**Information:**

Interview conducted with Interviewee 2 (female; linguist; HE)

41 minutes

Language spoken: English

Automatic transcription done with Zoom Audio transcription, and checked by a coder.

**Follow-up to the survey on the use of machine translation in health contexts**

**Researcher:** Thank you again for accepting to participate in this interview. As you already know, this is a follow-up interview to the questionnaire on the use of machine translation in healthcare in the Netherlands. You replied to this questionnaire earlier this year. Let me start by reminding you that this interview is being recorded. The data collected will be anonymized and analyzed together with other participants’ data. The recording itself will never be published or shared, and it will be deleted as soon as it is transcribed and anonymized. You are free to request a copy of the transcription. In the interview itself, we will invite you to go over potential scenarios regarding the use of technology - specifically, machine translation like Google translate or any other translation system on your phone or device - in healthcare contexts, like when you receive an invitation letter to get vaccinated or when you go to the doctor, huisarts.  The goal is to understand how machine translation can be used and what are the main challenges or opportunities when using it. We aim to create free training for users of machine translation like yourself in order to better support communities in these situations. The scenarios that we will show you are fictitious. They are potential scenarios or stories. The focus is on what you think a person would do if they were in this situation. Discuss anything that comes to mind or that you would like to share. We just ask you not to share confidential information about yourself.  If at any point, during the interview, you feel uncomfortable and you want to pause the interview, please just let us know. We can rephrase the question or stop the interview altogether. You can leave at any point during this interview. Any questions or concerns?

**Participant:** No.

**[STAGE 1 SLIDE 2]**

**Researcher:** I will start now by reading the first scenario that you can also see on the screen.“Two years ago, Maria moved to the Netherlands from Spain. It was right amid the pandemic, and she moved to take up a position at a new company in Rotterdam. Maria is a native speaker of Spanish, and she also speaks English. She has taken two Dutch courses online, so she understands and speaks rudimentary Dutch. For example, she can ask for a drink or have short conversations with neighbors, but not enough to feel fully comfortable speaking Dutch fluently in all situations. In 2021, she received a letter from the RIVM inviting him to get vaccinated against COVID-19. The letter is in Dutch.”

**Participant:** Okay, that’s familiar (laughs).

**Researcher:** What do you think about this case?

**Participant:** I think I mean (pauses) I moved to the Netherlands five years ago, so it's a maybe longer time, and I moved in from the UK, not from Spain. But Spanish is my first language, native language and um mother tongue (laughs) and um, and I also done course of Dutch and um with the University, because I'm [ANONYMISED]. I'm doing six now, which is good like you, like the the situation says, to understand daily life a bit, but when when it comes to complex complex words relate-related to certain uhm you know jargon from from health. You know that I received letters, not exactly to do with vaccination, but to do with um things for one of the um regulations and stuff like that, or I can't remember now exactly I did receive for the vaccination, I remember, but I had already done it (laughs) so in that most of them in Dutch, of course. And um Yeah. It's familiar that way. I mean when you (pauses) see the letter in Dutch you think to an extent will I be here for five years. So maybe I should work hard to understand this. But then, at the same time, you think oh, but this is very delicate. It's a health matter, right? So maybe yeah, it would have been nice to receive it in Dutch and you know, also in English, this is what came to my mind. Yeah.

**Researcher:** What do you think Maria can do in this situation with the letter?

**Participant:** What Maria and I would do (laughs). Is, what I've done before is like, I have this app on the phone with a um, what is it called? one of these apps that um translate visual. Then I looked at some point of the I can't find it anymore. But I took a picture of the the letter any place that it only a few words. I mean, there's always missing information, and Maria could also go and type it on Google translate (pauses), which takes a long time. What I also do is like I read through it, and then I try to understand the context. And if there's anything in particular that I don't get, and I think it's important I-I translate it on Google. Yeah.

**Researcher:** So you write the words that you don’t understand directly on Google Translate?

**Participant:** After reading, yeah.

**Researcher:** After you’ve tried to read. And when you used the app…

**Participant:** So it's like a picture scan. it's like-a-it's like a camera. It's simple, and then it takes a uh screenshot like a picture, and then uh some letters of some words in English appear. But it misses a lot of parts. So the-the I, because I think, okay, I should learn Dutch. So I should try first reading the-the letter, and then if I don't understand, maybe I can look for words. But then there's been times in which I was just tired, or you know I-I-I got the letter all these long words, and I was like That's it! If they don't send it to me also in English, I'm not making any effort. So this kind of thing, and uh, and then I went to the app. Yeah, I mean, type a whole letter, that never, but um, but yeah, now what I do with the app, I think I deleted it and then, so now what I try is to translate some words. Yeah.

**[STAGE 2 SLIDE 3]**

**Researcher: “**Because the letter mentioned COVID-19 and vaccinatie, and Maria had been waiting for more information on when and how she could get vaccinated, it was very important for him to understand the letter completely and thoroughly in all its detail. She tackles this by trying to read the letter top to bottom, sentence by sentence. The letter is hard to understand. She does not know many of the words used, and she feels increasingly nervous.” Why do you think Maria feels this way?

**Participant:** I think there are a few things at play there. I think one of the things is you are confronted with not being a-a fluent Dutch speaker after years. This is in my case more than Maria’s. And uh, I’m like “Oh, again, I can't still, I can't speak Dutch fluently. I'm not of that level.” You see, this is that kind of (pauses) uncomfortable because of that. But also at the same time (pauses) you feel like you're the eternal foreigner (laughs) in a way. So-So this-this uh (pauses). I know the the government or the institutions of the government that deal with health can make that effort to translate, … because they did it with the measures, but not with the vaccination, as much. So the measures yes, in different languages, but the vaccination or other things, not so much. So that choice they make, make you feel… makes you feel, as you know, like a foreigner forever. And if you don't have the time or the-the energy to, whatever, to learn a language quickly, then you're left behind. So you could feel a bit like confronted with not having become fluent yet, and I can understand exactly why. It is not that I punish myself for it. But if you are confronted with that knowledge and feeling a little bit rejected, and out-left out, and also a bit concerned, right? It is something do with health, or also the results of a test. So you want to understand every single word that it relates to you, because maybe you're… I-I read the context. Like I go a couple of times through it. What if I’m missing a word that changes the following word? It's not just one word, right? It is the whole sentence, and-and you could see, I don't know. See it with something and there's something else. So you think it's okay, and there's a piece of information that changes everything (laughs). I don't know. So there's a bit of… In summary, there's a bit of confrontation, being left out and also concern that you are missing information.

**Researcher:** Have you ever found yourself in a similar situation?

**Participant:** I mean, generally, I understand the context. But then this force that I keep reading, and I'm like, “What has this exactly, you know, to do with some tests?” Um, I can understand it would be the same with Covid.

**Researcher:** What would you recommend Maria to do next?

**Participant:** Translate, of course (laughs). With the like. It's how it's just like, translate with Google Translate, or an app, or-or-or something, or look up works in a dictionary whatever Maria prefers, some people prefer paper, depending on Maria’s age (laughs) and-and a lifestyle, and if the translation is still not um coherent, maybe ask a neighbor of trust. A neighbour that she trusts, maybe. Oh, I mean my partner is Dutch even so, I could ask him in the end (laughs).

**Researcher:** Do you do that?

**Participant:** I do sometimes but he becomes overwhelmed also with-with the vocabulary of formal letters. He's like “Uh, yeah, I understand this, but I don't know exactly what they mean”. And then I'm like, “Okay, that's it. No more” (laughs) I feel also it is my duty to know or understand things my way, my own way, yeah.

**[STAGE 3 SLIDE 4]**

**Researcher: “**Maria decides to use Google Translate. She opens the app on her phone, and using the camera, she scans the letter. It is rather challenging.” How would you say her user experience with the app is?

**Participant:** Um, I don’t know, I felt, thinking of that app, that was not Google Translate, it was like a green- I cannot come up with the name now. I did feel a bit frustrated that only some words were translated, but at the same time I could see immediately (pauses) the meaning without spending extra work, you know, typing (pauses) stuff. So it was very good in terms of immediacy. The substance was missing (laughs) in the sense it's somewhere to be translated all the, not in, and that can change. And yeah, so immediacy, but not a narrative.

**Researcher:** What kind of problems do you think she might face with this technology?

**Participant:** Well, I’m projecting now. I'm- I'm thinking about Maria. But I think you know other the people also, I think Um, not everyone use technology, right? People, don't and I know people that don't rely so much on the phone or an app. Also, the app can be broken, or that you don't have Internet. What if you're yeah, you don't have

Internet that, the signal is down? This is still whatever. And um, and you need to understand that little for the next day, and this yeah, and it's not working. It could be different challenges.

**Researcher:** Have you ever found yourself in a similar situation?

**Participant:** Um, I think so. I’m still wondering myself (laughs). Lacking signal, and then-with the app broken, yes, apps crash a lot and I was ugh. Without signal I have been without signal, but did not have to translate anything. Yeah, but it's frustrating by the lack of meaning. Yes.

**[STAGE 4 SLIDE 5]**

**Researcher: “**Maria is able to make an appointment for her vaccination. On the day of her appointment at the vaccination center, she goes to the counter, where she is asked in Dutch to present her ID and letter of invitation. She manages to understand this because the person on the counter makes a sign of the ID with her hand. Maria is nervous. Next, she is asked to fill in a health questionnaire in Dutch.” What would you recommend Maria to do next?

**Participant:** That's a more difficult situation because you are in live interaction with people. You know that? “Wait a second, my phone”, and it is such a fast kind of procedure. People waiting, you know? There’s more pressure on you to respond. The interaction with the person on the counter would be ok. Some people are more hostile than others when they see you are a foreigner, But it could be that you end up with a nice person that-that signals [uses signs], or that can speak some Spanish or English or something else. But then the formulier- the forms about health, I do remember roughly with some of the words, “What does this mean?” And yeah (pauses) this is and then again, you like, what whatever. But imagine if Maria has like-a like a health condition that they need to disclose, because it is, it's important, and they don't know how to say it, and people might not know what she means. So what would I recommend Maria to do next? Maybe ask if there’s a form in another language, in English, or in another language or if anyone can help around. And if you don’t speak English, Maria doesn’t speak Dutch or English, maybe use the automatic (laughs), I never used this myself, but I have seen people use it, people from-from China or other countries using um their like how is it called? Live translation app or something? And-and then speaking like a-a sentence and here comes the machine (laughs) the machine voice (makes robot noise) but this could be something for… I mean, I’m not anti-apps or anything or of translation apps, but they can provide a a window to help in live situations, especially, but of course they need to be coherent with things- and developed in a different way.

**Researcher:** Have you ever found yourself in a similar situation?

**Participant:** No, I never ask for a translation.

**Researcher:** You never ask for a translation?

**Participant:** No, and i'm sure that if I ask, maybe it will be a no, because there might not be any forms. But no, no, I'm sorry. I can't speculate too much (laughs).

**[STAGE 5 SLIDES 6-8]**

**Researcher:** “Because she has some knowledge of Dutch, and the first questions in the form do not appear to be difficult, such as *Naam,* *Achternaam*, Maria tries to answer them in Dutch. On the second page, though, she reads three questions she does not understand. She does not understand questions 11, 12 and 13.”



**Researcher:** What would you recommend Maria to do next?

**Participant:** I don’t think I do either. Okay (pauses) no idea what that is. So when I see question eleven, for example, I'm like, “bloed” I know, and and then-then but the rest I don't know, and then and “antistolling” have no idea what that is. But then I will read, uh (reads the questions) (pauses) Okay, so blood thinners, no (laughs). So maybe the context will give you a hint, but that's not uhm safe. So maybe if I were Maria if I could go… I guess that Maria so go to the meeting with some questions prepared like um on a piece of paper in that that she could search like. What is the meaning of these or these? Some forms in in English or or another language, and and maybe bring with her of course we said the app, but maybe look for the words, the main words for… the sentences. Yeah.

**Researcher:** Have you ever found yourself in a similar situation?

**Participant:** Yes, I have um forms, but not for-for the vaccine. Okay, I think on the vaccine I understood because I don't have any health conditions I go quickly through everything but-but in other cases that I really needed to um to understand that it grapple with words like stoling-stone. What is that? And then you're like (pauses) and then you look for a meeting around, and i'll just translate it to the and Google Translate Dutch to English, an yeah.

**Researcher:** And you use Dutch to English? That is the combination you use?

**Participant:** Yes.

**Researcher:** You don’t do Dutch to Spanish?

**Participant:** No, I don't because I'm learning Dutch in English. I know I mean in a context which I for my job, of course, work at the University I use English all the time, so so it For some reason it makes sense.

**[STAGE 6 SLIDE 9]**

**Researcher:** “Maria asks for help from the young man behind the counter. She asks in Dutch if she can explain what is “bloedverdunners of antistolling”,  “trombosedienst onder behandeling”, and “stollingsstoornis” by pointing at the form with her finger. The young man looks surprised. She looks at the next counter, and it is empty. She looks behind, and everyone seems busy. She then tries to start a sentence a couple of times and finally says in English that these are diseases.”

**Researcher:** What would you recommend Maria to do next?

**Participant:** What a complicated situation because you don't of course the person might not speak English, it’s not their fault, obviously we're in the Netherlands, so, yes, it's not that- that everyone should all the time speak, yeah, so (pauses). Well at least you know what (inaudible) is and-and some of them depending on the languages you use, If you use, you can understand thrombosis or blood, if you know the word bood maybe you can quickly search online and see if it's like something in um, search online, maybe, and -and show the lady. Like with the Dutch word and then the lady can be like “oh, yeah, yeah”.

**Researcher:** Have you ever found yourself in a similar situation?

**Participant:** No, not so far, let me think-no, I don't think so. Mostly I encountered people who spoke some English, or Spanish even, but mostly-mostly English and I was able to find and understand the word myself. Yeah, but I can understand.

**[STAGE 7 SLIDE 10]**

**Researcher:** “Maria turns to her phone, opens the Google Translate app, and types the words she does not understand.”In your opinion, is Maria taking a risk by using Google Translate?

**Participant:** Well, she's… There's many things at play there. I mean, also in terms of time and the person behind the counter might become nervous and more hostile and stuff. But, but also all these words will, you know, algorithms will affect her search, and in the future and they will… I don’t know. It’s your data also in a way. It is your private life, health. You don't want to be storing hints. I mean not that somebody is spying direct her. But you know, companies keep these data to an extent. So… not for everyone. It might not be safe a hundred per cent. And also, in a sense, what if the translation is flawed? And you end up having a problem because you have not properly understood and it’s not your fault even, like an allergic reaction or something because it's something. Yeah. It’s a few things. It is safe, but also not safe, at the same time.

**[STAGE 8 SLIDE 11-15]**

**Researcher: “**Maria turns to her phone, opens the Google Translate app, and types the words she does not understand.”

We are going to use a scale for the following questions:

5 = to a very high degree

4 = to a high degree

3 = to a moderate degree

2 = to a low degree

1 = not at all

Is the scale clear?

**Participant:** Yes.

**Researcher:** What level of understanding do you think Maria has when using the app? Does Maria understand the text…

5 = to a very high degree

4 = to a high degree

3 = to a moderate degree

2 = to a low degree

1 = not at all

**Participant:** Well, some of the words, yes, I don’t have blood thinners; I’m not taking them, so I’m safe to have this and that. But some of the other words, maybe not so much so, I will say, to a moderate degree, in my opinion.

**Researcher:** What degree of risk of significant harm is Maria exposed to if using the app? Is Maria’s health at risk?

5 = to a very high degree

4 = to a high degree

3 = to a moderate degree

2 = to a low degree

1 = not at all

**Participant:** Maybe I'll go for moderate again, I guess, to an extent she could also be safe with the translation. But what if something goes wrong? with the you know, the understanding and and a detail that is crucial is missed by Maria-by Maria or by the app. So.

**Researcher:** Whose responsibility do you think it will be if something happens to her because of the translation?

**Participant:** Oh, yeah, everyone. All of us. I mean, the responsibility is definitely the government’s… to the extent that the Health Ministry… Because if you have a society with foreigners, with migrants, with what they call “expats”, and that politics of categorizing people, you also need to make sure that you hire this other people unemployed they could be hired to translate live even. I mean, they might not be trained in translation, that's the only problem, but maybe they can help you in some way, being native speakers, you know all different languages. And so, I think it is not Maria’s fault. It's not the lady behind the counter either. It is the institution. They are not providing well or enough for this society. So, they are ignoring part of their society, and there is an institutional accountability, I think. And of course Maria could study what-yeah, we could all, … This is projecting again… We could all study more and engage more, but your life is complicated, so it's not always possible. And I think is a kind of systemic institutional failure if anything happens to Maria.

**Researcher:** What degree of trust should Maria have in these translations? Should Maria trust these translations?

5 = to a very high degree

4 = to a high degree

3 = to a moderate degree

2 = to a low degree

1 = not at all

**Participant:**  Again, I’m going to go for a moderate degree. Show the translation to somebody. You know, that can peer review. Show it to someone in front of you. And if the person still says “I don’t know”. That is complicated. I would trust some things, and other things only if I'm not sure at all, I'll just leave and come back the next day, you know, with something better. But so to a moderate degree, I don't want to say “don't trust”, but also with context, so somebody they can confirm, or you can call some a neighbour or somebody.

**Researcher:** What degree of vulnerability do you think Maria has while using the app? Is Maria at risk of being vulnerable?

5 = to a very high degree

4 = to a high degree

3 = to a moderate degree

2 = to a low degree

1 = not at all

**Participant:** Uhm. Yeah, yeah, I would say… I'm not anti-app, either, but I would say that she's in a vulnerable state at that very moment beyond the app because of the misunderstandings and, you know, the lack of linguistic skills or competence to that level in that jargon. And, so she's already vulnerable, and then entering the app world. You know, apps are also volatile, and they don't suit your needs all the time, so I will say, Yeah, somehow at risk which could be again moderate or yeah moderate. Yeah, sorry. It's difficult to choose, because I don't want to say low or high, somehow at risk.

**Researcher:** Are there any other comments about this scenario or related scenarios you can think of?

**Participant:** Yeah, no, definitely. I can say something. So during the pandemic I wanted to volunteer with the Red Cross to help because we were all working from home or not teaching at all, you know things stopped which, makes sense. And so I contacted the Red Cros. My Dutch is intermediate level, but I can understand many things, but I speak also fluent Indonesian and Spanish, and English, and I can help people who speak those languages, and they told me they would contact me to be part of a group of people. They were translating the measures and everything into different languages, also for a phone app, and also to answer questions, or Whatsapp, and they never contacted me again after. So, I think there were some initiatives by the Red Cross and and all the people… that made sense. And I thought, this is really good. If you have a volunteer per region or per street. But it never, maybe just with me. They never contacted me again. But obviously the Red Cross were being overwhelmed with things, so at the same time,.. So I think (pauses) institutional failure. Yes, but the institutions that we needed to provide for everyone did it, but to an extent, anyways, it might not have been relevant. I think it's important to look at this, because I know a lot of people around me, some people around me uses Google translate to understand what was going on, and they were isolated from their families and support networks and everything. So is not just physical health, it is also mental health, it all comes together and emotions, and you are reminded that you are an outsider in some way, so I think (pauses) I think is really important to look at, not just physical but also the emotional health. What happens when somebody struggles to translate in such an emergency or crisis situation, what happens to your belonging or to your citizenship even. Is it active citizenship or is that stopped at some point? Because I just wanted to help at some point, things like that.

**[Training - follow-up questions – SLIDES 16-17]**

**Researcher:** Before we end the interview, we also wanted to ask you what sort of training on using these machine translation apps you would find helpful.

What type of information on machine translation would make your life easier when using these apps in health contexts?

For instance, do you feel you need more instructions on how to use the apps? Can you give us an example?

What about information about how to deal with the translations themselves? Do you have an example?

Would it be helpful to understand better the instances when machine translation is not advisable?

**Researcher:** How would you like access to more information to make using these apps easier?

For instance, would you prefer to have short videos on a website or YouTube, step-by-step guides, or infographics?

Would you prefer to be offered free in-person training? And where?

If there was a website with infographics and videos explaining how to use these apps better, would you find that helpful?

**Participant:** All of it. I think it would be nice to do it in the daily life spaces, you know? The daily life spaces of each person, which is,… I know I'm asking for a lot, but maybe not just online or just in person. And it depends on the person again. For people who are not so used to technology, you know, in person, it is really good because some of the life situations that we encounter are the most difficult ones. Cause online you can take a break, you know, and ask around. And live interaction, that cannot (inaudible) and all of your linguistics struggles and when you need the most kind of confidence in the app, that you don’t have. I think live, I think online definitely also, but lifve would be interesting. At the university maybe, or the Gemeente, or at the doctors. Like collaborating with health specialists.

**Researcher**: Would you attend such a thing?

**Participant**: Yeah, why not? I like learning about things. Of course, I'm comfortable with apps, and I'm always using and translating them and everything. And I have a linguistic background in my my background, so I’m always interested, yeah I think (pauses), yeah I think foreigners including migrants and expats, all of us, depends on the the interests of some people. It depends. It's a lot of discrimination terms of the socioeconomic status right also. So if you do it as a university, you're missing a lot of people, and if you do it, … so it it needs to be sensitive to, you know, intersectionality. But you know. And so I think the definitely To answer your question. Yeah, Why not? Yes, I mean, I would like to see if this app can translate things by image automatically and if they make sense. No, definitely, I would join, to test it (laughs).

**Researcher**: Yes, you also mentioned privacy, because you were concerned about putting these words out there, would that be useful to learn a little bit about privacy as well?

**Participant**: Yes, definitely. Yes, Yeah, it'd be nice to also talk, discuss privacy, what happens, not to be a conspiracy theorist or anything like that. Privacy is always a concern, as we are exposed to things we don’t fully understand. And what happens to that with that information? Where does it go, and who's using it? And for some people, I can hundred per cent imagine they will be more concerned even.

**Researcher**: Anything else you would like to add?

**Participant**: No, I think I think um. I think I'm happy with it. Yeah, I talked so much of a random things, but I think it was quite nice. And I think it would also be nice for those of us who teach at university because, you know, many of your students are foreigners, too. And even for the ones who are Dutch, this could be in class when we talk about health. I think it is very useful with the students too.

**[Closing]**

**Researcher:** Thank you for participating in our research. Our times of analysis and publication are long, but feel free to write to us to obtain the results of this research. Otherwise, we will contact you with the results in due time.