

# BabelDr – An Innovative and Reliable Translation Tool

## Problem

### Context :

Europe is facing a migration crisis.

At the Geneva University Hospitals (HUG) :

- 52% of the patients are foreigners
- 12% don't speak French at all

In terms of medical care, especially in emergency situations, language barrier can generate problems in :

- Quality
- Security
- Equitability
- Cost

## Innovative

### Advantages and Functions :

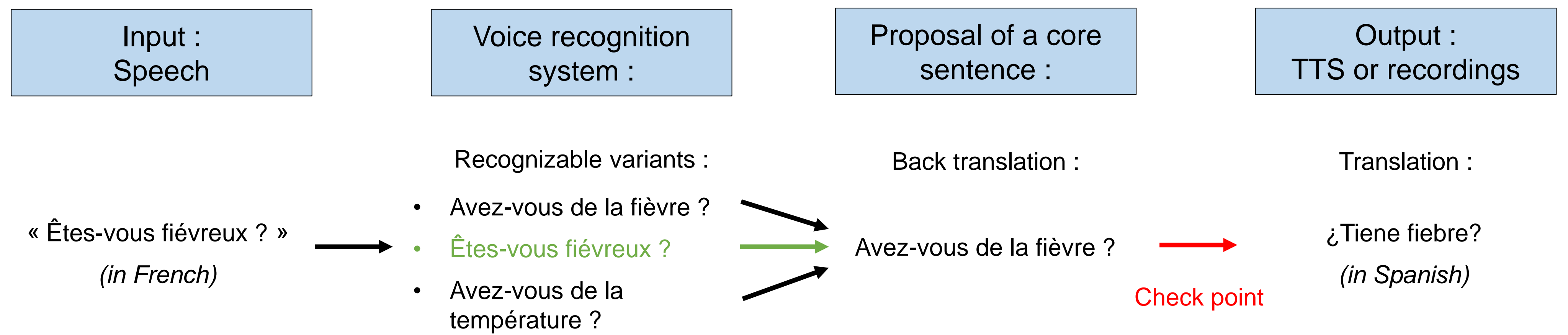
- Translation verified by experts at the Faculty of translation and interpreting, University of Geneva
- Back translation feature
- Not a word for word translation
- Guarantees data protection
- Translation according to patient gender
- Customizable to any situation or context

## Solution

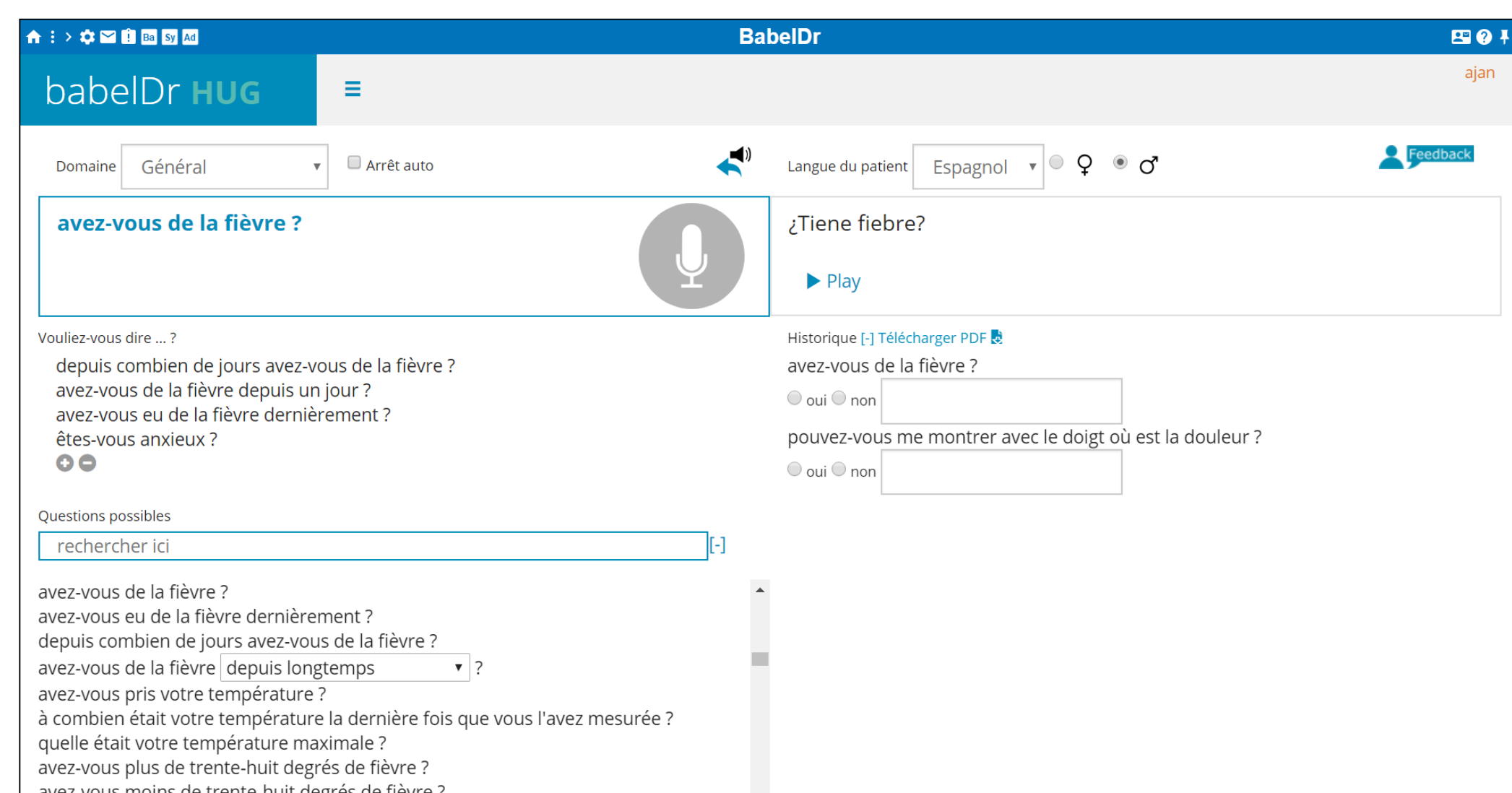
Use of a Speech-Enabled Fixed-Phrase Translator



### How it works



### What it looks like



### Available languages :

- Spanish
- Albanian
- Arabic
- Farsi
- Tigrinya
- Sign language (LSF-CH)

Expandable to other languages

Multiple platforms

## Studies

Study 1. Can Speech-Enabled Phraselators Improve Healthcare Accessibility ?  
A Case Study Comparing BabelDr with MediBabble for Anamnesis in Emergency Settings  
Boujon, V., Bouillon, P., Spechbach, H., Gerlach, J., & Strasly, I. (2018)

### Population

- Medical Students (N = 10), French
- 2 Standardized Patients, Spanish

### Tools

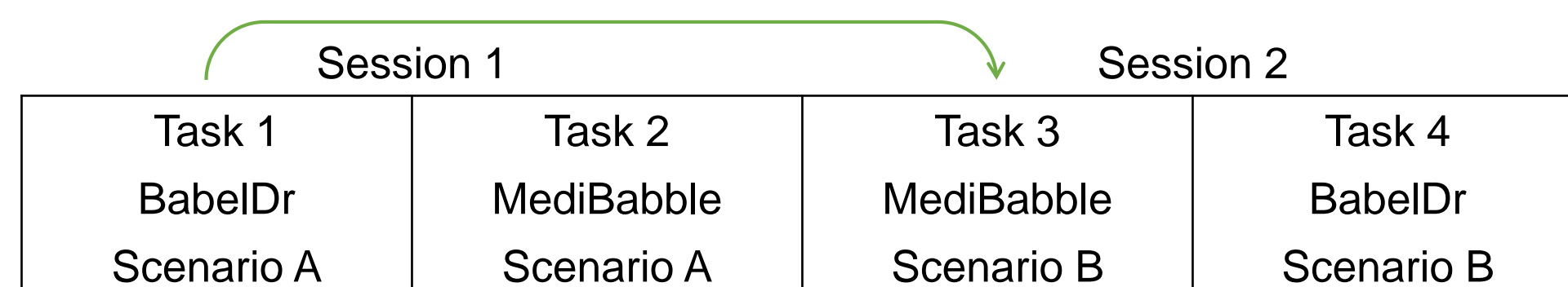
- Tablet (MediBabble system)
- Laptop (BabelDr system)
- 2 Questionnaires (1 per session)

### Type of interaction

- BabelDr – navigation using voice recognition system
- MediBabble – navigation through a tree system logic

### Experimental design

Crossover design



### Results

	Number of correct interactions	
BabelDr	198	200
MediBabble	195	200

Successful interactions

- Similar performances

	First use	Second use
BabelDr	20s	19s
MediBabble	30s	37s

Difference in time by sessions

- Time of use is lower
- Average time in favor of BabelDr is 11 seconds (95%CI, 4.6-17.3,  $p < .001$ )

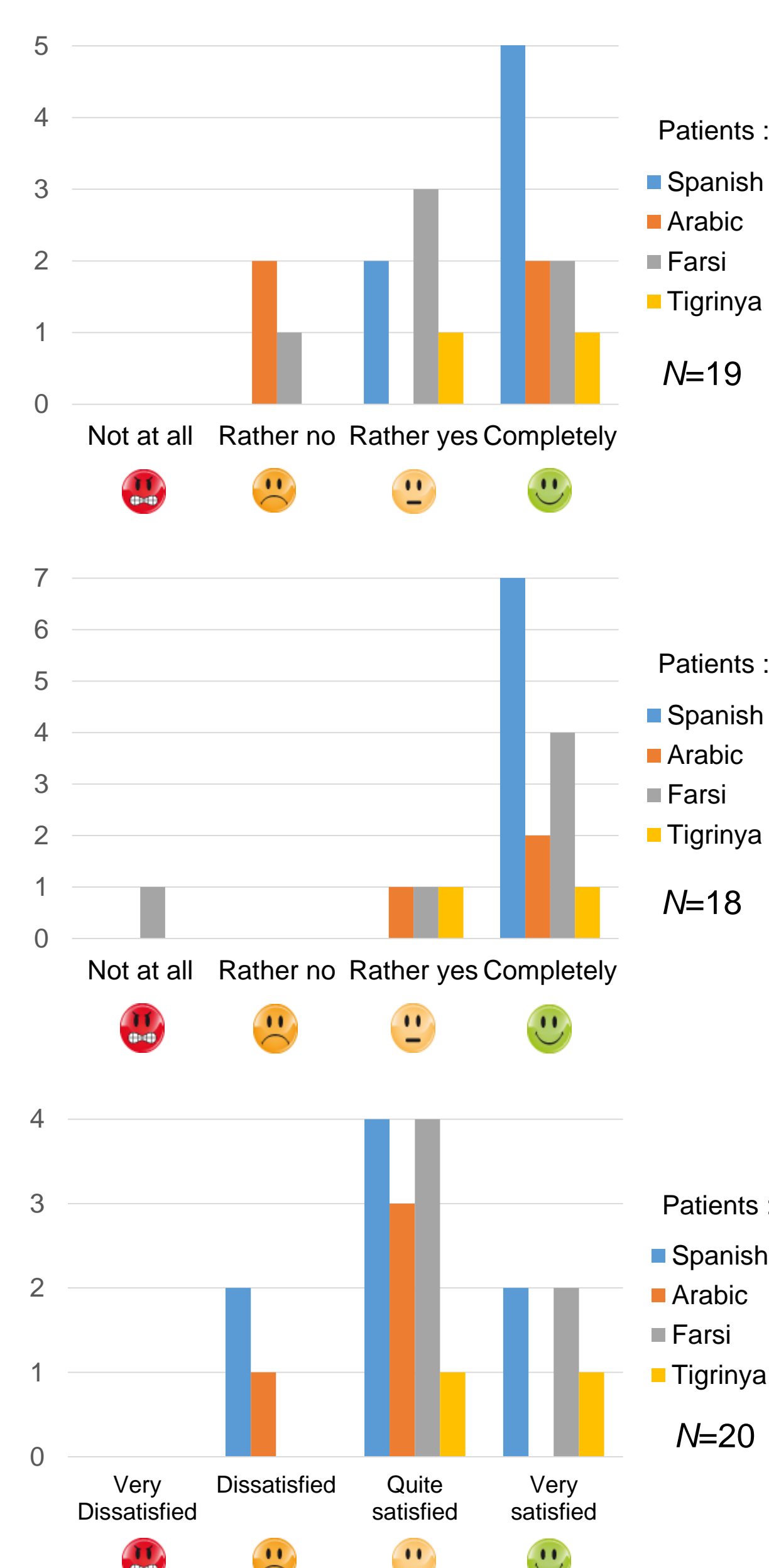
	First use	Second use
BabelDr	3.3	3.3
MediBabble	5.5	6.3

Difference in clicks by sessions

- Less mouse clicks
- Average clicks in favor of BabelDr is 2.7 (95%CI, 1.8-3.7,  $p < .001$ )

Study 2 (In Progress). Used at the HUG : Descriptive Analyses of Patient and Doctor Satisfaction in Emergency Settings  
Spechbach, H., Bouillon, P., Gerlach, J., Vuadens-Lehmann, A. & Janakiram, A. (2019)

### Results :



### Patient

#### Communicate the reason of visit

Item 6 : "Have you been able to communicate to the doctor the reason for your visit to the emergency room ?"

- More than 75% of patients are able to communicate their problem to the doctor

#### Satisfaction level

Item 11 : "How satisfied are you with this translation tool ?"

- More than 90% of patients are satisfied with the system

### Doctor

#### Satisfaction level

Item 21 : "Regarding the use of this software, would you say that you are ..."

- More than 75% of doctors are satisfied with the system