

Simple Guide on Using the Ugandan EQ-5D-5L value set

What is this document for?

This document will familiarise you with:

- [The EQ-5D-5L instrument](#)
- [The methodology used to develop an EQ-5D-5L value set for Uganda](#)
- [How to apply the value set in research studies that include the EQ-5D-5L.](#)

The content of this document was adapted from the published journal article, [Yang F, Katumba KR, et al. Developing the EQ-5D-5L value set for Uganda using the 'lite' protocol. *PharmacoEconomics*. 2021.](#) It is open access and can be accessed online for free. Please kindly cite the paper, if you use any information provided.

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What is EQ-5D-5L?

EQ-5D is a family of instruments developed to describe and value health. EQ-5D has been used in clinical trials, population studies, and real-world settings for over 30 years. It includes a five-dimension health status classification system (mobility, self-care, usual activities, pain/discomfort, anxiety/depression) and a separate visual analogue scale. In EQ-5D-5L, each dimension has 5 levels of severity: no problems, slight problems, moderate problems, severe problems and unable/extreme problems. Respondents are asked to choose the most appropriate level for each dimension based on their health on the day they complete the instrument. More information is available at [EuroQol website](#).

EQ-5D-5L is available in over 200 languages. If you would like to use the Luganda version for Uganda, please complete the registration [here](#).

What is a value set?

The responses to the five dimensions of EQ-5D define different EQ-5D health states. To convert an individual EQ-5D health state to a single summary index, a value set is used. Using the value set, we can convert each EQ-5D health state into a health-related quality of life score on a scale anchored at 1 (full health) and 0 (dead). It allows the calculation of quality-adjusted life year (QALY), the common health outcome measure in economic evaluations, combined with length of life.

The value set represents the preferences of the general population of a country or region with respect to health. It is essentially a set of weights for each of the severity levels in each of the five dimensions of health. A large weight indicates that people believe that a particular level of severity has a large impact on health-related quality of life.

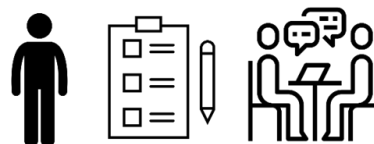
What EQ-5D-5L value sets are available in Africa?

The EuroQol Group is actively involved in valuation research projects around the world. A list of all currently available standard EQ-5D-5L value sets can be found [here](#). Many African countries have undertaken the development of their own EQ-5D value sets. Until November 2021, there are two EQ-5D-5L value sets available (for [Ethiopia](#) and for [Uganda](#)).

How was the EQ-5D-5L value set for Uganda developed?

The EuroQol Group developed a standardised valuation study protocol (called EQ-VT) to create value sets for the EQ-5D-5L.

The EQ-VT protocol recommends a representative sample of 1,000 people from the general population. Each participant is interviewed to complete valuation tasks consisting of 10 composite time trade-off (cTTO) tasks and 7 discrete choice experiment (DCE) tasks.



1,000 respondents from the general population **10** composite time trade-off (cTTO) and **7** discrete choice experiment (DCE) tasks

Considering the limited research resources and cognitive challenge required to undertake tasks, we adapted the EQ-VT design in the valuation study for Uganda. The resulting 'lite' protocol requires half of the recommended sample size (N=500) and collects more data from each respondent but asks that they only complete one type of task (20 cTTO tasks). This results in the same number of cTTO responses as the standard valuation approach (500 respondents*20 tasks =1000 respondents*10 tasks).

A substantial number of EQ-5D-5L value sets are based on cTTO data. In the valuation study for Uganda, cTTO data were analysed using multiple models, and the best-performing model was used to estimate a set of weights for each of five severity levels in the five EQ-5D dimensions. Results are shown in **Table 1**. With level 1 (no problems) as reference, the value indicates how much a severity level reduces an individual's health-related quality of life.

Table 1. EQ-5D-5L value set for Uganda

		Mobility	Self-care	Usual activities	Pain/discomfort	Anxiety/depression
Level 1	No problems	0	0	0	0	0
Level 2	Slight problems	0.073	0.068	0.060	0.082	0.050
Level 3	Moderate problems	0.146	0.110	0.081	0.138	0.127
Level 4	Severe problems	0.245	0.240	0.243	0.580	0.235
Level 5	Unable/extreme problems	0.376	0.354	0.306	0.798	0.282

How to use the EQ-5D-5L value set for Uganda in practice?

When completing the EQ-5D-5L, respondents are asked to indicate their health state by ticking the box next to the most appropriate statement about severity of problems in each of the five dimensions. This results in a 1-digit number that expresses the level selected for that dimension. The digits for the five dimensions can be combined into a 5-digit number that describes the individual's health state.

Please see the example below ([Sample UK English EQ-5D-5L](#) was used for illustration purposes). In Uganda, the EQ-5D-5L is available [in English and in Luganda](#). Assume the responses from one individual are slight problems (level 2) in mobility, moderate problems (level 3) in self-care, unable (level 5) to do usual activities, no pain or discomfort (level 1) and severely anxious or depressed (level 4). The 5-digit number to describe this health state is 23514.

MOBILITY	
I have no problems in walking about	<input type="checkbox"/> 1
I have slight problems in walking about	<input checked="" type="checkbox"/> 2
I have moderate problems in walking about	<input type="checkbox"/> 3
I have severe problems in walking about	<input type="checkbox"/> 4
I am unable to walk about	<input type="checkbox"/> 5
SELF-CARE	
I have no problems washing or dressing myself	<input type="checkbox"/> 1
I have slight problems washing or dressing myself	<input type="checkbox"/> 2
I have moderate problems washing or dressing myself	<input checked="" type="checkbox"/> 3
I have severe problems washing or dressing myself	<input type="checkbox"/> 4
I am unable to wash or dress myself	<input type="checkbox"/> 5
USUAL ACTIVITIES (<i>e.g. work, study, housework, family or leisure activities</i>)	
I have no problems doing my usual activities	<input type="checkbox"/> 1
I have slight problems doing my usual activities	<input type="checkbox"/> 2
I have moderate problems doing my usual activities	<input type="checkbox"/> 3
I have severe problems doing my usual activities	<input type="checkbox"/> 4
I am unable to do my usual activities	<input checked="" type="checkbox"/> 5
PAIN / DISCOMFORT	
I have no pain or discomfort	<input checked="" type="checkbox"/> 1
I have slight pain or discomfort	<input type="checkbox"/> 2
I have moderate pain or discomfort	<input type="checkbox"/> 3
I have severe pain or discomfort	<input type="checkbox"/> 4
I have extreme pain or discomfort	<input type="checkbox"/> 5
ANXIETY / DEPRESSION	
I am not anxious or depressed	<input type="checkbox"/> 1
I am slightly anxious or depressed	<input type="checkbox"/> 2
I am moderately anxious or depressed	<input type="checkbox"/> 3
I am severely anxious or depressed	<input checked="" type="checkbox"/> 4
I am extremely anxious or depressed	<input type="checkbox"/> 5

We can use the EQ-5D-5L value set for Uganda to convert this 5-digit health state (23514) to a single summary index using the corresponding weights, that is, level 2 in mobility (0.073), level 3 in self-care (0.110), level 5 in usual activities (0.306), level 1 in pain/discomfort (0) and level 4 in anxiety/depression (0.235). Therefore,

Health-related quality of life score = $1 - (0.073 + 0.110 + 0.306 + 0 + 0.235) = 0.276$

We also provide Stata codes to assist the calculation (available [here](#) or on next page).

Stata codes to generate EQ-5D-5L scores using the value set for Uganda

```
///step 1, transform the responses to EQ-5D-5L 5 items
```

```
***please make sure the 5 items are named 'mo sc ua pd ad'
```

```
***rename () (mo sc ua pd ad)
```

```
gen mo2 = 0
replace mo2 = 1 if mo ==2
gen mo3 = 0
replace mo3 = 1 if mo ==3
gen mo4 = 0
replace mo4 = 1 if mo ==4
gen mo5 = 0
replace mo5 = 1 if mo ==5
```

```
gen sc2 = 0
replace sc2 = 1 if sc ==2
gen sc3 = 0
replace sc3 = 1 if sc ==3
gen sc4 = 0
replace sc4 = 1 if sc ==4
gen sc5 = 0
replace sc5 = 1 if sc ==5
```

```
gen ua2 = 0
replace ua2 = 1 if ua ==2
gen ua3 = 0
replace ua3 = 1 if ua ==3
gen ua4 = 0
replace ua4 = 1 if ua ==4
gen ua5 = 0
replace ua5 = 1 if ua ==5
```

```
gen pd2 = 0
replace pd2 = 1 if pd ==2
gen pd3 = 0
replace pd3 = 1 if pd ==3
gen pd4 = 0
replace pd4 = 1 if pd ==4
gen pd5 = 0
replace pd5 = 1 if pd ==5
```

```
gen ad2 = 0
replace ad2 = 1 if ad ==2
gen ad3 = 0
replace ad3 = 1 if ad ==3
gen ad4 = 0
replace ad4 = 1 if ad ==4
gen ad5 = 0
replace ad5 = 1 if ad ==5
```

```
///step 2, calculate the EQ-5D-5L scores
```

```
gen EQ5D5L_Uganda=1-(0.073*mo2 + 0.146*mo3 + 0.245*mo4 + 0.376*mo5 + ///
0.068*sc2 + 0.110*sc3 + 0.240*sc4 + 0.354*sc5 + ///
0.060*ua2 + 0.081*ua3 + 0.243*ua4 + 0.306*ua5 + ///
0.082*pd2 + 0.138*pd3 + 0.580*pd4 + 0.798*pd5 + ///
0.050*ad2 + 0.127*ad3 + 0.235*ad4 + 0.282*ad5)
```

```
drop mo2-ad5
```