## 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.*<sup>1</sup> for developing algorithms mapping Kansas City Cardiomyopathy Questionnaire (KCCQ) toEQ-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 fora disease-specific utility measure for heart failure.<sup>2</sup>

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

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:  $1 \pm 17$  vs. control:  $2 \pm 17$ ; P = 0.15).<sup>3</sup> 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

- 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.
- 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.

- 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.
- 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.
- 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<sup>1,2</sup>\*, Rod S Taylor<sup>1,3</sup>, and John G. Cleland<sup>3</sup>

<sup>1</sup>Primary Care Research Group, University of Exeter, Exeter, UK; <sup>2</sup>Knowledge Spa, Royal Cornwall Hospitals NHS Trust Truro TR1 3HD, UK and <sup>3</sup>MRC/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

© The Author(s) 2021. Published by Oxford University Press on behalf of the European Society of Cardiology.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted reuse, distribution, and reproduction in any medium, provided the original work is properly cited.