

Estimating a Dutch value set for the paediatric preference-based CHU-9D using a discrete choice experiment with duration

Rowen D¹, Mulhern B², Vermaire JH³, Stevens K¹

¹ School of Health and Related Research, University of Sheffield, UK

² Centre for Health Economics Research and Evaluation, University of Technology Sydney, Australia

³ TNO Child Health, Oral health division, Leiden, Netherlands

Background

Economic evaluation of health-care interventions often involves the use of quality adjusted life years (QALYs) to capture the benefit of different interventions. The quality adjustment weight of the QALY is often generated using an existing generic preference-based measure such as the EQ-5D or SF-6D, but these measures were developed for adults and are not intended for use in children. The Child Health Utility 9D (CHU-9D) is a generic paediatric preference-based measure that was specifically developed and worded for use in paediatric populations. Value sets exist for the UK and Australia, enabling the measure to generate QALYs using population-specific value sets for those countries.

Aim

This aim of this study was to generate a Dutch value set for the CHU-9D, a paediatric preference-based measure of quality of life that can be used to generate quality adjusted life years (QALYs).

Methods

A large online survey was conducted using a discrete choice experiment (DCE) including a duration attribute with members of the Netherlands general population (n=1,276) who were representative in terms of age, gender, marital status, employment, education and region. Respondents were asked which of two health states they prefer, where each health state was described using the nine dimensions of the CHU-9D (worried, sad, pain, tired, annoyed, school work/homework, sleep, daily routine, able to join in activities) and duration.

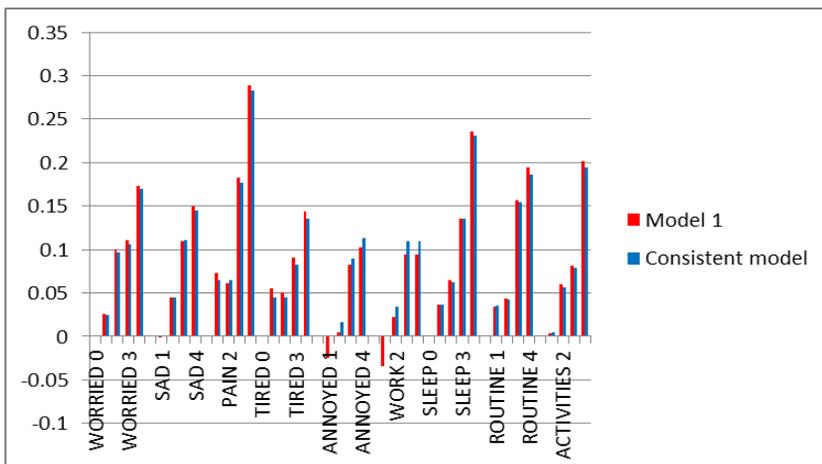
Respondents were asked which health state they prefer, after imagining they themselves are in each state, as also used in the UK CHU-9D valuation. Respondents were not informed that the health state was paediatric, and school work/homework was reworded to work/housework.

The data was modelled using conditional logit with robust standard errors to produce utility values for every health state described by the CHU-9D.

Results

The majority of the dimension level coefficients were monotonic, leading to a decrease in utility as severity increases. However there was evidence of some logical inconsistencies particularly for the school work/homework dimension (see Model 1 in Figure 1). A consistent model was estimated that involved the merging of adjacent inconsistent severity levels, to ensure that utility decreased as severity increased. The Dutch value set is based on the consistent model and ranges from -0.568 for the worst state to 1 for the best state.

Figure 1 Plot of utility weights for the Dutch value set



Conclusions

The valuation of the CHU-9D using online DCE with duration with adult members of the Dutch general population was feasible and produced a valid model for use in cost utility analysis. Normative questions are raised around the valuation of paediatric preference-based measures including the appropriate perspective for imagining hypothetical paediatric health states.

Acknowledgements

We would like to acknowledge all the participants in the surveys.

