

Correspondence in response to paper by Thomas, M. et al. 2021: Predicting the EQ-5D from the Kansas City Cardiomyopathy Questionnaire (KCCQ) in patients with heart failures

Online publish-ahead-of-print 29 April 2021

We congratulate Thomas *et al.*¹ for developing algorithms mapping Kansas City Cardiomyopathy Questionnaire (KCCQ) to EQ-5D health-utility scores for patients with heart failure (HF). EQ-5D is a standard tool for assessing cost-effectiveness (QALYs) across disease areas. However, such generic health-utility measures may fail to capture key health states relevant to heart failure (such as breathlessness and fatigue). There is a need for a disease-specific utility measure for heart failure.²

Mapping disease-specific, patient-reported outcomes like KCCQ to EQ-5D has limitations, as the authors acknowledge.¹ However, the potential insensitivity of EQ-5D to changes in health state should be considered.²⁻⁴

EQ-5D may be sensitive to the effects of interventions in advanced heart failure (New York Heart Association (NYHA) III-IV), but perhaps less so for milder disease.^{4,5}

Thomas *et al.* used EuroQoL-5 Dimension (EQ-5D) data from the HF-ACTION trial ($n = 2331$ HF patients) but do not mention that no difference was observed at 12 months in either EQ-5D index score or visual analogue scale (VAS) with exercise-based rehabilitation compared with control (VAS: Rehab: 1 ± 17 vs. control: 2 ± 17 ; $P = 0.15$).³ Was the intervention ineffective or was the tool insensitive to change? Mapping KCCQ to a tool that is not sensitive to change could undervalue the effects of the intervention.

Conflict of interest: none declared.

References

1. Thomas M, Jones PG, Cohen DJ, Arnold SV, Magnuson EA, Wang K et al. Predicting the EQ-5D from the Kansas City Cardiomyopathy Questionnaire (KCCQ) in patients with heart failure. *Eur Heart J - Qual Care Clin Outcomes* 2021.
2. Kularatna S, Byrnes J, Chan YK, Carrington MJ, Stewart S, Scuffham PA et al. Comparison of contemporaneous responses for EQ-5D-3L and Minnesota Living with Heart Failure; a case for disease specific multiattribute utility instrument in

cardiovascular conditions. *Int J Cardiol* 2017;**227**: 172–176.

3. Ambrosy AP, Cerbin LP, DeVore AD, Greene SJ, Kraus WE, O'Connor CM et al. Aerobic exercise training and general health status in ambulatory heart failure patients with a reduced ejection fraction—findings from the Heart Failure and A Controlled Trial Investigating Outcomes of Exercise Training (HF-ACTION) trial. *Am Heart J* 2017;**186**:130–138.
4. Kularatna S, Byrnes J, Chan YK, Ski CF, Carrington M, Thompson D et al. Comparison of the EQ-5D-3L and the SF-6D (SF-12) contemporaneous utility scores in patients with cardiovascular disease. *Qual Life Res* 2017;**26**:3399–3408.
5. Calvert MJ, Freemantle N, Cleland JGF. The impact of chronic heart failure on health-related quality of life data acquired in the baseline phase of the CARE-HF study. *Eur J Heart Fail* 2005;**7**:243–251.

Hasnain Dalal^{1,2*}, Rod S Taylor^{1,3}, and John G. Cleland³

¹Primary Care Research Group, University of Exeter, Exeter, UK; ²Knowledge Spa, Royal Cornwall Hospitals NHS Trust Truro TR1 3HD, UK and ³MRC/CSO Social and Public Health Sciences Unit & Robertson Centre for Biostatistics, University of Glasgow, Glasgow, UK

* Corresponding author. Tel: +447974818345; Email: h.dalal@nhs.net