

# Translation, cross-cultural adaptation and measurement properties of Implementation outcome measures for a South African context.

Yolanda Gomba<sup>1</sup>, Lucia Knight<sup>2,3</sup>, Landon Myer<sup>1</sup>, Tamsin K Phillips<sup>1</sup>

<sup>1</sup>Division of Epidemiology & Biostatistics, University of Cape Town. <sup>2</sup>Division of Social and Behavioural Sciences, University of Cape Town. <sup>3</sup>School of Public Health, University of the Western Cape.

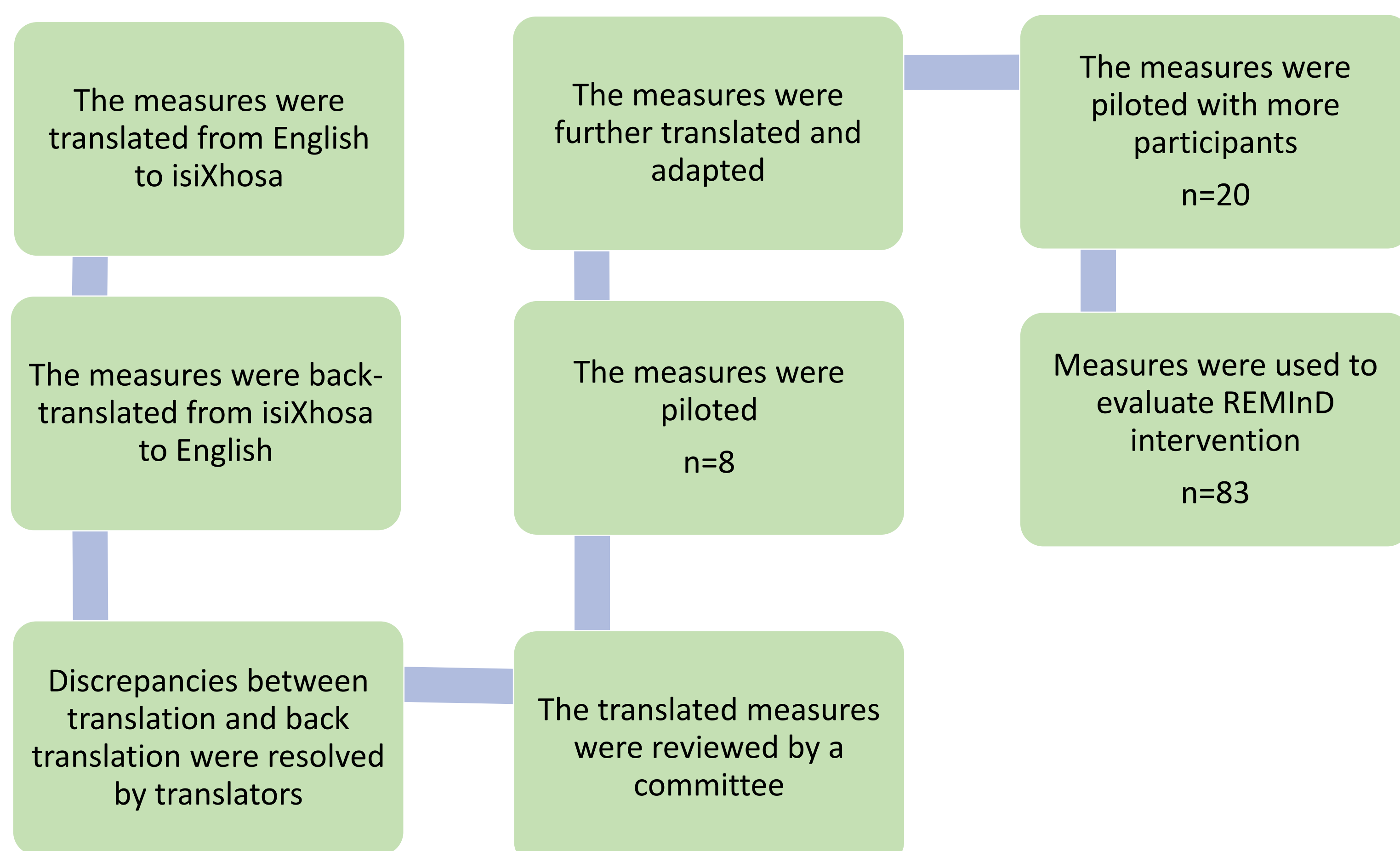
## Research Objective

This study aimed to translate, adapt and validate the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM) and Feasibility of Intervention Measure (FIM)<sup>1</sup> for use in an isiXhosa-speaking population in the Western Cape, South Africa as part of an implementation evaluation in the REMIND study. The REMIND study used a Data-to-Care approach to identify mothers and infants who appear to have gaps in routine vertical transmission prevention steps through electronic databases and trace them telephonically to link them back into care.

## Study Design

We followed a systematic process (Figure 1) that included translation, back translation, piloting and review by a committee to ensure comprehensive understanding and equivalence of meaning.

### Figure 1: Study design



**Table 1: Translated and adapted versions of the measures**

Original English AIM and FIM Items
The REMIND intervention meets my approval
The REMIND intervention is appealing to me
I like The REMIND intervention.
I welcome The REMIND intervention
The REMIND intervention seems implementable
The REMIND intervention seems possible.
The REMIND intervention seems doable.
The REMIND intervention seems easy to use.
Adapted English IAM Items
The REMIND intervention seems fitting for resolving the challenge of identifying and tracing mothers and babies with gaps in HIV care
The REMIND intervention seems suitable for identifying and tracing mothers and babies with gaps in HIV care.
The REMIND intervention seems applicable to solving the issue of identifying and tracing mother and babies with gaps in HIV care.
The REMIND intervention seems like a good match for identifying and tracing mothers and babies with gaps in HIV care.

## Findings

- The AIM and FIM were translated and back-translated. Translated and back-translated versions were equivalent in meaning.
- The IAM was translated, back-translated and further adapted based on feedback from piloting by expanding each item in the measure.
- The measures were used to collect data to evaluate the REMIND intervention from 83 research participants.
- Adequate internal consistency was obtained in all three measures (Cronbach's Alpha AIM: 0.87, IAM: 0.87 and FIM: 0.96).
- 64%, 76% and 75% of respondents scored the maximum possible scores (ceiling effects) in the AIM, IAM and FIM, respectively.
- Pearson's correlations were moderate between the AIM and IAM (0.60) and AIM and FIM (0.67), and strong between the IAM and FIM (0.86).

## Implications for Implementation Science

- A thorough iterative translation and adaptation process was needed to ensure that the measures were suitable for this research setting.
- The isiXhosa versions of these easy-to-use measures showed reliability across items within each measure.
- The high ceiling effects may limit our ability to measure the range of experiences in those with the highest scores.
- Further adaptations and psychometric assessments are needed to improve the measurement of implementation outcomes in isiXhosa and other South African languages.
- Further research is needed to understand the context for which measures are being adapted for.

## References

- Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., Boynton, M. H., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. *Implementation Science*, 12(108), 1-12. doi: 10.1186/s13012-017-0635-3

**Acknowledgments:** The authors thank all participating mothers, the Gugulethu research team and the Provincial Health Data Centre. YG is supported by the Wits-UNC D43 training program, funded by the Fogarty International Center of the National Institutes of Health under Award Number D43TW009774. This research was funded by the International AIDS Society through a CIPHER grant (PI TKP). TKP was supported by the FIC and NIMH (K43TW011943)



School of Public Health  
Departement Openbare Gesondheid  
Isikolo Sempilo Yoluntu  
UNIVERSITY OF CAPE TOWN  
UNIVERSITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD



**R E M I N D**  
Routine data to improve mother and infant care