

DEVELOPMENT OF E-VERSIONS OF THE ASTHMA QUALITY OF LIFE QUESTIONNAIRE (STANDARDISED) [AQLQ(S)] IN 20 LANGUAGES FOR USE ON HANDHELD DEVICES

Elizabeth F Juniper¹, Géraldine Grataloup², Catherine Acquadro³

¹Dept. Clinical Epidemiology and Biostatistics, McMaster University, Canada;

²Mapi, Linguistic Validation, Lyon, France; ³Mapi Research Trust, Lyon, France

Objectives

- Adapting validated paper questionnaires for handheld electronic devices often requires presenting questions and response choices on two or more screens and reformulating the instructions. Before its use on a handheld device, the original English version of the Standardized Asthma Quality of Life Questionnaire [AQLQ(S)] had to be validated.
- The objective of this study is to present the methods used and the challenges faced during the adaptation of 20 language versions* of the AQLQ(S) for a specific device, using the linguistically validated paper versions of these languages.

*Afrikaans, English (Australia, New Zealand, South Africa), French, Italian, Japanese, Korean, Polish, Russian (Russia, Ukraine), Spanish (Argentina, Chile, Mexico, Spain, USA), Turkish, Ukrainian, Xhosa, and Zulu.

Methods

- The following steps were performed in close collaboration with the AQLQ(S) developer and the e-provider*:
 - Identification of changes to be made to the English paper version of the AQLQ(S) to achieve a valid electronic version on the specific device (handheld);
 - Creation of a document listing all changes made to the English paper version and corresponding changes to be made to the existing paper translations;
 - Creation of the coded files (e.g., xml) in each language and translation of the requested changes;
 - Quality check;
 - Creation of the screenshots in each language;
 - Quality check;
 - Reiteration of steps 5 to 6 to reach optimal quality.

*PHT

Results

- Several challenges were encountered due to:
 - Constraints inherent to the electronic device (i.e., handheld);
 - The structure of some target languages.

Constraints inherent to the device (i.e., handheld) included:

- Questions and response choices to be presented on two or more screens;
- Development of new instructions or instructions that needed to be reformulated;
- Maintaining the interval properties of response scale with no scrolling;
- Lack of availability of bolding in the device;
- Change of font size of some scripts.

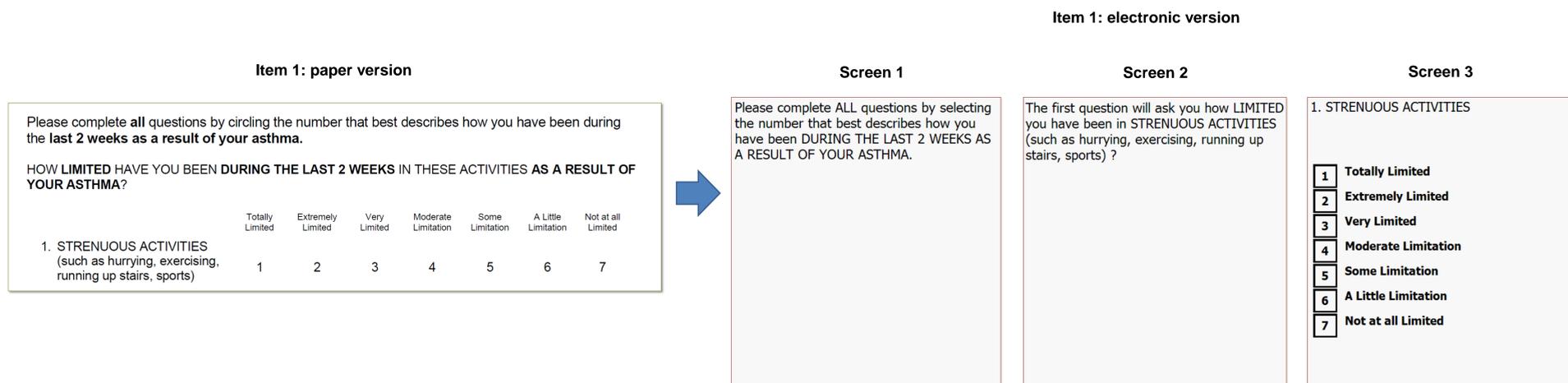
In Table 1, an example of the changes made to the original English paper version is presented.

Figure 1 presents the text of the screenshots of the original English e-version of item 1 compared to the original paper version.

Table 1. Example of changes made to original paper version to enable the migration to electronic format: item 1 and corresponding instructions

Paper version	Electronic version	Changes
Please complete all questions by circling the number that best describes how you have been during the last 2 weeks as a result of your asthma.	Please complete ALL questions by selecting the number that best describes how you have been DURING THE LAST 2 WEEKS AS A RESULT OF YOUR ASTHMA.	Text "Circling" is replaced by "selecting." Format/Script Text in bold is changed to uppercase. « all » is written in uppercase.
HOW LIMITED HAVE YOU BEEN DURING THE LAST 2 WEEKS IN THESE ACTIVITIES AS A RESULT OF YOUR ASTHMA?	The first question will ask you how limited you have been in STRENUOUS ACTIVITIES (such as hurrying, exercising, running up stairs, sports)?	Text - The wordings of the main question and of item 1 are combined into one. - Addition of "the first question will ask you." Format/Script - Bold deleted, uppercase limited to wording of item. - Instructions, item, and response categories on two separate screens. - Recall of item added on screen presenting response categories.
1. STRENUOUS ACTIVITIES (such as hurrying, exercising, running up stairs, sports)		

Figure 1. English original version: paper version and corresponding screenshots of item 1 (instructions, item, response categories)



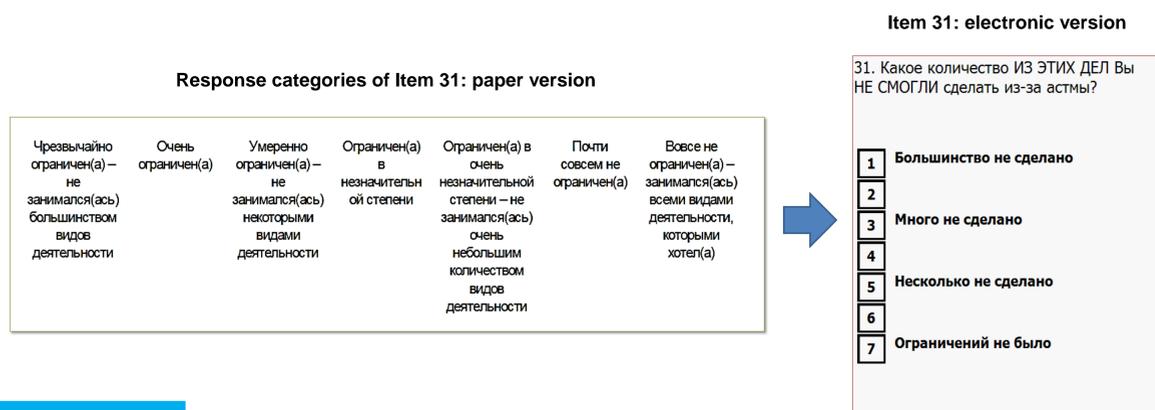
Challenges linked to the structure of the target language:

Some languages required more characters per question/response choice than the original English (e.g., Romance languages). Adjustments were needed, so the items and response categories could fit on a small screen (i.e., using a smaller font size).

Russian was the only language that required changes to be made to the Russian paper version. It was necessary to modify the wording of the response categories of item 31 which could not fit at all on a single screen because of the length of the translation.

See Figure 2.

Figure 2. Russian version: paper version and corresponding screenshots of item 31 (item, response categories)



Conclusion

- The Standardized Asthma Quality of Life Questionnaire [AQLQ(S)] was successfully implemented in an electronic format in 20 different languages.
- The close collaboration with the developer of the original instrument enabled the development of electronic versions conceptually equivalent to the paper version.

For more information, please contact:
Catherine Acquadro, cacquadro@mapigroup.com
www.mapigroup.com

Mapi