-5D performs as well as, or better than, other MAUIs (SF-6D, HUI, AQoL).

References:

- *Measurement properties of the EQ-5D-5L compared to the EQ-5D-3L across eight patient groups: a multi-country study* (Qual Life Res, 2013)
- *Health utilities using the EQ-5D in studies of cancer* (Pharmacoeconomics, 2007)
- *Validity of EQ-5D-5L in stroke patients* (Health Qual Life Outcomes, 2015)
- *Psychometric properties of EQ-5D in musculoskeletal disorders* (Rheumatology, 2007)

EQ-5D “infrastructure” in Asia

Component	Evidence in Asia
Value Sets	China, Japan, Korea, Thailand, Hong Kong, Singapore, Malaysia, India, Indoneisa etc.
Translations	English, Malay, Simplified Chinese, Traditional Chinese, Hindi, Bahasa, plus many other Asian languages (official versions available from EuroQol)
Administration	Paper, interviewer-administered, and electronic (tablet, online) modes
Leader in methodoolgoy	EQ-VT valuation protocol
Regulatory strength	Standardized translation protocol meeting FDA requirements

Content validity confirmed in Asian populations

- Across **Singapore, China, Korea**, **five EQ-5D dimensions** are relevant for Asian groups (adults and youth).
- Some studies flag terminology (relationships, vitality), which has led to rejection of the core five.

Dimension name	Rank($\bar{x} \pm s$)
Moderate problems in walking about (EQ-5D)	4.07 $\pm$ 3.42
Moderate problems with Self-Care (EQ-5D)	4.41 $\pm$ 3.42
Moderate pain/discomfort (EQ-5D)	5.27 $\pm$ 3.43
Moderate problems with usual activities (EQ-5D)	5.51 $\pm$ 4.08
Moderate problems with cognition	6.10 $\pm$ 2.99
Moderate problems with sleep	6.49 $\pm$ 3.31
Moderately anxious/depressed (EQ-5D)	7.27 $\pm$ 3.19
Moderate problems with emotional control	8.07 $\pm$ 3.42
Moderate problems seeing	8.10 $\pm$ 4.27
Moderate problems with adaptation to society	8.44 $\pm$ 3.36
Moderate problems with social support (relationships)	9.20 $\pm$ 3.01
Moderate tiredness/lack of strength	9.32 $\pm$ 2.70
Moderate reduction of appetite	11.1 $\pm$ 2.81
Moderate problems with climate adaption	11.70 $\pm$ 3.59

EQ-5D ‘Poor Performance’? Often a Study Quality Issue, Not an Instrument Issue.

- Low motivation, lack of clarity in survey administration, or poor explanation of self-report tasks can lead to inconsistent or “flat-line” EQ-5D responses.
- Mode of administration (paper vs. electronic), absence of training, or failure to ensure privacy may reduce accuracy.
- Ceiling effects or low sensitivity sometimes stem from **unrepresentative samples** (e.g., mild cases, non-clinical populations), not the instrument itself.

Evolving with Needs: Bolt-ons and EQ-HWB

- EQ-5D has been evolving beyond its 1990 origins.
 - Constant update of the details.
 - Bolt-ons (cognition, vision, fatigue, sleep, skin) address specific gaps.
- EQ-HWB has been developed with patients, caregivers, clinicians, and public input across countries. A broader inclusion of dimensions.
- For youth: EQ-5D-Y (3L & 5L) and EQ-TIPS ensure age-appropriate measurement while preserving comparability.

What decision makers need?

- HTA bodies prioritise comparability, transparency, and reproducibility across submissions and time. A single, widely used PBM with country-specific value sets enables this.
- Regulatory endorsement: EQ-5D is explicitly referenced in China, Japan, Thailand, Korea, and widely used in Singapore.
- Decision-maker trust: Longstanding use in HTA gives EQ-5D high credibility with payers.
- Efficiency in submissions: A common, HTA-aligned instrument reduces delays and increases acceptability of evaluations.

Snapshot of Asian HTA guidance

- China (CGPE 2020): Generic PBMs with Chinese tariffs (e.g., EQ-5D, SF-6D); EQ-5D-Y recommended for children.
- Japan (C2H/Chuikyo, 2024): EQ-5D-5L recommended as first choice PBM when collecting QALYs.
- Thailand (HITAP): EQ-5D preferred; Thai EQ-5D-5L value set published.
- South Korea (HIRA, 2021): CUA preferred; EQ-5D with Korean tariff widely used and accepted.
- Singapore (ACE, 2025): PBM utilities required; Singapore EQ-5D-5L value set available.
- Malaysia (2019 guideline): EQ-5D preferred; Malaysia EQ-5D-5L value set published.

EQ-5D delivers global comparability, proven credibility, and practical readiness — making it the trusted instrument for Asia

EQ-5D: Comparability, Credibility, Readiness

Infrastructure
(Practical readiness in Asia)

Validation
(Scientific credibility)

Comparability
(Global benefit)

EQ-5D (1990s)

EQ-5D-Y 3L (2010)

EQ-5D-5L (2010s)

EQ-5D-Y 5L (2020s)

EQ-TIPS (2020s)

Bolt-ons (2010s+)

EQ-HWB (2020s)

Thank you!

