

Clinician-reported Genetic testing Utility InDEx (C-GUIDE)TM Translation Guidelines

To facilitate international use of C-GUIDETM and maintain its content validity, we have translated it into different languages using methodology adapted from Beaton et al., 2000¹, 2002², Narayanan, 2021³, as represented in Figure 1 below.

Step 1 - Forward Translation

The first step in this process was forward translation. C-GUIDETM was translated from English into the target language (e.g., French, Spanish, German) independently, by two bilingual translators. Each translator's native language was the target language. This enabled the translator to accurately reflect the nuances of the target language.

The two translators had different professional backgrounds to ensure best possible translation¹:

Translator #1: One of the translators was a clinical expert in genetics and familiar with the concepts included in the C-GUIDETM items. Their goal was to produce a translation that provides equivalency with the English version from a clinical and scientific perspective.

Translator #2: The other translator was a professional translator from an external translation agency and was not familiar with the clinical context. Their goal was to produce a translation that is not influenced by clinical knowledge but reflects the everyday use of the language by the target population.

Each translator translated the content independently, producing two distinct preliminary translations of C-GUIDETM (*C-GUIDETM Translation 1 and 2*) in the target language.

Step 2 - Consensus Meeting

In the next step, the two translators and members of the C-GUIDETM team met to review and compare the two translations. After comparison of the translations and discussion of discrepancies, the three parties came to an agreement on wording in order to produce a single translation. It is important to note that consensus was achieved; individual perspectives were not compromised to resolve differences². This step resulted in a single, consensus-derived translation document (*C-GUIDETM Draft Translation*).

Step 3 - Back Translation

In this step, *C-GUIDETM Draft Translation* was translated from the target language back to the original language (English). The purpose of the back translation was to ensure content validity and to verify that the translated version accurately reflected the intended meaning of the items in the original version². This step was done by a third bilingual translator from an external translation agency whose native language was English, resulting in a back translated version of C-GUIDETM in English.

Step 4 – Edits to Translated Material

In the final step, the back translation was compared to the original English C-GUIDETM. The C-GUIDETM team and clinical genetics expert met to review the two versions and discuss discrepancies between the original and back translated C-GUIDETM versions. Through group discussion, appropriate edits were made to the translated document, producing a final version of the translated material that was equivalent to the original C-GUIDETM (*Final C-GUIDETM Translation*).

The translated C-GUIDE™ was then ready to be used in the target language. The C-GUIDE™ team remains open to feedback and modification of the translation, if needed.

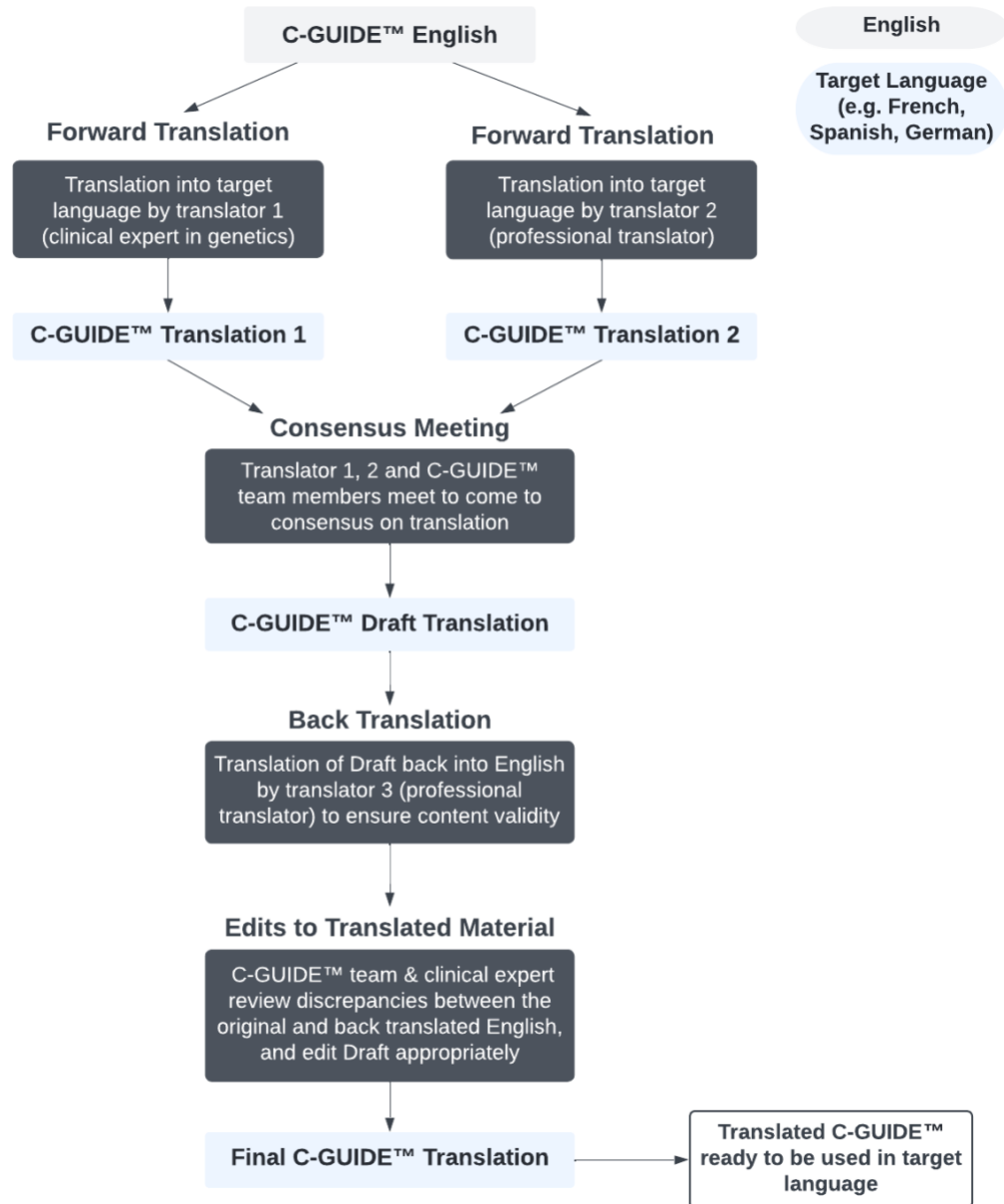


Figure 1. C-GUIDE™ Translation Guidelines

References

1. Beaton D, Bombardier Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine* 2000; 25:3186-91.
2. Beaton D, Bombardier Guillemin F, Ferraz MB. Recommendations for the cross-cultural adaptation of health status measures. *Am Acad Orthop Surg* 2002; p. 1-9. 2.
3. Narayanan U. Summary of Methodology: Translation and cross-cultural adaptation. 2021; <https://lab.research.sickkids.ca/pscoreprogram/wp-content/uploads/sites/72/2017/12/Translation-Guidelines.pdf>. Accessed 12 Sept. 2022.