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The Translation and Linguistic Validation of the EQ-5D Electronic Version (EQ-5D ePRO)

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Objectives:

The EQ-5D ePRO is the electronic format of the EQ-5D. The paper version of the EQ-5D has been translated into many different languages and used throughout the world. It is designed to be simple and easy to use, and to be applicable to a wide range of health conditions and treatments. The objective of this study was to translate the EQ-5D ePRO specific text into 14 languages, making the EQ-5D suitable for use in an electronic format. The translation process aimed to produce versions that were conceptually equivalent to the original and to other language versions, ensuring the relevance of the translations within the target cultures.

Methods:

The methodology employed for the ePRO specific text was as follows: 1 forward translation, 1 back translation, back translation review, developer review, linguistic validation interviews with 5 respondents (a mix of healthy people and patients with varying health conditions), second developer review and 2 proof readings.

Results:

Numerous cultural and linguistic issues became apparent throughout the translation process, which are applicable also to other questionnaires migrating from paper to ePRO format. These include the examples listed in Table 1 (see *overleaf*):

Table 1: Translation issues and their resolution

Source text term	Language affected	Translation issues and resolution
Under each heading, please tap the ONE box that best describes your health TODAY. Please tap on the scale to indicate how your health is TODAY.	Discussions were necessary to render 'tap' clearly in all languages, including: Afrikaans, Czech, French, German, Hungarian, Italian, Polish, Russian, Ukrainian, and Spanish for Argentina, Chile, Mexico, Peru and Spain.	<p>The word 'tap', in this context meaning to press lightly on the screen with a stylus, proved the most problematic when translating the measure.</p> <p>In some languages, a literal translation of the verb would result in the patient touching the screen too lightly, not understanding that a slight pressure was required to stimulate the device. In other languages, there was simply no exact parallelism of the verb 'to tap'. To avoid ambiguity, alternatives such as 'press', 'choose' or 'touch with the stylus' were used, ensuring that all patients could navigate the platform.</p> <p>Examples:</p> <ul style="list-style-type: none"> The cognitive debriefing interviews give us a clear insight into patient understanding. The Hungarian in-country interviewer quoted the following, in order to explain why 'press' was a more appropriate translation than 'tap': <i>Patient: 'I tapped it, but nothing happened' Instructor: 'Well, you actually have to apply slight pressure on it.' Patient: 'So, shall I press it?'</i> To combat translation issues, it is often helpful to draw vocabulary from other contexts, in this case, another touch-screen device. The French in-country investigator (lead translator) stated the following, to explain why 'press' was the best translation for 'tap': <i>Yes, this is the most idiomatic word in this context. When using my iPhone, for instance, that's what I would say.</i>
Under each heading, please tap the ONE box that best describes your health TODAY. Please tap on the scale to indicate how your health is TODAY.	French, Italian, Spanish for Argentina, Chile, Mexico, Peru and Spain.	<p>In some Romance languages, the emphasis of 'tap ONE box', meaning only one, became lost in the translations due to the languages' natural requirement of an article (for example in Italian, 'UNA/LA casella', 'A/the box').</p> <p>To combat the issue, some translators used the definite article, meaning 'the', in order to stress that just one box was to be chosen, with capital letters or without (for example, 'la casilla' in Peruvian Spanish or 'LA casilla' in Spanish for Mexico). Other languages used the indefinite article, meaning 'a', for example 'UNA casilla' in Spanish for Chile. The Italian in-country investigator also opted for the definite article, however had to put 'ONLY ONE' in brackets to provide the emphasis, whilst leaving the article in lower case ('la casella (UNA SOLA)').</p>
Under each heading, please tap the ONE box that best describes your health TODAY. Please tap on the scale to indicate how your health is TODAY.	Polish, Russian and Ukrainian.	<p>The Eastern European translators maintained that there was no literal translation of 'heading', in the context of a title with other sentences beneath it.</p> <p>As a solution, translators used 'section', 'the text in bold', or 'groups', meaning that all patients understood the intended meaning of 'heading' in the English.</p>

Conclusions:

The EQ-5D ePRO version has been translated and linguistically validated using a rigorous translation process and is now appropriate for use in the 14 languages in this project. A number of conceptual, cultural and linguistic issues became apparent and were resolved. These issues are of importance and the solutions viable for the adaptation of other PRO measures into the ePRO format.

The measure is now appropriate for use in multinational trials and conceptually comparable with other language versions which may be in existence worldwide.

With thanks to EuroQol Group

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