

Supplementary Table S1: Full and simplified translation steps for the BRAFs and RAID from English

ISPOR Principles	BRAf: Full protocol, by professional PROM company with the clinician developers	RAID: Simplified protocol, by clinician developers
Define conceptual meaning behind each item	Concept elaboration with developers	Clinician developers involved in developing the RAID
Forward translations (independent)	2 independent forward translations: Qualified translators, native speakers ^a of target language, fluent in English	2-3 independent forward translations: 1 rheumatologist, 1 teacher of English, as bi-lingual as possible, of whom at least 1 is native speaker of target language (patient partner)
Reconciliations of those forward translations	Reconciliation of above versions (independent): Project manager clarifies issues. In-country investigator ^b creates reconciled version reflecting concepts of English version, culturally relevant & meaningful in target country	Reconciliation of above versions: Consensus meeting of translators. Final wording needs to be understood by lay people including low-education (9-yr old child to understand wording)
Backward translations (independent)	2 backward translations of above into English (independent): 2 independent qualified translators, native English speakers ^a , fluent in target language	1 backward translation of above into English (independent): Independent, bi-lingual native English speaker, blind to English version
Review and reconciliations of those backward translations	Project Manager reviews back translations against English version, highlights any discrepancies in meaning or terminology. In-country investigator ^b resolves queries	Multi-disciplinary consensus committee including the initial translators, 2 rheumatologists (may be the translators), 1 person very familiar with cross-cultural adaptation, 1 patient fluent in English. Back-translation compared to English version; final version by consensus. Ensure translation fully comprehensive, verify cross-cultural equivalence with English version
Instrument developer reviews the translations for semantic and conceptual equivalence	Instrument developer reviews the translations for semantic and conceptual equivalence, then the in-country investigators ^b resolve queries	The instrument developers were also the people responsible for the translations
Harmonization across multiple countries	Harmonization meeting across multiple countries (run by Project Manager) Manager, instrument developers and 1 new, qualified translator ^a for each language (native speaker of target language, fluent in English, resident in UK, blind to English version). Each translator verbally back translates the BRAFs; discussed by group to ensure semantic and conceptual equivalence across language versions. In-country investigator ^b discusses and finalized any necessary revisions	
Cognitive debriefing with patients	5 patients fill in BRAFs in presence of in-country investigator, discussing what the wording means to them, response options, any wording difficult to understand, suggest alternative wording. In-country investigator summarises and recommends word changes	5 patients fill in RAID in presence of a physician, each question discussed, to check whether it is fully understood and whether patients have problems. Patients' comments collected and the initial translators may need to modify the translation, if comments are frequent and consistent
Review cognitive debriefing, finalize versions	Project manager highlights discrepancies in meaning or terminology. In-country investigator ^b resolves. Issues sent to all in-country investigators for	

	harmonisation	
Proof-reading final versions	Proof-reading of final version (independent), report, management of distribution Final amendments made, formatted into approved layout. Proofreading by in-country investigator ^b and a new, qualified translator ^a (native speaker of target language). Any recommended changes discussed between in-country investigator and manager.	

^aQualified translators are specialists in medical translation. ^bIn-country investigator is resident in target country, a native speaker, fluent in English, health/linguistics/medical/psychology background, experience in translation & linguistic validation of PROMs. BRAF: Bristol RA Fatigue scale; RA Impact of Disease scale; ISPOR: International Society for Pharmaco-economics and Outcomes Research; PROM: patient reported outcome measures.