



UvA-DARE (Digital Academic Repository)

From barrier to bridge

Digital decision support to overcome language barriers and enhance communication outcomes with migrant patients

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Appendices

Appendix A: Supplementary Materials for Chapter 2

Supplementary Analysis

After the completion of coding, we used ATLAS.ti to count the frequency of quotations coded in each medical goal. We then divided the frequency by the total number of codes to generate relative frequencies of HCPs' discussion of each medical goal to generate Figure 1.

Supplementary Results

Figure 1 shows the overall distribution of quotations across the six medical goals. Each bar represents the relative percentage of quotations attributed to a particular medical goal, showcasing the proportional contribution of each medical goal to the overall discourse. In other words, the percentages signify how much HCPs mentioned a specific medical goal in comparison to all the medical goals they talked about, allowing us to inspect the prevalence of specific topics within the broader context of the dataset. All coding researchers received prior training, coding guidelines, and had meetings regularly to discuss coding challenges and potential biases to minimise variations in coding interpretations.

Appendix B:

Supplementary Materials for Chapter 4

Topic Guide for Uncovering Healthcare Providers' Needs and Preferences for the Decision Aid

Opening: We would like to explore your needs and preferences for a decision aid that will help mitigate language barriers.

Before diving into the main question, I would like to ask:

- Was there a time where you had trouble with conveying something to your patient so they could understand?
 - [PROBE]* Do you recall any cases where a formal or informal interpreter was present? Was there a difference in terms of the comm methods you used?
 - [PROBE]* Based on your experience, do you also think there are differences depending on:
 - a. Dutch language proficiency: How well the patient could speak Dutch?
 - b. Health condition and treatment phase: How serious the patient's illness was?
 - c. Sex and age: Was it a female/male patient? Do you notice a difference in the communication methods used when it was a female/male patient? How about age (i.e., when the patient is young or old)?
 - d. Level of acculturation: Do you think the patient was well assimilated to the Dutch culture?
 - e. Health literacy: Do you think the patient was able to understand the health information (you provided) well?

Onto the main questions. First, I want to ask if you have ever used any decision aids in practice?

- If yes: Could you provide examples of the ones that you found useful, and explain why they were useful?
 - *[PROBE]* Would you use these decision aids to make shared decisions with patients on what communication methods to use to mitigate language barriers?
- If no, but is aware they are available: Why not?
 - *[PROBE]* Was it because you didn't think it would be useful, that it would be more time consuming to use it, or that it didn't seem easy to use?
 - Would you use these tools to make shared decisions with patients on what communication methods to use to mitigate language barriers?

- If no, but unaware:
 - *[PROBE] Do you know what decision aids are? If no, explain to GP: A decision aid is a tool that helps HCPs have discussions with their patients about decisions; these aids provide information about options, help clarify personal values, and in some cases, even help collect biomedical data for HCPs (Elwyn et al., 2009).*
 - *Would you use these tools to make shared decisions with patients on what communication strategies to use to mitigate language barriers?*

As you might already know, decision aids can come in many forms – paper format, digital format (i.e., websites, apps, etc.). The common feature that they bear though is that they outline the options, along with the risks and benefits of these options for patients. Many of them also have additional features, such as separate portals for healthcare professionals and patients to log onto, where healthcare professionals can look at the (biomedical) data that patients enter themselves. Additionally, sometimes these tools also have extended tools that help patients or healthcare providers in navigating the consultation, such as question prompt lists. With this in mind, I want to ask,

- i. Should the decision aid be used on its own (like a website), or should it be implemented in the electronic system your clinic/hospital (EPIC/ICT system) currently uses?
- ii. If it on its own, what (digital medium) should it preferably be?
[PROBE] An app? Website? AI-based platform?
- iii. What is needed for your clinic to implement such a tool?
- iv. How do you see this tool being useful to mitigating language barriers with migrant patients who do not speak Dutch?
[PROBE] What do you think the decision aid should have, content wise, if it is aimed at helping you to mitigate language barriers?
What do you think the decision aid should look, format wise, if it is aimed at helping you to mitigate language barriers?
What information from your patients who speak little Dutch will you need to know to help you know how to mitigate language barriers with them?

We have come to the end of this interview. Do you have something to add, something that we did not discuss yet?

Topic Guide for Uncovering Migrant Patients' Needs and Preferences for Decision Aid

Opening: We aim to create a tool to help you and your doctor choose the best ways to tackle these language barriers to help you get all the information you need and feel supported.

1. Previous decision aid usage
 - a. Have you previously used any tools that help you make decisions?
 - b. If so, could you tell me what it was like?
 - c. What features did you find it useful?
 - d. *If no, explain to the participant what it is, and show an online example if necessary*
 - e. Based on this example, can you tell me what you like about it?
 - f. What do you think can be improved?
 - g. Do you think it is easy to use? Is everything clear? Or is it difficult? Why?
2. Decision aid usage
 - a. This tool can be in paper or online format. Where would you like to use this tool? *PROBE: At home, at the clinic?*
 - b. *Can you use it at home? (Do they have Internet?)*
 - c. When would you like to use this tool? *Before or during the consultation?*
 - d. Would you like to use it alone or with a family member?
3. Content
 - a. What should the tool have, content-wise? *PROBE: Such as, providing information about requesting for a formal interpreter? Understanding the types of information you need and the communication methods you can use to understand them?*
4. Format
 - a. How should the tool look like? *PROBE: Language option(s)? Font? Images? Videos?*
5. Additional information from doctor
 - a. What information would you like from your doctor to be able to use this tool?
6. Additional information you can provide
 - a. What information are you willing to provide to your doctor for this tool that will help mitigate language barriers in the medical consultation? *PROBE: Perhaps your Dutch speaking abilities? Language preferences?*

7. A.O.B

- a. We have come to the end of this interview. Was there anything which we haven't talked about?
- b. Do you have anything you'd like to add? Before ending this interview, I was wondering if you might know other migrant friends who also speak little to no Dutch, and might be interested to participate in this study? [write answer in notes]
- c. And would you also be interested in participating in follow-up studies that will be part of the bigger project? [write answer in notes]
- d. Once again, thank you for your time and interest!

Appendix C: Supplementary Materials for Chapter 5

Usability Testing Document: Healthcare Providers

Introduction

Thank you for taking the time to participate in this study. You are here today because researchers at the University of Amsterdam have developed a website for the Turkish community and you (healthcare providers) and need to know how to improve it. To better understand how the website can be improved, you will go through two parts of this session. First, you will be asked to look at a website called **MediLanguage**. When you look through it, I will give you different tasks to perform. To learn as much as possible about your experiences with **MediLanguage**, I will ask you to share your thoughts aloud. This means saying everything that comes into your mind out loud: what you think of everything you see on the website, such as the texts or images, and any questions you may have. Please express both positive and negative experiences. This part is not an interview, but the intention is to have you express your thoughts out loud. So, you don't have to wait for me to ask a question but try to say as much as you can. Knowing what you think is highly important because the web app is still under development, and with your honest opinions, researchers will know how to improve it so it can be used in the future. Bear in mind that you need to finish the tasks on your own! I cannot help you unless there is a technical issue.

After you have finished all the tasks, you will be asked a few general questions to end the session.

Is everything clear?

Do you give consent to be video and audio recorded?

Part 1: Tasks (max. 30 mins)

Task	Assignment + Questions	Function Tested
Patients' interface		
<i>1. Features to test: Changing the language, sign up/login, website tour, home page</i>		
1.1	<p>Inform participant: they will first look at patients' interface. Ask your participant to open their browser and access https://medilanguage.com</p> <p><i>Note: Make sure to always ask the participant why they do certain things on the website. If necessary, tell participant they can always use the text-to-speech function</i></p>	-
1.2	Change the website into Turkish. Was this easy to find? Switch it back to English after.	Changing language
1.3	What is your first impression of the website? How did you find the style, layout, colour choices, font sizes, etc.?	-
1.4	Suppose you are asked to sign up and make an account. Can you try to do so? Were you able to find the sign up? Was it difficult/easy?	Sign up/login
1.5	You will now go through a 'tour' of the website. Go through the tour. After going through the 'tour', can you tell me the main functions of this website? Was there information missing?	Website tour
1.6	Go to the home page. How was it finding the home page? What do you think of it?	Home page
<i>2. Features to test: Finding information about translation options, talking to the doctor, introduction to the Dutch healthcare system</i>		
2.1	Suppose you are interested what methods of translations there are. Where would you go on the home page? <i>Reminder: Ask participant why they went to certain places on the website if they were not going to the right place</i>	Information on translation options
2.2	Suppose you don't know why is talking to the doctor important. Where would you go? What is the main message?	Information of talking to the doctor
2.3	Suppose you want to find a video about the Dutch healthcare system. Where would you go? Can you find it? Where is the video from?	Information about the Dutch healthcare system

Part 1 (continued)

Task	Assignment + Questions	Function tested
<i>3. Feature to test: Reflection tree, confirming informed consent, recommendations page</i>		
3.1	Pretend you are a patient now. Suppose you have an appointment with your GP the next day. The GP office assistant tells you to use the 'reflection' function on MediLanguage to find the best translation method you can use for the upcoming appointment. Can you try to find this?	Reflection tree / Translator Matcher
3.2	Do you understand what the questionnaire is for?	Disclaimer
3.3	Now you are about to go through the reflection tree/questionnaire. While doing so, imagine you are experiencing some symptoms difficult to explain in Dutch. You can choose all other answers to other questions yourself. Are the questions clear? Are the answers clear? What was easy/difficult to understand?	Reflection tree
3.4	Can you tell me what is the main recommendation you received? Can you tell me the advantages and disadvantages of the main recommendation?	Recommendations page pt. 1
3.5	Can you go back to the home page now, and then find the main recommendation again? Was that easy/difficult?	Finding main recommendation
3.6	Can you tell me what other translation methods are available besides the main one recommended? How many are there? Do you like this style of presentation?	Recommendations page pt. 2
3.7	What did you think about this reflection tree/questionnaire overall? Do you think it will be helpful for patients? Do you have other name suggestions?	-
<i>4. Features to test: Digital notebook / personal notes</i>		
4.1	Again, pretend you are a patient. Suppose you are preparing for the GP appointment. You want to write down some notes to prepare that you may want to share with the GP. Can you find where to do this? Was it easy/difficult?	Locating digital notebook / personal notes
4.2	Imagine you have are experiencing stomach issues and experience two to three symptoms. Can you write them down in Turkish?	Translation function



Part 1 (continued)

Task	Assignment + Questions	Function tested
4.3	Can you try to save it?	Saving function
4.4	Can you try to favourite it?	Favourite function
4.5	Can you exit click on something else, and try to find the notebook you favourited?	Locating favourite notebook
<i>5. Feature to test: Translator</i>		
5.1	Can you find the translator on <i>MediLanguage</i> ? Was it easy/difficult? Do you have other name suggestions?	Locating translator
5.1	Suppose you want to translate a medical term that you only know in Turkish into Dutch. Can you do this? Was it easy/difficult?	Using translator
5.2	You want to favourite the term you just translated. Can you do this? Was this easy?	Favourite function
<i>6. Feature to test: Dictionary</i>		
6.1	Can you find the dictionary on <i>MediLanguage</i> ? Was it easy/difficult?	Locating dictionary
6.2	Suppose you want to translate a medical term that you only know in Dutch into Turkish. Can you do this? Was it easy/difficult?	Using dictionary
<i>HCPs' interface</i>		
<i>7. Features to test: Log in, home page, notebook</i>		
7.1	<i>Transition: Now, I will ask you to test out the HCPs' interface. With your phone, go to https://medilanguage.com again. This time, sign in as a doctor with a different personal email address. Are you able to find it? Was it easy/difficult? Note: if HCP doesn't have another email address, participant can try with medilanguage@outlook.com (PW: autoDROPI31.)</i>	Signing in as a doctor
7.2	Do you see the home page? Suppose you want to know how you can educate your patients properly. Can you find this? Was this easy/difficult? Is there any information you would change or add under 'before consultation'?	Home page: Before consultation

Part 1 (continued)

Task	Assignment + Questions	Function tested
7.3	Now, suppose you want to know what some available professional interpreting services are. Can you find this? How many services are available? Was this easy/difficult? Is there anything you would change or add?	Home page: During consultation
7.4	Now go to 'notes' on your phone. Go back to your desktop to the 'notebook' function on patients' interface. Scan the QR code on the desktop version and try to write something in the notebook. Was this easy/difficult?	Notes
End of Part 1		

Part 2: Interview (max. 30 minutes)

	Construct	Questions
1	Ice-breaker	What is your overall impression of <i>MediLanguage</i> ?
2	Overall experience	How was your overall experience performing the tasks?
3	Usability (Busse et al., 2021)	How did you feel about the usability of <i>MediLanguage</i> ? · What did you like/not like about it? Can you see yourself or patients using it?
4	Content/Logic of information (Busse et al., 2021): Information	How did you feel about the information in <i>MediLanguage</i> ? · Is there anything you felt was missing? · Is there anything you did not feel was necessary? · Was the information in logical places? What adjustments would you like to see beyond that?
5	Content/Logic of information (Busse et al., 2021): Reflection tree	How did you feel about the reflection tree and recommendation(s) in <i>MediLanguage</i> ? · Is there anything you felt was missing? · Is there anything you did not feel was necessary? · Was the information in logical places? What adjustments would you like to see beyond that?
6	Ease of use (Busse et al., 2021; Chung et al., 2021; Neudorf et al., 2023; Pruitt et al., 2021; Neudorf et al., 2023)	What aspects of <i>MediLanguage</i> did you find easy to use? What aspects of <i>MediLanguage</i> did you find challenging to use? · What did you like? What would you change?



Part 2 (continued)

	Construct	Questions
7	Comprehension (Neudorf et al., 2023)	What aspects of <i>MediLanguage</i> were unclear? <ul style="list-style-type: none"> · What would you change? · Can you recommend changes to make <i>MediLanguage</i> more user-friendly or informative?
8	Intention to use (Extended TAM) (Chung et al., 2021)	Do you intent to use <i>MediLanguage</i> in the future?
9	Barriers (Neudorf et al., 2023)	What would prevent you from using <i>MediLanguage</i> in your daily life?
10	Different user needs and preferences	Are there any aspects of <i>MediLanguage</i> that might exclude certain user groups? Do you think that <i>MediLanguage</i> can improve or support communication between you and doctors?
11	Other	Are there any other topics related to <i>MediLanguage</i> that you would like to discuss or have noticed that I have not yet asked about?

Closing

Thank the participant for his/her valuable input and participation. Ask if they would like to hear about the results in the future and if they would be interested in participating in the RCT in fall.

Usability Testing Document: Patients & Informal Caregivers

Introduction

Thank you for taking the time to participate in this study. You are here today because researchers at the University of Amsterdam have developed a website for the Turkish community and need to know how to improve it. To get a better understanding on how the website can be improved, you will go through two parts of this session. First, you will be asked to look at a website called **MediLanguage**. When you look through it, I will give you different tasks to perform. To learn as much as possible about your experiences with **MediLanguage**, I will ask you to share your thoughts aloud. This means saying everything that comes into your mind out loud: what you think of everything you see on the website, such as the texts or images, and any questions you may have. Please express both positive and negative experiences. This part is not an interview, but the intention is to have you express your thoughts out loud. So, you don't have to wait for me to ask a question but try to say as much as you can. Knowing what you think is highly important because the website is still under development, and with your honest opinions, researchers will know how to improve it so it can be used by you and your community. In other words, your honesty will help you friends and family because the tool will be for Turkish people! Bear in mind that you need to finish the tasks on your own! I cannot help you unless there is a technical issue.

After you have finished all the tasks, you will be asked a few general questions to end the session.

Is everything clear?

Do you give consent to be video and audio recorded?

Part 1: Tasks (max. 30 mins)

Task	Assignment + Questions	Function tested
<i>1. Features to test: Changing the language, sign up/login, website tour, home page</i>		
1.1	Help your participant to open the link I've sent you to access MediLanguage. Ask your participant to set it to the language to Turkish. <i>Note: Make sure to always ask the participant why they do certain things on the website. If necessary, tell participant they can always use the text-to-speech function</i>	-
1.2	Change the website into Turkish. Was this easy to find?	Changing language
1.3	What is your first impression of the website? How did you find the style, layout, colour choices, font sizes, etc.?	-
1.4	Suppose you are asked to sign up and make an account. Can you try to do so? Were you able to find the sign up? Was it difficult/easy?	Sign up/login
1.5	You will now go through a 'tour' of the website. Go through the tour. After going through the 'tour', can you tell me the main functions of this website? Was there information missing?	Website tour
1.6	Go to the home page. How was it finding the home page? What do you think of it?	Home page
<i>2. Features to test: Finding information about translation options, talking to the doctor, introduction to the Dutch healthcare system</i>		
2.1	Suppose you are interested what methods of translations there are. Where would you go on the home page? <i>Reminder: Ask participant why they went to certain places on the website if they were not going to the right place</i>	Information on translation options
2.2	Suppose you don't know why is talking to the doctor important. Where would you go? What is the main message?	Information of talking to the doctor
2.3	Suppose you want to find a video about the Dutch healthcare system. Where would you go? Can you find it? Where is the video from?	Information about the Dutch healthcare system

Part 1 (continued)

Task	Assignment + Questions	Function tested
<i>3. Feature to test: Reflection tree, confirming informed consent, recommendations page</i>		
3.1	Suppose you have an appointment with your GP the next day. The GP office assistant tells you to use the 'reflection' function on MediLanguage to find the best translation method you can use for the upcoming appointment. Can you try to find this?	Reflection tree / Translator Matcher
3.2	Do you understand what the questionnaire is for?	Disclaimer
3.3	Now you are about to go through the reflection tree/questionnaire. While doing so, imagine you are experiencing some symptoms difficult to explain in Dutch. You can choose all other answers to other questions yourself. Are the questions clear? Are the answers clear? What was easy/difficult to understand?	Reflection tree
3.4	Can you tell me what is the main recommendation you received? Can you tell me the advantages and disadvantages of the main recommendation?	Recommendations page pt. 1
3.5	Can you go back to the home page now, and then find the main recommendation again? Was that easy/difficult?	Finding main recommendation
3.6	Can you tell me what other translation methods are available besides the main one recommended? How many are there? Do you like this style of presentation?	Recommendations page pt. 2
3.7	What did you think about this reflection tree/questionnaire overall? Do you think it will be helpful for patients? Do you have other name suggestions?	-
<i>4. Features to test: Digital notebook / personal notes</i>		
4.1	Suppose you are preparing for the GP appointment. You want to write down some notes to prepare that you may want to share with the GP. Can you find where to do this? Was it easy/difficult?	Locating digital notebook / personal notes
4.2	Imagine you have are experiencing stomach issues and experience two to three symptoms. Can you write them down in Turkish?	Translation function

Part 1 (continued)

Task	Assignment + Questions	Function tested
4.3	Can you try to save it?	Saving function
4.4	Can you try to favourite it?	Favourite function
4.5	Can you exit click on something else, and try to find the notebook you favoured?	Locating favourite notebook
5. Features to test: Translator		
5.1	Can you find the translator on <i>MediLanguage</i> ? Was it easy/difficult? Do you have other name suggestions?	Locating translator
5.1	Suppose you want to translate a medical term that you only know in Turkish into Dutch. Can you do this? Was it easy/difficult?	Using translator
5.2	You want to favourite the term you just translated. Can you do this? Was this easy?	Favourite function
End of Part 1		

Part 2: Interview (max. 30 minutes)

	Construct	Questions
1	Ice-breaker	What is your overall impression of <i>MediLanguage</i> ?
2	Overall experience	How was your overall experience performing the tasks?
3	Usability (Busse et al., 2021)	How did you feel about the usability of <i>MediLanguage</i> ? <ul style="list-style-type: none"> · What did you like/not like about it? Can you see yourself using it for your GP appointments?
4	Content/Logic of information (Busse et al., 2021): Information	How did you feel about the information in <i>MediLanguage</i> ? <ul style="list-style-type: none"> · Is there anything you felt was missing? · Is there anything you did not feel was necessary? · Was the information in logical places? What adjustments would you like to see beyond that?

Part 2 (continued)

	Construct	Questions
5	Content/Logic of information (Busse et al., 2021): Reflection tree	How did you feel about the reflection tree and recommendation(s) in <i>MediLanguage</i> ? <ul style="list-style-type: none"> • Is there anything you felt was missing? • Is there anything you did not feel was necessary? • Was the information in logical places? What adjustments would you like to see beyond that?
6	Ease of use (Busse et al., 2021; Chung et al., 2021; Neudorf et al., 2023; Pruitt et al., 2021; Neudorf et al., 2023)	What aspects of <i>MediLanguage</i> did you find easy to use? What aspects of <i>MediLanguage</i> did you find challenging to use? <ul style="list-style-type: none"> • What did you like? What would you change?
7	Comprehension (Neudorf et al., 2023)	What aspects of <i>MediLanguage</i> were unclear? <ul style="list-style-type: none"> • What would you change? • Can you recommend changes to make <i>MediLanguage</i> more user-friendly or informative?
8	Intention to use (Extended TAM) (Chung et al., 2021)	Do you intent to use <i>MediLanguage</i> in the future?
9	Barriers (Neudorf et al., 2023)	What would prevent you from using <i>MediLanguage</i> in your daily life?
10	Different user needs and preferences	Are there any aspects of <i>MediLanguage</i> that might exclude certain user groups? Do you think that <i>MediLanguage</i> can improve or support communication between you and doctors?
11	Other	Are there any other topics related to <i>MediLanguage</i> that you would like to discuss or have noticed that I have not yet asked about?

Closing

Thank the participant for his/her valuable input and participation. Ask for their email address to receive a digital gift card as a token of appreciation.

Appendix D: Supplementary Materials for Chapter 6

Pre-test Questionnaire for Healthcare Providers

Part 1: Background Characteristics Assessment for Healthcare Providers

1. How old are you?	_____ years old
2. What is your gender?	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other / I do not wish to disclose
3. What is your country of birth?	_____
4. Which ethnic group do you most identify with?	<input type="checkbox"/> European <input type="checkbox"/> Asian <input type="checkbox"/> Latin American/Hispanic <input type="checkbox"/> Middle Eastern/North African <input type="checkbox"/> African <input type="checkbox"/> Native/Indigenous <input type="checkbox"/> Pacific Islander <input type="checkbox"/> Mixed/Multiracial <input type="checkbox"/> Prefer Not to Say <input type="checkbox"/> Other (Please specify):_____
5. What is your mother tongue? <i>(feel free to list more than one, if applicable)</i>	_____
6. What is your occupation at the GP clinic?	<input type="checkbox"/> General practitioner/family doctor <input type="checkbox"/> Counsellor/therapist <input type="checkbox"/> Psychologist <input type="checkbox"/> Psychotherapist <input type="checkbox"/> Psychiatrist <input type="checkbox"/> Nurse <input type="checkbox"/> Social worker <input type="checkbox"/> Patient registration clerk/receptionist <input type="checkbox"/> Other, namely: _____
7. How long have you worked in this profession?	<input type="checkbox"/> < 1 year <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> 11-15 years <input type="checkbox"/> > 15 years

Part 1 (continued)

<p>8. How many years have you been working in the current practice?</p>	<p><input type="checkbox"/> < 1 year <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> 11-15 years <input type="checkbox"/> > 15 years</p>
<p>9. How long have you worked with low Dutch proficient Turkish patients in this profession?</p>	<p><input type="checkbox"/> < 1 year <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> 11-15 years <input type="checkbox"/> > 15 years</p>
<p>10. During the last 6 months, on average, how often did you work with low Dutch proficient Turkish patients?</p>	<p><input type="checkbox"/> At least once a day <input type="checkbox"/> At least once a week <input type="checkbox"/> At least once a month <input type="checkbox"/> Less than once a month</p>
<p>11. During the last 6 months, on average, how often did you experience communication difficulties due to language barriers with low Dutch proficient Turkish patients during your job?</p>	<p><input type="checkbox"/> At least once a day <input type="checkbox"/> At least once a week <input type="checkbox"/> At least once a month <input type="checkbox"/> Less than once a month</p>
<p>12. Have you received any training on intercultural competencies/communication in language-discordant consultations (i.e., consultations with language barriers)?</p>	<p><input type="checkbox"/> No <input type="checkbox"/> Yes, namely _____</p>



Part 2: Healthcare Providers' General Communication Self-Efficacy

<p>The <i>Healthcare Providers' Communication Self-Efficacy Scale</i> (SE-12) is designed to assess your confidence in effectively communicating with Turkish patients with low Dutch language proficiency. This scale includes 12 items, each focusing on a specific aspect of patient-provider interaction. For each item, rate your confidence on a scale from 1(not at all confident) to 10 (completely confident) by ticking the number that best represents your current ability. Please bear in mind when selecting the number, think of your interactions with Turkish patients with low Dutch language proficiency.</p>
<p><i>On a scale of 1 to 10, with 1 being the lowest and 10 the highest, how certain are you that you are able to successfully...</i></p>
<p>1. ... Identify the issues the patient wishes to address during the conversation?</p>
<p>2. ... Make an agenda/plan for the conversation with the patient?</p>
<p>3. ... Urge the patient to expand on his/her problems/worries?</p>
<p>4. ... Listen attentively to the patient?</p>

Part 2 (continued)

The *Healthcare Providers' Communication Self-Efficacy Scale* (SE-12) is designed to assess your confidence in effectively communicating with Turkish patients with low Dutch language proficiency. This scale includes 12 items, each focusing on a specific aspect of patient-provider interaction. For each item, rate your confidence on a scale from 1(not at all confident) to 10 (completely confident) by ticking the number that best represents your current ability. Please bear in mind when selecting the number, think of your interactions with Turkish patients with low Dutch language proficiency.

5. ... Encourage the patient to express thoughts and feelings?

6. ... Structure the conversation with the patient?

7. ... Demonstrate appropriate non-verbal behaviour (eye contact, facial expression, placement, posture, and voicing)?

8. ... Show empathy (acknowledge the patient's views and feelings)?

9. ... Clarify what the patient knows in order to communicate the right amount of information?

10. ... Check the patient's understanding of the information given?

11. ... Make a plan based on shared decisions between you and the patient?

12. ... Close the conversation by assuring, that the patient's questions have been answered?

Questionnaire for LLP Turkish-Dutch patients: Intervention Condition

Part 1: Pre-test – Introduction, Demographics and Acculturation

Hi, my name is _____, and I'm a research assistant from the University of Amsterdam. I'm working on a study about language barriers in healthcare. Thank you again for agreeing to take part in this study! As part of the study, we will ask you to:
 Answer a questionnaire before your consultation with your HCP
 Use a website we developed, MediLanguage before your consultation
 Answer a few more questions after your consultation
 Your participation will take about 15 – 20 minutes. All your information will remain confidential. Do you have any questions about this? If not, first, I'd like to get to know you a little bit (fill this out by hand, upload answers on Qualtrics after).

1.1 Demographics and language assessment of Turkish-Dutch patient					
How old are you?	_____ years old				
What is your gender?	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other, namely: _____ <input type="checkbox"/> I prefer not to say				
What is your country of birth?	_____				
How long have you been in the Netherlands?	_____ years				
What was the reason for coming to the Netherlands?	<input type="checkbox"/> To find labour/work <input type="checkbox"/> To study <input type="checkbox"/> To reunite with my family <input type="checkbox"/> To flee from conflict, persecution or human rights violations <input type="checkbox"/> Other, namely: _____ <input type="checkbox"/> I prefer not to say				
Is Turkish your mother tongue?	<input type="checkbox"/> Yes <input type="checkbox"/> No, namely: _____				
How fluent are you in Dutch, in terms of...	Not at all fluent	Slightly fluent	Moderately fluent	Very fluent	Completely fluent
... speaking?	1	2	3	4	5
... listening?	1	2	3	4	5
... reading?	1	2	3	4	5
... writing?	1	2	3	4	5



Part 1 (continued)

<p>How many people are there in your household living with you?</p>	<p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 to 4 <input type="checkbox"/> 5 to 6 <input type="checkbox"/> 6 or more <input type="checkbox"/> Other, namely: _____ <input type="checkbox"/> I prefer not to say</p>
<p>Who are the members of your household? (Tick all that applies)</p>	<p><input type="checkbox"/> Spouse/partner <input type="checkbox"/> Parents <input type="checkbox"/> Children <input type="checkbox"/> Siblings <input type="checkbox"/> Other, namely: _____ <input type="checkbox"/> I prefer not to say</p>
<p>Is someone taking care of you?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I prefer not to say</p>
<p>If yes, who is your main caregiver?</p>	<p><input type="checkbox"/> Spouse/partner <input type="checkbox"/> Child(ren) <input type="checkbox"/> Sibling(s) <input type="checkbox"/> Other, namely: _____ <input type="checkbox"/> I prefer not to say</p>
<p>Does he/she live with you?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I prefer not to say</p>
<p>Are there other people helping you?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I prefer not to say</p>
<p>If so, who are they?</p>	<p>_____</p>
<p>Are you religious?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I prefer not to say</p>
<p>If yes, what is your religion?</p>	<p><input type="checkbox"/> Sunni Islam <input type="checkbox"/> Alevi Islam <input type="checkbox"/> Christian <input type="checkbox"/> Judaism <input type="checkbox"/> Other, namely: _____ <input type="checkbox"/> I prefer not to say</p>

Part 1 (continued)

Do you use the internet?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I prefer not to say
If yes, how frequently do you use the internet?	<input type="checkbox"/> Daily <input type="checkbox"/> Two to three times a week <input type="checkbox"/> Four to five times a week <input type="checkbox"/> Six times a week <input type="checkbox"/> Not sure/I prefer not to say
On which device(s) do you use the internet? (Tick all that is applicable)	<input type="checkbox"/> Smartphone <input type="checkbox"/> Tablet/iPad <input type="checkbox"/> Laptop <input type="checkbox"/> Desktop (PC) <input type="checkbox"/> Smart television

1.2 Acculturation assessment of Turkish-Dutch patients

1.2.1 Psychological acculturation

On a scale of 1 to 5, with 1 being the least and 5 the most, please ask the patient to rate the following T-PAS items

Items: T-PAS

	Not at all	Slightly	Mode- rately	Very	Comple- tely
I feel comfortable with Turkish people.	1	2	3	4	5
I understand Turkish people.	1	2	3	4	5
Turkish people understand me.	1	2	3	4	5
I have a lot in common with Turkish people.	1	2	3	4	5
I share most of my beliefs and values with Turkish people.	1	2	3	4	5
I feel proud to be a part of Turkish culture.	1	2	3	4	5



Part 1 (continued)

<i>Items: D-PAS</i>					
	Not at all	Slightly	Mode- rately	Very	Comple- tely
Dutch people understand me.	1	2	3	4	5
I understand Dutch people.	1	2	3	4	5
I feel comfortable with Dutch people.	1	2	3	4	5
I have a lot in common with Dutch people.	1	2	3	4	5
I feel proud to be a part of Dutch culture.	1	2	3	4	5
I share most of my beliefs and values with Dutch people.	1	2	3	4	5
1.2.2 Behavioural acculturation					
<i>On a scale of 1 to 5, with 1 being 'never' and 5 being 'always', please ask patients to rate the following statements</i>					
	Never	Rarely	Some- times	Often	Always
How often do you speak in Turkish with people important to you (e.g., partner/spouse, parents, children, friends, etc.)?	1	2	3	4	5
How often do you speak in Dutch with people important to you?	1	2	3	4	5
<i>Please ask the patient yes/no for the following items</i>					
Do you have one or more Dutch friends?	Yes			No	
Do you have one or more Turkish friends?	Yes			No	
1.2.3 Identity					
<i>On a scale of 1 to 5, ranging from 1 being 'totally disagree' to 5 being 'totally agree', please rate the following items</i>					
	Totally disagree	Disagree	Neutral	Agree	Totally agree
I consider myself to be Turkish	1	2	3	4	5
I consider myself to be Dutch	1	2	3	4	5

Part 2: Use MediLanguage and Conduct Process Evaluation

For the research assistant, please note down the recommendation here:

2.1 Process evaluation of MediLanguage					
Below are a few statements related to MediLanguage . Ask patients to what extent he/she agrees with the statements below. Ask the patient to indicate the answer that best suits your personal opinion or experience with MediLanguage .					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1.1 Ease of use					
My interaction with MediLanguage is clear and understandable.	1	2	3	4	5
I find MediLanguage easy to use.	1	2	3	4	5
It is easy for me to become skilled at using the MediLanguage.	1	2	3	4	5
2.2.2 Usefulness of the content					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I find MediLanguage useful when dealing with language barriers in healthcare.	1	2	3	4	5
Learning to use the insights from MediLanguage's Language Support Starter is easy for me.	1	2	3	4	5
2.2.3 Comprehensibility of the information					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Information on MediLanguage is understandable for me.	1	2	3	4	5
The language on MediLanguage is easy to understand for me.	1	2	3	4	5



Part 2 (continued)

2.1 Process evaluation of MediLanguage					
2.2.4 Attractiveness of the content					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
MediLanguage looks enjoyable.	1	2	3	4	5
MediLanguage looks creative.	1	2	3	4	5
MediLanguage is clear and structured.	1	2	3	4	5
MediLanguage is developed well.	1	2	3	4	5
MediLanguage looks nice.	1	2	3	4	5
2.2.5 Future use					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I would use MediLanguage in the future with my HCP.	1	2	3	4	5
I would recommend MediLanguage to others.	1	2	3	4	5

Part 3: Post-test – Language Supporting Strategy Used, DCS, SDM, AURA, Patient Satisfaction, General Technology Acceptance, Closing

When the patient is out of his/her consultation, briefly ask him/her how it went. Ask for the HCP for the audio recorder, ensure that it is turned off, and ask the patient to stay for a few more minutes to answer a few questions + to get the 20 EUR gift card.

3.1 Language supporting methods

Ask the patient how the language barrier was mitigated with the question below.

Which language supporting strategies did you and the HCP use in the consultation to mitigate the language barrier? *Tick all that applies.*

- Professional phone interpreter
- Informal interpreter (family/friends as interpreter) on phone
- Professional on-site interpreter
- Informal interpreter on-site
- Ad-hoc interpreter (medical staff/other patients, etc., as interpreter)
- Digital translation app, namely: _____
- No language-supporting strategy was used, but instrumental strategies (e.g., speaking slowly, third language, gestures, etc.) (i.e., getting-by)
- Intercultural mediator
- Others, namely: _____
- None

3.2 Short Form Decisional Conflict Scale (DCS-10)

Below is the DCS-10, designed to assess levels of uncertainty and decision-making confidence. We will measure patients' perceived decisional conflict surrounding solutions to mitigate language barriers. Remind patients about this. Each item is rated on a 5-point Likert scale:

1 = Strongly Agree
 2 = Agree
 3 = Neither Agree nor Disagree
 4 = Disagree
 5 = Strongly Disagree

Ask the patient to indicate how much he/she agrees or disagrees with the following statements about the decision made for mitigating language barriers.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
During the consultation, I felt confident about what the best language supporting method is for me.	1	2	3	4	5



Part 3 (continued)

During the consultation, I knew the risks and benefits of each language-supporting method.	1	2	3	4	5
During the consultation, the decision about what language supporting method to use was easy for me to make.	1	2	3	4	5
During the consultation, I felt uncertain about what to do about the language barrier. (Reverse-scored)	1	2	3	4	5
During the consultation, I was clear about which benefits and risks of the language supporting methods mattered most to me.	1	2	3	4	5
During the consultation, I felt supported by the doctor in making a decision about which language-supporting method to use.	1	2	3	4	5
During the consultation, the information I had about language-supporting methods was enough to make my decision about how to mitigate the language barrier.	1	2	3	4	5
During the consultation, I felt the language-supporting decision had a positive outcome on the quality of communication.	1	2	3	4	5
During the consultation, I was clear about the choice I needed to make for mitigating language barriers.	1	2	3	4	5
During the consultation, I felt pressured by the doctor to make a specific choice for mitigating language barriers. (Reverse-scored)	1	2	3	4	5

Part 3 (continued)

3.3 SDM-9: Shared Decision-Making Short Form Assessment						
<i>Below assesses the extent the patient and the doctor engaged in shared decision-making about mitigating their language barrier. Ask the patient, to what extent do you agree with the following statements?</i>						
	Comple- tely disagree	Strongly disagree	Some- what disagree	Some- what agree	Strongly agree	Comple- tely agree
My doctor made clear that a decision needed to be made about how to mitigate the language barrier.	1	2	3	4	5	6
My doctor wanted to know exactly how I want to be involved in making the decision about mitigating the language barrier.	1	2	3	4	5	6
My doctor told me there are different solutions for mitigating the language barrier.	1	2	3	4	5	6
My doctor precisely explains the advantages and disadvantages of the language supporting methods available.	1	2	3	4	5	6
My doctor helped me understand all the information about the language supporting methods available.	1	2	3	4	5	6
My doctor asked me which language supporting method I prefer.	1	2	3	4	5	6
My doctor and I thoroughly weighed the different language supporting methods.	1	2	3	4	5	6
My doctor and I selected a language supporting method together.	1	2	3	4	5	6
My doctor and I reached an agreement on how to proceed with the language barrier.	1	2	3	4	5	6



Part 3 (continued)

3.4 AURA: Ask, Understand, Remember Assessment				
<p>Now tell the patient this: "I am going to ask you a few questions about this visit. Tell me if you agree or disagree 'a little' or 'a lot' with the following statements."</p>				
	Disagree a lot	Disagree a little	Agree a little	Agree a lot
It was easy for me to ask my doctor questions.	1	2	3	4
It was easy for me to ask for help if I don't understand something.	1	2	3	4
It was easy for me to understand my doctor's instructions.	1	2	3	4
It was easy for me to remember my doctor's instructions.	1	2	3	4

3.5 Patient Satisfaction					
<p>Ask patients the following: "On a scale of 1 to 5, with 1 being 'very dissatisfied' and 5 being 'very satisfied', how satisfied were you with the..."</p>					
	Very dissatis- fied	Dis- satisfied	Neutral	Satisfied	Very satisfied
<p><i>Quality of care</i> How satisfied were you with the overall quality of care provided?</p>	1	2	3	4	5
<p><i>Quality of communication</i> How satisfied were you with the communication and explanations given by your doctor?</p>	1	2	3	4	5
<p><i>Overall consultation</i> How satisfied were you with the overall consultation?</p>	1	2	3	4	5
<p><i>Quality of HCPs</i> How satisfied were you with the doctor?</p>	1	2	3	4	5
Do you have anything to add related to this?					

Part 3 (continued)

3.6 Technology Acceptance							
Below are a few statements related to using health websites in general. Ask the patient to what extent does he/she agree with the statements below. Ask the patient to indicate the answer that best suits his/her personal opinion or experience.							
	Strongly disagree		Neither agree nor disagree			Strongly agree	
I find health websites useful in my daily life.	1	2	3	4	5	6	7
Learning to use health websites is easy for me.	1	2	3	4	5	6	7
My interaction with health websites is clear and understandable.	1	2	3	4	5	6	7
I find health websites easy to use.	1	2	3	4	5	6	7
It is easy for me to become skilful at using health websites.	1	2	3	4	5	6	7
I intend to continue using health websites in the future.	1	2	3	4	5	6	7
I always try to use health websites in my daily life.	1	2	3	4	5	6	7
I will continue to use health websites frequently.	1	2	3	4	5	6	7
3.7 Closing							
<p><i>That was all the questions I wanted to ask; do you have any additional remarks?</i></p> <p><i>Do you want to tell us something that we did not ask and that you think is important for us to know?</i></p> <p><i>Please help me sign this form for receiving the 20 EUR bol.com gift card (present patient with form for receiving compensation).</i></p> <p><i>Thank you again for your time!</i></p>							