WP5 - Summary Report
Exploring the Use of ICT in Medical Interpreting

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Report for Workpackage (WP) 5 drafted on the basis of the reports provided by the following project partners: University of Graz (Partner 1), University Mainz/Germersheim (Partner 3), University of Ljubljana (Partner 4) and University of Tampere (Partner 5).

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**Workpackage 5**

**Exploring the Use of ICT in Medical Interpreting**

1. **Workpackage Outline**

WP 5 aims at assessing the availability of new ICT in the partner countries and their possible uses and the dangers inherent in their use in medical interpreting. The project partners provide information on the situation in their home countries concerning the use of ICT in medical interpreting and ongoing projects with the aim to assess the benefits and challenges of this phenomenon. These data are integrated into a summary report on the overall situation including specific examples from the partner countries. The aim of this WP is to obtain an overview of the current situation in order to be able to evaluate the possibilities and limits of ICT in medical interpreting.

The following MedInt partners contributed to WP 5:

- University of Graz (Partner 1),
- University Mainz/Germersheim (Partner 3),
- University of Ljubljana (Partner 4),
- University of Tampere (Partner 5),

2. **Summary of Results**

In what follows, the information and results provided by the project partners will be summarized and rearranged under four main subsections:

1) Research on ICT: video interpreting, remote interpreting and telephone interpreting
2) Situation in the partner countries
3) Perspectives and opinions on the use of ICT in medical settings
4) Conclusion

We provide information on the partner countries:

- Austria,
- Finland,
- Germany and
- Slovenia.

2.1 **Research on ICT: Video, Remote and Telephone Interpreting**

This subsection aims at giving an overview of research on video, remote and telephone interpreting, all of which depending, in one way or another, on the use of ICT.

2.1.1 **Video and Remote Interpreting**

The development of new technologies has had consequences for the area of interpreting. ICT make borderless communication possible and communicating easier but at the same time create new challenges for interpreters. Over the last few years the use of new types of interpreting like media/video or remote interpreting respectively has increased considerably (Riccardi 2000). This is due to the development of new technologies in audiovisual data transfer which experienced a particular boom at the beginning of the 1990s. While video conferencing is not used as often as initially predicted, especially international organizations are nevertheless showing an increasing interest in video and remote conferences if for no other reason than cost-efficiency. In 1995 the interpreting costs for an EU meeting with 11 languages were about €18,000. In the course of the next decade the number of languages will double, and this for not one but about 50 meetings per day. There is not only a lack of large conference rooms but also of
interpreting booths. It is thus understandable that the idea of introducing video conferencing and remote interpreting is becoming more and more interesting.

But what is remote interpreting? In remote interpreting the conference participants are all in one place, while the team of interpreters is in another and watches and interprets the proceedings via video conferencing. Remote interpreting is the most extreme form of interpreted video conferences and also – as the partly strict opposition of interpreters has shown – the most problematic form because monitor or large screen represent the only visual contact to speaker and audience, as opposed to video conferences where conference participants and interpreters are in one place and this conference is broadcasted elsewhere simultaneously or external contributions displayed on monitors or large screen are interpreted, with direct visual contact at least with the audience.

What does the development towards remote interpreting imply for interpreters? Will – as Ingrid Kurz puts it – after the consecutive interpreter sitting in the conference room with the delegates has been replaced by the simultaneous interpreter in the booth, this simultaneous interpreter now be banned from the conference room and have to work from a video conference studio? (2000:292). Certainly, the new technologies will have an influence on interpreting itself and on the interpreters’ working lives. Today the necessary technical prerequisites for remote interpreting exist. But remote interpreting nonetheless poses new challenges to interpreters and changes working conditions. This change is perceived as negative by interpreters. This is why it is important to have a look at the studies conducted so far in order to identify the most important results and to find out which conclusions may be drawn from them.

In the 70s and 80s a number of experiments with remote interpreting took place, e.g. at the UNESCO conference in 1976, with the interpreters working from Paris, while the UNESCO General Assembly was held in Nairobi, or at the United Nations Conference on the Exploration and Peaceful Use of Outer Space in Vienna in 1982, with the interpreters in a separate building. For these experiments which only lasted a few hours satellite connections were established. Although communication was working, interpreters complained of an increase in stress. A simultaneous evaluation of the costs led to the conclusion that this kind of technology was too expensive, but at the same time the thought that remote interpreting should be possible given adequate picture and sound quality became more and more believable. Consequently, it was decided in the UN Inter-Agency Meeting on Language Arrangements, Documentation and Publications in Vienna 1998 to examine the technical feasibility of remote interpreting using ISDN lines and the consequences of remote interpreting on the interpreters’ health and performance. The experiment was carried out in January/February during a working group meeting of the UN Commission on Human Rights (RI: UNHQ, UNOG, UNO 1999). The conference took place in Geneva, the interpreters were working from Vienna. The duration of the conference was two weeks and the interpreters interpreted into six languages.

The conference participants replied in a questionnaire that they were satisfied with the interpretation. What about the interpreters? Every day they were asked to fill out questionnaires, answering questions about their feelings and impressions concerning the working conditions. They were satisfied with the sound quality but voiced criticism concerning visual information. The interpreters sat in a room, in semidarkness, and had to look at a split screen showing a small image of conference room, audience and chairperson on one half and the respective speaker on the other half of the screen. They had no control over what was to be displayed on the screen and were totally dependent on the camera work of the technician in Geneva. The arguably most important result was that the interpreters developed a feeling of insecurity as they had no control over what was displayed on the screen. Accordingly, they felt that remote interpreting, as compared to standard conference interpreting, caused higher levels of stress and fatigue and negatively influenced their motivation and their ability to concentrate.

In April that same year the ITU – International Telecommunication Union – and ETI (Ecole de Traduction et d’Interprétation, University of Geneva) carried out a three day long study examining feasibility and costs of remote interpreting and its impact on the quality of interpreting performances. One Spanish, English and French booth were directly inside the conference room, while, for the purpose of the experiment, a second French booth was connected only via video conferencing. The French interpreters worked alternately both in the external booth and the booth inside the conference room. The interpreters working in the French booth inside the conference room served as a control group. All interpreters who took part in this experiment filled out questionnaires concerning their person and a technical questionnaire on remote interpreting before and after interpreting. Additionally, saliva samples were taken in order to find out if remote interpreting resulted in higher levels of stress hormones. The
interpretations of both French booths over the whole three days were recorded on tape in addition to the original.

As in the UN experiment the audience was satisfied with interpretation quality. The saliva tests did not show a substantial difference between the levels of stress hormones of the interpreters in the booth inside the conference room and those doing remote interpreting. But the interpreters themselves again described the experience of remote interpreting as negative. They felt a physical and psychological distance to the conference proceedings, which made them experience a feeling of loss of control. Accordingly, they felt their stress levels when doing remote interpreting were higher. The fact that the interpreters were not connected to the conference proceedings did not only cause a decrease in motivation but also a subjectively felt increase in the occurrence of fatigue symptoms. Images from the conference room that would have been important for the interpreters to see were not shown. An analysis of the results gave rise to the question if a lack of visual contact means that interpreters need more mental capacity to compensate for this lack, which causes symptoms of fatigue to occur earlier than usual.

The second comprehensive UN experiment and a remote interpreting study by the European Parliament – both carried out in 2001 – produced similar results. The audience was satisfied. The interpreters even praised picture and sound quality and the good view of the speakers. However, they criticized the view of the conference room and, in both studies, said that they experienced a feeling of insecurity, higher stress levels and deterioration of performance.

To sum up the results of these early studies, it can be said that while the interpreters managed to ensure an adequate quality of interpretation, they did so at a higher cost, both psychologically and physically. The aforementioned study by the European Parliament in 2001 finally led to the currently most comprehensive study on remote interpreting by the European Parliament in 2005. A team of 15 researchers carried out a study with 36 interpreters in which they examined the physical and ergonomic aspects of the working environment in remote interpreting and focused on performance, health, strain and stress. The experiment took five weeks. For two weeks, the interpreters worked on-site – in a normal conference situation. After a break and preparation time for remote interpreting of one week, the interpreters did two weeks of remote interpreting.

The results of this study were as follows: The physical working environment was adequate, the ergonomic working environment was not. Again, the interpreters experienced a feeling of isolation and alienation, suffered from having to stare at the screen which could only show them parts of the conference proceedings. They missed the complete view of the audience, even if they said that the view of the speaker was better than in the on-site situation. They complained more of headaches, burning eyes and lack of concentration, great tension, fatigue and exhaustion, while in medical examinations no increase in stress levels could be measured. They felt that when doing remote interpreting their performances were less good. This feeling could not be confirmed in a performance evaluation concerning the first week, although during the second week the performance level was shown to have decreased slightly.

This gives rise to several questions. Why do interpreters experience remote interpreting as so stressful and exhausting although they have an excellent view of the speaker? How important is the visual information gained from a broad view of the audience and the conference proceedings as a whole for the interpreters’ work, their ability to understand correctly, their motivation and, consequently, their performance? How important is the feeling of being present?

Research in information processing and discourse understanding has shown that in order to understand an utterance we use information from several sources. In their model of text comprehension Van Dijk and Kintsch assume that „discourse understanding involves not only the representation of a textbase in episodic memory, but at the same time, the activation, updating, and other uses of a so-called situation model in episodic memory: this is the cognitive representation of the events, persons, and in general the situation, the text is about” (1983:337). Access to contextual information – e.g. the view of audience and speaker for interpreters – in addition to the information explicitly uttered in discourse allows the listeners, the interpreters in this case, to draw on socio-cultural knowledge in order to better understand what is being said. Interpreters know from experience that a main part of socio-cultural information cannot be inferred from the speech directly, but can be found in the context, the situation itself and the conference proceedings. Experiments have shown that context plays an important role in language perception. (Warren/Warren 1970). The situational context, just like the verbal and cognitive context, is a cognitive element which not only eliminates ambiguity but also helps the interpreters decide how to
correctly understand an utterance. The situational context consists of all kinds of non-verbal perceptions like gestures, facial expressions, the speaker’s posture or reactions of conference participants. Consequently, visual information is an integral part of the understanding process.

Panayotis Mouzourakis, interpreter at the EP and researcher in the field of interpreting states: "Human vision does not work like a video camera, passively recording the details of the world. Rather, it searches for those essential features that allow it to answer specific questions. It is a problem-driven, selective and active vision. Interpreters do not merely look at a speaker; instead, the direction of the interpreter’s gaze at any given moment is correlated with the kind of visual information needed to help with the processing of the meaning that the interpreter is constructing" (2003). Here it becomes obvious that two interpreters will never gain the same non-verbal information from the conference room by focusing on the same object at exactly the same time. The importance and the necessary amount of this non-verbal information are different for each interpreter and depend on the difficulties to understand the meaning of what is being said each interpreter may have at any given time.

From the interpreters' perspective two problems become apparent:

1) In human communication the verbal meaning of an utterance is only part of the meaning the speaker intends to convey. Only part of the information is made explicit. Interpreters must infer the intended meaning, must add contextual information to make a statement complete (Setton 1999). Inferring meaning and intention is a cognitive process, a constructive effort to understand for which non-verbal information is essential.

2) The interpreter must find out how the audience in the conference room is reacting to what the speaker is saying, and if the interpreter himself has inferred correctly. Feedback processes are an important part of the interpreting process. They happen continuously (Clark & Brennan 1991) and are an essential element of successful semantic anticipation. If the respective visual information is missing the interpreter must use other cognitive resources which might use up more capacity to compensate for this lack of information.

For interpreters the remote interpreting situation creates a new working environment which requires them to develop more problem solving strategies. Having to coordinate sound and visual information, to „reconstruct“ a conference situation that is far away for them and the feeling of loss of control put a further strain on their available mental resources which, due to the cognitive complexity of the task of simultaneous interpreting, are taxed to the limit anyway. Generally, professional interpreters perform well under normal working conditions, but changing these conditions influences their performance and the precarious balance between the understanding and production processes.

Visual information or lack thereof has considerable influence on the feeling of presence. In remote interpreting situations interpreters must use additional resources in order to feel „present“ while working from a distance – doing remote interpreting. Held and Durlach (1992) state that this feeling of presence is influenced, among others, by the amount of control available to the person concerned. Again and again the interpreters participating in remote interpreting studies complained of a lack of control and so of feeling alienated. Being in control means being able to anticipate what will happen next, an essential element in simultaneous interpreting and an important strategy when it comes to managing one’s resources. The feeling of alienation causes a decrease in motivation and so makes the interpreter resort to automatisms. Motivation has been proven to be an integral part of performance. Alienation, however, is a subjective feeling and will therefore not be easy to define or measure objectively. The degree of the feeling of presence in a virtual environment does, consequently, not only depend on the characteristics of this virtual environment but also on individual differences and abilities.

Certainly, a number of technical problems in remote interpreting remain to be solved, e.g. the lack of synchronization between sound and images. Studies concerning visual behaviour or visual attention of interpreters and, consequently, the importance of visual information in the interpreting process are needed. Further and more long-term experiments in which interpreting quality in remote interpreting situations is evaluated will of course be useful as well. It is especially important that interpreters adapt themselves mentally to using new technologies and to facing new challenges. Interpreters need to be prepared for this. They don’t only need „routine expertise“ which allows them to reliably perform well in routine situations but also „adaptive expertise“ (Bransford et al. 2000). They need different problem solving and capacity management strategies in order to be better prepared to face new situations.
As in all complex cognitive processes, practice plays an important role. Studies on telephone interpreting which can be characterized as remote interpreting under more difficult conditions and has been used increasingly often over the last few years particularly in medical settings as it is often the only possibility to communicate with people not speaking the respective native language, have shown clearly how well the people concerned learn to adapt to the situation and how important practice and adaptation are.

2.1.2 Telephone Interpreting

Telephone Interpreting (TI) can be defined as bilateral interpreting over the phone. The telephone interpreter who is based in a remote location provides interpretation via the phone for two individuals who do not speak the same language. (Kelly 2007) TI is used in medical, legal and business settings and has the advantage that it is available from anywhere, any time and in a large number of languages. One country where TI is especially widely developed is the United States with AT&T Language Line Services being one of the market leaders, offering its services to courts, hospitals, the police, the fire brigade, private companies and individuals. Similar TI providers also exist in Australia and several European countries like France, the Netherlands, the UK, etc. (Phelan 2001)

According to Gracia-García (2002), TI as an industry is relatively new but is gaining prominence in the US and other parts of the world quickly. As there is an increase in immigration, the number of people who are not fully proficient in the native language of the country they live in is growing, resulting in communication problems in hospitals, courts and other public service agencies. Those institutions regard TI as a cost-effective way – as compared to traditional face-to-face interpreting (FTFI) – to solve these problems. In Australia, Canada, the USA and the Scandinavian countries telephone interpreting services are largely seen as a successful means to overcome barriers in communication with patients of limited or nonexistent English proficiency.

While TI is being used more and more widely, a great number of researchers in the field of community interpreting (Gracia-García 2002/Ko 2006/Lee 2007/Rosenberg 2007) highlight the fact that there is still a lack of scientific research in TI.

Studies and other contributions on TI in medical settings

Mainly for the medical sector, there are quite a few studies (Jones et al. 2003/Lee et al. 2002/Hornberger et al. 1996) showing that TI is not only used increasingly but that there is no perceived loss in interpreting quality compared to FTFI. Several empirical and case studies summarized in Bischoff and Grossmann (2006) show that the use of TI in hospitals is widespread and quite successful, although there are some issues with quality control. The importance of the right equipment and training of medical staff and interpreters is underlined. The point of equipment was taken up again by Rosenberg (2007) who collected data on 1876 interpreter-mediated telephone calls of which over 60% were medical. This study points to two important aspects in TI. The technical conditions – the equipment used – are not always the same and, very often, problems arise because neither the interpreter nor the other callers are sufficiently briefed. Problems identified by Rosenberg are the use of first/third person in conversation, the lack of visual input for the interpreter, the fact that the parties concerned are often not familiar with how to use an interpreter and that telephone interpreters are available to such a large number of different people that their capacities are over-stretched.

Where customer satisfaction is concerned, Studies by Pointon et al. (1998) and Heh and Qian (1998) show a high satisfaction rate where TI is used, while Sarver et al. (2000) and Garcia et al. (2004) still argue that FTFI should be the first choice.

Studies focusing on the interpreters’ perspective

Kurz (1999) and Fors (1999) argue that TI is much more demanding and stressful for the interpreters than FTFI, whereas Ko (2006) has shown that practice and the right equipment can balance this out.

As for the interpreter’s role, Oviatt and Cohen (1992), Lee (2007) and Rosenberg (2007) have shown that telephone interpreters sometimes use the third person when referring to the conversation parties and so become active participants in the conversation. Wadensjö (1999) points out that in her study one
interpreter felt she had an increased risk of burn-out when interpreting mental health encounters over the phone.

Studies and contributions focusing on the challenges of TI

Wadensjö (1999) notes that the fact that the interpreter does not get any visual information may negatively impact the quality of interpretation. Especially contributions in the field of court interpreting (Swaney 1997/Mintz 1998/Vidal 1998) argue that the lack of visual information is one of the main drawbacks, citing the fact that paralingual aspects of communication are at least as important as what is actually being said, especially in situations where human lives are at stake.

Mintz (ibid.), however, after a personal experiment with the U.S. Court Telephone Interpreting Project, argues that, as TI is being used more and more widely, more research is needed to determine what the challenges of TI are and how they may be overcome and to develop a position for professionals to adopt so they can at least favorably influence the developments in TI to ensure that TI standards are introduced.

The MFH – Migrant-Friendly-Hospital – project

Before turning to the challenges of TI, we would like to draw attention to a project called Migrant-Friendly-Hospital project (MFH). A group of hospitals from 12 European countries – Austria, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Spain, Sweden, and the UK – participated in this 2½-year project, which was launched in October 2002. The aim of the project was to find solutions to provide migrant people with the same health care assistance as the average population. Interventions in the following three areas were implemented by the partners:

- improved interpreting services
- migrant-friendly information and training for mother and child care
- staff training towards cultural competence

At the same time, a subproject to improve the clinical communication with migrant and ethnic minority patients was carried out in 9 of the 12 participating hospitals. One aim of this subproject was to make professional interpreter services available whenever necessary to ensure good communication between non-local language speakers and clinical staff. One option to improve communication was establishing measures for TI (N.N. 2005:8).

Though studies show that telephone interpreting is sometimes seen as an apt method to improve communication in the medical setting, the establishment of TI is rarely considered in strategies for improving the mediation process between foreign speaking patients and clinical staff (Bischoff/Grossman 2006:22). In what follows, a few examples of the use of TI in the health services in different European countries (France, Denmark and the Netherlands) and in Australia are briefly introduced and basic data on the different services and experiences are given.

Australia, for instance, has a long TI tradition, and TI has had a positive impact on the Australian health system. In 1973, the Emergency Telephone Interpreter Service (ETIS) which was then renamed to Telephone Interpreter Service TIS was established. Since 1990, this service has been available free of charge to practicing physicians and authorities. Everybody else can also make use of this service but is charged. Though TIS has a focus on interpreting in the health service, the interpreters do not have specific training for the medical setting. This can become a problem because of the complex medical contents that have to be interpreted.1

The French ISM Interprétariat2 has been offering TI for over 15 years now. This service does not specialize in interpreting for the medical setting but about 38% of all assignments are either for the medical or the social area. The employed “mediators” do not need to be academically trained interpreters and receive only four-day training in interpreting. Since the recording of phone calls is prohibited in France, quality assurance is provided by trainers who sometimes listen to the interpreted session and then analyze it in the presence of the respective interpreters. Unfortunately, we do not have any information on whether the clients are satisfied with this service or not.

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1 Exceptions are Western Australia and Queensland.
In the Netherlands, the TI-service Tolk- en Vertaalcentrum Nederland (TVCN) provides interpreters for the health service, asylum institutions, the justice system, and the police. The Academisch Medisch Centrum (AMC), to be more precise the Children's Department (Emma Kinderziekenhuis), is part of the MFH project. In this institution, TI was introduced a few years ago and they have since been cooperating successfully with the TVCN, where all admitted interpreters are state certified. In the Children's Department the patient is asked if he/she needs an interpreter during the admitting interview. Another remarkable fact is that the costs for the interpreting service in hospitals are carried by the Ministry of Health.

Another European hospital where TI was introduced is located in Denmark. This interpreting method is used in all emergency cases for families that do not speak the local language. All interpreters are certified and the users of the service receive training in how to work with TI. Since the TI-service was introduced, the number of interpreted sessions for foreign speaking families has increased from 13.5% to 73.5%. As a further result, 34.1% of the staff indicate that their work situation has improved due to the interpreters' interventions (Ammentorp/Rasmussen no year).

According to Bischoff & Grossmann (2006), the most positive aspects of TI are that

- the organization of TI is not very time consuming (e.g. an advantage in cases of emergencies)
- cost efficient work is possible
- interpreters for languages that are seldom needed can be contacted quickly.

The following requirements should be met in order to make telephone interpreting successful:

- TI should be available for all patients that do not speak the local language
- TI should be organized on a national level
- a 24-hours TI service should be offered
- guidelines and training of how to work with TI should be offered to medical staff and physicians (and, possibly, to patients as well)
- technical requirements should be met
- a system of quality assurance should be introduced.

TI should be used in addition and not instead of face-to-face interpreting (FTFI). The application of TI can be very useful in remote rural areas – especially if there generally is a low number of foreign-speaking patients – because the staff is not used to communicating with foreign-speaking clients. Furthermore, TI is a good solution if it is impossible to recruit an interpreter due to large distances (see Australia) or due to time pressure (in cases of emergencies).

**Research challenges in TI**

Researchers and practitioners alike agree that although TI is used more and more frequently this field remains significantly under-researched. Especially long-term empirical studies are needed. (Ko 2006/Lee 2007/Rosenberg 2007/Gracia-García 2002)

For the field of court TI, Mintz (1998) suggests that systematic training for telephone interpreters be developed and that especially the lack of visual information and its actual influence on interpreting performances but also other possible challenges of TI be assessed so that court interpreters can formulate a position and make themselves heard as much as possible in the planning and implementation phases of various telephone interpreting initiatives.

Rosenberg (2007) and Gracia-García (2002) argue as well that the question of how much the lack of visual input influences interpretation quality and accuracy should be answered and that research should examine how the interpreter’s physical distance and lack of a shared frame of reference can make TI more difficult. Research should be carried out on large corpuses of real data before the adequacy of the use of TI is judged.

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3 Kolding Sygehus Hospital
4 The data refer to FTFI and TI sessions.
Lee (2007) notes that TI might call for a higher level of interpreting, interpersonal and communication skills than FTFI and that it should therefore not only receive more attention in research but also be incorporated into conventional interpreter training. Research is needed to develop appropriate protocols for TI so that effective communication and quality interpreting can be guaranteed.

Bischoff and Grossmann (2006) underline the importance of the role of research in accompanying and evaluating the introduction and quality of TI services and go on to argue that guidelines for all users of TI should be developed. Additionally, they recommend introducing certification and training programs and quality control measures for TI so that interpretation quality can be guaranteed in the long run.

Vidal (1998) recommends that conditions which ensure the interpreter’s accuracy in TI should be identified and then safeguarded. Gracia-García (2002) recommends that the interpreter and research community should keep an eye on technological developments like web casting, videoconferencing etc. and find out if these developments may improve TI and remote interpreting in general and reduce or eliminate their drawbacks.

2.2 The Situation in the Partner Countries

In what follows, we will provide information on the use of ICT in medical settings in the partner countries and provide information on ongoing projects related to this topic and included in the individual partner reports.

2.2.1 Austria

As there is not much tradition of TI in Austria – neither in the medical nor in any other settings – our Austrian project partner conducted a telephone survey on TI. Interview partners were organizations and information centers that facilitate access for migrants to the health system and/or offer psychological care themselves (see also WP 4). The aim of the survey was to find out if TI is used and why/why not the organizations make use of this form of interpretation.

First, the interview partners were asked whether they worked with interpreters, which was mainly answered with "yes". Only two of the interviewees answered that their staff spoke the language of the clients and so interpreters were not needed or that the client him/herself was considered responsible for bringing an interpreter. We then focused on the possible use of TI in the interviewees’ organizations. The results show, that TI is used, but only to a limited extent. Four of the ten interview partners indicated that TI was sometimes used for communicating with the patients, but two of the four said that it was used only in a very few cases. One organization indicated that TI was used relatively often to facilitate communication with authorities or to make appointments with physicians, authorities, etc. Another organization started using TI during this year because of a client who could not personally attend to the NGO due to his/her living situation. All four organizations indicated that TI was only used to interpret “facts”, make appointments or leave messages. They concurred that they would never use this form of interpreting in therapy because they felt that too much information would get "lost" since the interpreter cannot see the facial expressions or gestures of the speakers – important non-verbal aspects of communication carrying meaning as well – via the telephone.

Furthermore, the general atmosphere would be changed. The interpreter would not have access to contextual information, which would also lead to a loss of information in the interpretation. Another reason that was given by these four interview partners was that the topics tackled in therapy are very complex and cannot be interpreted correctly via telephone. It was also indicated that foreign-speaking clients who contact the centers are often in a very bad condition and/or difficult emotional situation so that they would not bear the additional stress that TI might create. One of the partners also indicated that the entire therapy process would lose transparency to the client if TI was applied.

The interview partners who indicated that they had never used TI so far (at least within the organization), were asked if they could imagine using such a service and in which situation they would or would not do so. Only two NGOs said that in no case TI would be an option for their service as they only work with counselors that speak the language of their clients. All other organizations were able to see pros and cons
in a TI-service. On the one hand, both groups (the one that uses TI and the one that does not) agree that TI would save time and money because the interpreters would be available at very short notice. They indicated that TI could be used to make appointments, to arrange for organizational matters, or explain "simple" information to the clients. On the other hand, the two groups feel that TI can never be used in therapies. They argued that the contents of therapy are far too complex to be interpreted via the phone, that therapies are often already difficult without the presence of interpreters, and that they think that therapies with telephone interpreters would not be possible at all. Another argument against TI in therapy was that the interpreter does not only function as interpreter in multilingual therapies but also as contact person for the foreign speakers.

It is remarkable that the main result of the survey – namely that the interview partners agree on the fact that TI does not work for therapies – is congruent with objections to TI when it was introduced at the AMC. In the beginning the staff felt that TI would not work for emotionally loaded conversations with children or in therapy; however the results of the project show that apparently there was no difference in the therapeutic success between FTFI and TI. In this hospital, TI has become the preferred interpretation method because the results are the same as when FTFI is applied but the costs are lower and it is less time consuming. It is even assumed that the increased anonymity is helpful to the therapy success (Bischoff/Grossmann 2006:27).

2.2.2 Finland

There is no concentrated research data on remote interpreting in Finland or in Scandinavian countries. There are, however, some pieces of statistical information, such as those presented by the communal Finnish community interpreting services. In the seven communal CI centers, the percentage of remote interpreting varied from 4.2 to 42.2 – the one farthest in the North, Oulu, being the biggest provider of remote interpreting services in percentages and in net terms. This allows the conclusion that the use of distance interpreting grows alongside with the distances between populated centers. On average, 10.9 percent of all interpreting services provided by the communal centers were at distance. An overwhelming part of remote interpreting in Finland happens via telephone (landline or mobile phone); only in the area of Helsinki video interpreting plays a somewhat significant role; there around one third of remote interpreting is done using video systems. In three out of seven centers there were no video interpreting assignments during the year concerned, and in Oulu only one hour out of more than 5,500 hours of remote interpreting was done using video equipment. (Ollikainen 2008)

In the Development plan of interpreting and linguistic services for immigrants (1999), the Finnish Ministry of Labor (then responsible for the matters concerned) stated that remote interpreting (either via telephone or video) could be used to meet interpreting needs in remote regions, when an interpreter is acutely needed and the matters are clear and informative in nature. It would not be suitable for mental care or crisis situations. Relocation of refugees and asylum seekers all over the country has lead to a situation, where language communities in a municipality may be very small or heterogenic. Long distances lead to long working hours and high interpreting costs; poor public transport connections in scarcely populated regions add to the problem. In this kind of situations specialized services, such as interpreting, are often difficult to arrange on the spot. Communal CI centers and other service providers have therefore turned to telephone interpreting in acute situations.

Projects on remote interpreting

Projects on remote interpreting have largely concentrated on sign languages and other forms of communication for disabled people instead of spoken languages. In the following, we will present a few past and future projects related to the use of ICT for interpreting in medical settings.

Ministry of Labor project in the region of Vaasa
(Finnish Ministry of Labor 1999)

At the end of the 1990's, the immigration department of the Finnish Ministry of Labor carried out a seven-month experiment in the field of remote interpreting, in cooperation with migration actors – among others one health care centre – and the CI centre of Vaasa region, along the western coast of Finland. The aim of the experiment was to find out whether video interpreting could help cut costs, save working time and significantly enhance service provision. Data protection and customer satisfaction were to be
examined as well. The equipment used consisted of PC, microphone, loudspeaker and camera, ISDN telephone lines and a Windows-based system software with a graphic user interface.

The amount of video interpreting realized by the participating entities varied a lot: the system was used the most in the migration office of the city of Kokkola and in asylum seekers’ accommodation centre of Oravainen, where interpreting in general was needed the most and routine in working with interpreters was at hand.

Video interpreting made it possible to provide more interpreting services in a more efficient manner as compared to FTFI. The bigger the distance between the CI centre and the spot where interpreting is needed, the more economic video interpreting becomes. Operational costs consist mainly of telephone and other data connection costs. The biggest savings were achieved in the migration office of Kokkola, situated 120 km from the CI centre of Vaasa: travel costs were cut by 36 per cent and working time by 15 per cent (counted for one interpreter during six months) compared with on-the-spot interpreting arrangements. Service provision in acute situations was improved, and more services could be provided due to the savings in working time. Data protection was guaranteed, since no outsiders were present during interpretation and no material was recorded. Working in front of a camera initially bothered the officials involved, but as the project went on, the problems disappeared. The users of interpreting services were mainly satisfied with the experiment, although it was stated that not in all situations remote interpreting was a suitable solution. However, thanks to the experience gained, the situations and the type of interpreting chosen can now be better estimated. At that time, data protection on the Internet could not be guaranteed as effectively as via an ISDN telephone line; the matter is very important, since most of the interpreting situations take place in social and health care sectors.

Based on the experiment, it was recommended in the Development plan of migrants’ interpreting and linguistic services that all CI centers, asylum seekers’ accommodation centers, refugee and migration offices of municipalities and employment services with regular immigrant customers should acquire video interpreting equipment. This type of interpreting should be presented for major users of interpreting services – such as health care centers, hospitals, legal aid offices, police, etc. – as one possibility of improving immigrants’ service level. Ten years after the experiment, the CI centre of Vaasa was the 2nd biggest provider of remote interpreting (being the 5th biggest provider in total amount of interpreting hours) services in Finland, although only a minor part of the remote interpreting provided was carried out via video (Ollikainen 2008).

"Virtual interpreter” in Turku
(based on Tuhkanen, 2004)

In the city of Turku, a project called Virtuaalitulkki ("Virtual interpreter” – video interpreting in cooperation between authorities) was launched in 2002. Participants were the CI centre of Turku as interpreting service provider and eight authorities providing different municipal services. The participants in the medical sector were a child and family welfare clinic and a health centre that worked in areas with a large amount of foreign-language population. Seven video conferencing devices (VCON Falcon IP 3 BRI) consisting of a central unit, a remote-controlled camera and a table microphone were installed in the facilities of the authorities. A document camera at the health centre enabled the interpreters to see documents that were handled. The equipment was planned for use by 1 to 6 persons at the same time in a small meeting room. Both ISDN and internet connection would have been possible but mainly ISDN was used due to security reasons and issues related to firewalls in use by the city. Large TV screens with setup boxes worked as monitors. Leaflets informing about video interpreting were made available to customers in Bosnian, Spanish, Farsi, Vietnamese, French, Albanian, Russian, Arabic, Kurdish, and Somali, at the time the most common interpreting languages in Turku.

The interpreters were based at the CI centre, whereas the officials and customers met on the premises of the respective authority. The interpreters did not need to spend working time traveling from one place to another, which cut the total costs of the service. Even in acute situations, interpreting could be arranged at short notice. However, only one video interpreting device was available at the CI centre, so that the total amount of remote interpreting assignments was limited.

In a masters thesis on the project Tuhkanen (2004) partly concentrated on the experiences of four interpreters and ten officials (two of them doctors) that were involved in video interpreting situations.
According to the interpreters, doctors’ appointments belong to the situations where remote interpreting is most commonly used. During the video interpreting assignments technical problems were experienced, difficulties in turn taking arose and three out of four interpreters were not satisfied with sound and picture quality, especially in meetings with several participants. Often neither microphones nor camera were adjusted when patients or doctors moved. Papers rustling next to the microphone or noises from outside the meeting room made it difficult to concentrate. Too much movement in front of the camera caused disturbances in the picture. Due to these problems interpreters felt they had to concentrate more on listening and speech production. Sitting very still in order to not cause disturbances on the recipients’ screen and watching the screen constantly was experienced as tiring. Gestures, facial expressions and personality were not transmitted as experienced in FTFI situations.

The fact that the interpreters could work from their office was applauded by those who thought it stressful to move from one place to another and always try to get there on time, while others missed the traveling because it allows them to recover from the previous assignment before taking on another.

The interpreters found that video interpreting as carried out in this project was suitable for urgent cases and for simple encounters, where the matters were not difficult, sensitive, complicated or personally important for the customer. The interpreters thought video interpreting should not be used with visually or hearing-impaired customers or in mental health care because especially in these situations a sense of trust and safety is needed. The ability to express oneself clearly and an understanding of the technical aspects make ideal remote customers.

The interpreters considered it vital that the customer should give their approval for the use of the technique beforehand, in order to avoid a suspicious attitude towards it. In order to cut costs, video interpreting should be used more than it was during the project and more equipment should be available for the interpreters. It would make sense to use video interpreting more widely (not just in the city of Turku). A text camera would have to be an integral part of the equipment, so that interpreters could always take a look at the material handled in the interpreting situation.

The interviewed doctors deemed it complicated and time consuming to go meet the patient in the room equipped with the video interpreting devices where not all the needed medical equipment was available. They were quite satisfied with picture and sound quality, unlike the interpreters – probably because of a different importance of picture and sound for them. However, they feared that patients were sometimes on guard in front of the camera, afraid that the material would be recorded and stored somewhere, even if they had been informed of that this would not be the case. In the doctors’ opinion video interpreting is suitable for treatment of minor health troubles and physical examination. Contact between doctor and patient may be impaired because the patient may talk to the camera and not to the doctor. They deemed video interpreting not suited for psychiatric care. As immigrants often have psychosomatic symptoms, normal treatment often resembles psychiatric care, and it may be difficult for the patient to open up with an interpreter present or working via a remote connection. However, the doctors said that an interpreter’s presence and personality might sometimes affect a treatment situation too much, therefore video interpreting could be applicable for psychiatric settings as well.

As to the future use of video interpreting, doctors found that staff should be trained before having to use it. The patients video interpreting will be used with should be chosen in advance (criteria unspecified by the doctors). As technology advances, it would be preferable to work in the doctors’ own offices.

**Development projects in Pirkanmaa region**  
(based on Köykkä, 2006)

In the region around Tampere, an interpreting services development project took place from 2005 to 2006. One central theme were remote interpreting services, because they improve the availability of interpreting and help reduce costs and idle time. No local service provider is necessary, which means that the provision of interpreting services can be distributed more evenly throughout the country. The project focused mainly on sign language. The communal CI centre of the region Pirkanmaa (based in Tampere) was one participant in the project.

During an earlier project dedicated to picture telephone, 1999 to 2000, ISDN-based equipment had been installed in the communal CI centre and the health centre in the suburb of Hervanta, among others.
In a picture telephone project in Hervanta 2001–2003, the communal CI centre of Pirkannaa provided doctors of the Hervanta health centre with remote interpreting services. At the health centre, doctors met patients in a room equipped with TV and separate picture telephone equipment that was connected to the CI centre via three ISDN lines. During the project, not many remote interpreting sessions took place due to the following reasons: The equipment was only available in one room, and the booking officers had to know when it would be available for use. Examination equipment had to be moved there. The personnel did not have the necessary resources to inform about the video interpreting option; therefore patients did not know about it and were not able to ask for this type of interpreting.

As future development goals the health centre staff named the following: The whole remote interpreting scheme should be different; it should be possible to move the interpreting equipment from one room to another, or it should be available in every room where remote interpreting is needed. The personnel should know that remote interpreting can be made available and be better trained in the matter. Costs of use and their targeting for different units should be clearer. Patients should be better informed about the system. Technical support should always be available and someone should be responsible for keeping up the know-how on the system, disseminating the information and training the staff.

A promising ongoing project: "Remote interpreter"

At the end of 2007, a project for development of a web-based remote interpreting system for different languages and means of communication was launched. The system is targeted in the first place for hearing-impaired clients but serves minorities of spoken languages as well. It should become functional in the whole of Finland by 2009. The project is co-financed by the Ministry of Social Affairs and Health (about ¾ of the total sum of € 1.3 million), municipalities and federations of municipalities. (N.N. 2007) The first development phase mainly dealt with interpreting for disabled people, but as of summer 2008, a specialist for interpreting of spoken languages has been involved in the project as well and its scope is being widened.

The system is regarded as easily accessible for any user of interpreting services, independently of location, and so improves equality between people dependent on interpreting. The benefit should be a better availability of interpreting services leading to a reduced need of traveling for interpreters, enhanced functionality of interpreting service providers’ activities and to better resourcing of on-the-spot interpreting. Since the service will enjoy a nation-wide availability, on-duty work can be divided evenly throughout the country and between several service providers. Geographically equal availability is reached via new wireless solutions. (N.N. 2007)

The service will work on the Internet: the service user logs on to an interpreter database on the website and the system finds a suitable interpreter. The service can be used via a broadband Internet connection and a web cam but also from a 3G mobile phone or via video conferencing devices. Centers providing public services should be equipped with the appropriate technology, allowing clients who do not possess a computer or broadband connection to benefit from the service. (N.N. 2007)

The test phase for remote interpreting of spoken languages via the new system will start by the end of 2008. According to the present stage of planning, at least one asylum seekers’ accommodation centre and two municipal federations providing health care and hospital services and two communal CI centers will participate in the test phase. Some of the planned participants have experience in ”traditional” remote interpreting mostly by normal landline or mobile telephone. Available ISDN connections have not been used much because of lack of respective equipment at the conversation partners’ facilities and because it was deemed too expensive. Based on previous experiences with remote and/or video interpreting, officials find that they can establish a better contact with the client when the interpreter is not present in the situation. In a remote interpreting situation at a doctor’s appointment, clients appreciate that the interpreter does not necessarily see all the physical examinations; picture connection can be cut off by, for instance, putting a shield on the lens of the camera, still allowing the sound to go through. Interpreters prefer being able to work from the office. However, both interpreters and officials have retained reservations due to negative experiences with the old equipment. Major shortcomings were sound and picture quality, the fact that using the equipment was deemed too complicated, technical problems or too slow connections and thus loss of parts of the conversation. It is expected, however, that with the new web-based system via broadband connection these problems will be overcome. (Troger 2008)
If the project succeeds, major improvements can be expected to take place in the remote interpreting sector. The project would make a benchmark for web-based remote interpreting world-wide. So far no signs of another service where spoken and sign languages can be interpreted via Internet being in use anywhere in the world have been found. Compared with facilities already widely used in daily life, such as Skype or MSN, the system will guarantee much better security because of a strict user identification and authentication policy. A text function where participants can write down important pieces of information will be included in the system in order to avoid misunderstandings with names, numbers etc. (Troger 2008)

2.2.3 Germany

In Germany, TI as an alternative mode to FTIF or as a parallel option to secure successful communication between healthcare personnel and foreign patients seems to be a minor topic both in the theoretical discussions and among the planned or realized measures in the applied field. Experiences with telephone interpreting have rather been limited to the area of sign language interpreting. (http://www.sgw.hs-magdeburg.de/gsd/_intern/telefon/dolmetschen/html/welcome3.html) But even in this area only very few providers have developed working concepts. According to the website of the program in Sign Language Interpreting at the Hochschule Magdeburg/Stendhal the only service providers are “TeleLink” in Munich and “Voice Agent” in Alsfeld. Another project supported by the Deutsche Gesellschaft der Hörgeschädigten - Selbsthilfe und Fachverbände e.V. (German Association of the Hard of Hearing) is „TeleSign“, a sign language interpreting service via screen telephones (see Hase 2002 for more detailed information) which was launched in 1997. The testing period ended in 2001 and now “TeleSign” is providing interpreting services in companies or other work places of deaf persons on Mondays, Tuesdays, Wednesdays and Fridays from 9 am to 12 am and on Thursdays from 9 am to 4 pm. But even in this area access to the service is restricted to the setting of a work place. There is no nation-wide or central 24-hour service provider.

Now and then in publications on the need for better communication with migrants telephone interpreting is mentioned, as for example in Salman (2004). Neither Niels-Jens Albrecht from the Department of Medical Sociology at the University Hospital Hamburg Eppendorf (Working Group Migration and Health) who has been involved in many projects in the area of providing linguistic mediation for foreign patients, nor Theda Borde, a well-known German researcher in migration and health could give any details about any project or service provider concentrating on telephone interpreting or any other kind of remote interpreting. Salman discusses the advantages of telephone interpreting as to costs, immediate and permanent accessibility, stresses that there are best practice examples in Great Britain, the Netherlands, France, Denmark and Canada and strongly advocates the establishment of telephone interpreting services in Germany.

Borde and Pospiech had organized a workshop within the framework of the “Masterplan Gesundheitsregion (Health Region) Berlin-Brandenburg” to present the project “Sprachmittlungs-Telefonhotline” (Language Mediator Hotline) in April 2008. The hotline should be established as an immediate help for communication needs in urgent cases like informing a patient/client, first interviews before hospitalization, fixing dates for doctor’s appointments, emergency cases etc. This service was to benefit from existing structures and institutions, namely the Gemeindegebietshilfeschadenz (CI service) Berlin, Sana Gesundheitszentren (Health Care Centre) Berlin, Flüchtlingsrat (Refugee Council) Mecklenburg-Vorpommern, etc. For the testing phase from October 2007 onwards the languages were to be Turkish, Arabic, Polish, Spanish, English, French, Russian, Vietnamese, Serbian, Bosnian and Croatian. Yet Theda Borde reports in her email from November 16th, 2008 that the project has not yet been developed and implemented due to financial reasons. There is still no unified and accepted professional profile for the interpreters to be trained and engaged in such a project. “Language and Culture Mediators, Patient Counselors, Health Advisers” are listed as possible options.

In an email from November 6th, 2008 Niels-Jens Albrecht underlines that in Germany there are only attempts to establish telephone interpreting services internally inside certain institutions on a very rudimentary level. These projects do not seem to be very professional and the quality of the services provided seems to be even worse than that of “natural interpreting” via family members or bilingual medical staff. In most cases the initiators of the projects, according to Albrecht, do not really know what interpreting entails and requires.
Thus the situation of telephone interpreting in Germany can be summarized as follows: There are very few serious projects and most of them are still on the level of project development and analysis of existing structures in other migration countries. No research has been conducted on the need for this type of interpreting in the medical field in the German context. In the long run, exhaustive research on the requirements for the use of ICT-based interpreting in German healthcare will be necessary, as Germany has a very specific health care system demanding the development of different structures on the local (communal), regional and federal levels to enable speakers of limited and non-existing German proficiency to get better access to medical services.

2.2.4 Slovenia

As stated in the previous work-packages, there is no organized support provided for the medical personnel in the Republic of Slovenia which would involve any kind of interpreting or translation services. Until now the health-care workers have helped themselves using relatives of the patients as interpreters or other medical personnel speaking the language in demand.

Since the Slovene language is spoken by approximately 2 million speakers, the majority of Slovenes speak at least one foreign language that belongs to the group of central languages (for the distinction between central and peripheral languages, see Linn 2006). Thus all medical doctors speak at least English, many of them also German, Italian or Hungarian, depending on the region they work in. In addition to the Slovene language, Italian and Hungarian are also used as official languages in areas inhabited by Italian and Hungarian autochthonous minorities. Only some of the doctors speak French. Foreign language proficiency with other medical personnel is not so diverse, and very often rudimentary. However, the generations born in the 1960's and older, working both as medical doctors or as other medical personnel, also understand Croatian and Serbian and can in general communicate quite skillfully in those two languages. Other languages also spoken in the former Socialist Republic of Yugoslavia, i.e. Albanian and Macedonian, represent a greater problem, while, as far as the languages of the other "new member states" are concerned, i.e. Bulgarian, Romanian, Polish, Czech, Slovak etc. the health-care workers in Slovenia do not speak those languages and no support is provided by the authorities.

Interviews with medical doctors reveal that in cases of emergency medical personnel try to communicate in one or the other major language they speak or telephone a colleague who happens to speak the language in question (for example Hungarian). The only technology used in those settings is the telephone, usually the mobile phone. When the question of different ICT used for medical interpreting was discussed with the medical doctors during the interview, they all seemed reluctant to use any kind of ICT for medical interpreting because they were concerned that this might slow down the medical examination and unnecessarily complicate the procedure.

2.3 Perspectives and Opinions on the Use of ICT in Medical Interpreting

In what follows, we will summarize the benefits and challenges of the use of ICT in medical interpreting as seen from the perspectives of the parties involved in the interpreting situation: the users of the interpreting services – health care personnel and patients or clients – and interpreters.

2.3.1 Users of ICT-based Interpreting Services

The users of ICT-based interpreting services are health care personnel and in a broader sense the authorities themselves on the one hand and the patients on the other hand. We will now focus on exploring the advantages and disadvantages of interpreting via ICT based on the information gathered in the first two subchapters.
The benefits of the use of ICT in medical interpreting from the users’ perspective

ICT-based interpreting services are, especially in places far from CI centers, more easily available than FTFI services, can be provided around the clock and are a cost-effective alternative to FTFI services. Hospitals do not have to pay the interpreters for waiting time, mileage and administrative duties. Besides, the use of ICT provides access to an interpreter in areas and for languages where or for which no qualified FTF interpreters are available. According to the results of a video interpreting project carried out by the Finnish Ministry of Labor in 1999 this form of interpreting makes it possible to provide more interpreting services than FTFI. The bigger the distance between the CI centre and the spot where interpreting was needed, the more economic video interpreting became. Travel costs and working time decreased.

The strongest argument in favor of the use of ICT in medical interpreting is that a good interpreter at a distance is better than a bad one on site or none at all. This is especially true for situations where hospitals would otherwise use lay people to interpret or would have to do without an interpreter. For emergencies ICT-based interpreting is particularly suited since a qualified interpreter can be reached in a matter of minutes.

In the event of a medical examination the use of ICT can lead to increased privacy as the interpreter is not in the same room as the doctor and the patient. Doctors taking part in the Finnish “Virtual Interpreter” project in 2002 felt that not having the interpreter in the room reduced the risk of the interpreter influencing the situation. According to Bischoff and Grossmann (2006) experience at the AMC in the Netherlands has shown that even in therapy settings TI is as successful as FTFI, which is why this hospital now relies on TI instead as its use is more cost-effective.

ICT-based interpreting can be used for matters that would be solved over the phone anyway, like routine calls, making appointments, reporting test results, etc. and it can help determine which language an individual speaks to find the interpreter suited to the task.

Last but not least, this form of interpreting may be very useful in addition to FTFI.

The disadvantages of the use of ICT in medical interpreting from the users’ perspective

The first and most-cited disadvantage with TI is the lack of visual information. Interpreters can only hear their clients but not see them. They can neither use visual clues in order to better understand the meaning or intention of an utterance nor gauge the reaction of those they interpret for in order to make sure they understand correctly. This lack of non-verbal information may lead to confusion and misunderstandings.

Even with the use of video interpreting this disadvantage does not entirely disappear. Picture and sound quality are essential. Very often, medical personnel forget to adjust camera or microphone when they move making it impossible for the interpreter to follow. Background noises can impair conversation as well. Technical problems may make interpretation impossible.

In medical settings patients often give interpreters valuable medical information when they are left alone together. Depending on the patient’s culture, he or she might be too shy to ask the doctor a question but might later ask the interpreter. This is, of course, only possible when the interpreter is physically present.

Another disadvantage as shown by Tuhkanen (2004) is that patients may tend to talk to the camera and not to the doctor, thus impairing direct communication. They might also be on guard in front of the camera, afraid that the conversations might be recorded somewhere.

In several Finnish projects as summarized by Köykkä (2006) and Tuhkanen (2004) the video interpreting equipment was only available in one meeting room. Doctors had to meet with their patients there, and very often medical equipment that was needed for examinations was not available in this room.

As the number of ICT-based interpreting service providers is increasing, professional interpreters fear that interpreting quality may not be under control. If the interpreters involved are not trained interpreters, this increases the risk of low quality interpretation.

And last but not least, in the public sector there are complaints that court rooms, hospitals, and other public institutions do not have the necessary equipment to ensure that high quality interpretation can be
obtained. Even if the interpreters are well prepared and qualified they cannot provide quality interpretation without adequate equipment. In many cases, standards have yet to be developed\(^5\).

### 2.3.2 Interpreters

In what follows, we will explore ICT-based interpreting in medical settings from the interpreters’ point of view.

**The benefits of the use of ICT in medical interpreting for interpreters**

ICT-based interpreting may allow interpreters to accept more work, as they can save travel and waiting time and work from home. It can also be a potential source of work for interpreters.

Thanks to the distance, the interpreter may be better able to distance himself from a traumatic situation and stay focused. Additionally, not being physically present may help the interpreter remain impartial.

**Disadvantages for interpreters**

The lack of visual information may be stressful for interpreters who feel that they are not receiving all the information necessary for them to provide high quality interpretation. Studies by Kurz and Fors (both 1999) have shown TI to be consequently more demanding and stressful. Other studies suggest, however, that this may be overcome with time and sufficient practice. In video interpreting technical problems and insufficient sound and picture quality cause stress for interpreters as well, as recorded by Tuhkanen (2004). Sitting very still in order to not cause disturbances on the recipients’ screen and watching the screen constantly is experienced as tiring. Gestures, facial expressions and personality are not transmitted as experienced in FTFI situations, which causes the interpreter to feel alienated. Experiments on video interpreting (see chapter 2.1.1) have shown that not feeling “present” may decrease the interpreters’ motivation, increase stress levels and thus negatively affect the interpreters’ performance.

Another issue is that telephone interpreters are paid significantly less than FTF interpreters. As a result, there is low job satisfaction among telephone interpreters. Additionally, telephone interpreters do not always get the chance to prepare for their assignments. Depending on where they work they may have to deal with many different topics over a short period of time, which may be quite stressful and increase the risk of quality loss in interpretation.

Interpreters may feel marginalized when they are not on site and may have difficulties distancing themselves from traumatic events when they cannot experience them in context.

Finally, TI may be used to replace FTFI not only when no qualified FTF interpreter can be found but in all cases where the aim is to cut the costs. Interpreters may consequently lose job opportunities.

**Ethical Questions**

One ethical issue is certainly data protection. The content of conversations between doctors, health care personnel and patients must remain confidential. For two projects summarized in the Finnish partner report ISDN-lines were used in order to transmit speech and images. Internet connections were not deemed safe enough or could not be used because of firewall settings. No conversations, examinations and therapy sessions were recorded. (Tuhkanen 2004) The “Remote Interpreter” project described by Troger (2008) may present a possibility to increase data protection.

Another issue is the use of ICT-based interpreting with visually or hearing-impaired customers or in mental health care because, according to interpreters participating in the Finnish “Virtual Interpreter” project in 2002, especially in these situations a sense of trust and safety is needed. They therefore recommend that ICT should not be used in these cases.

\(^5\) see Operational Standards for Telephone Interpreting issued by the New Jersey Judiciary (2001) for a possible form such standards can take
2.4 Conclusion

By way of conclusion, we would like to underline that there is a great lack of research and projects concerning the use of ICT in medical interpreting which is especially evident in the reports from Slovenia and Austria. The survey summarized in the Austrian report shows that telephone interpreting is used from time to time, but not for therapy or counseling sessions. Video interpreting does not come up in this survey at all. As for Slovenia, health care personnel act as interpreters. In both reports no mention at all is made of professional interpreters working via the telephone. In Germany, very few projects exist and even the partner report from Finland which includes several remote interpreting projects in which interpreters working from community interpreting centers are involved emphasizes that the use of ICT in medical interpreting is still severely under-researched.

Research should focus on answering the following questions:

- Where and under which circumstances and conditions is ICT-based interpreting used today?
- How do the parties involved – clients, institutional staff and interpreters – feel about ICT-based interpreting and what are their experiences with it?
- In which cases can ICT-based interpreting be an adequate alternative for FTFI? Which conditions must be met so it can work effectively and without loss of quality or accuracy? Where is ICT-based interpreting not an option and why? What makes the use of ICT in medical interpreting difficult and how can these problems be solved?
- How are interpreters screened and which quality control mechanisms are already in place? Are these mechanisms adequate? How could screening and quality control be improved?
- Which equipment yields the best results and which is not suitable? How can new technologies be used to improve ICT-based interpreting?
- What should the role of the interpreters be? Which interpreting techniques yield the best results or which techniques should be chosen according to the equipment available? Are there strategies ICT interpreters should adopt to improve communication?
- How can future interpreters be trained so they can face the challenges of ICT confidently?

The fact remains that the use of ICT in medical interpreting is on the increase. Even if some strictly oppose this development there is little that can be done to stop it. It might be a better strategy to clearly identify the challenges and try to find possible solutions so that both client and interpreter satisfaction and interpretation quality can be improved. ICT-based interpreting may just be a new way to exercise a profession that interpreters may adapt to with sufficient training and practice.

From the projects and research summarized above, some insight into the conditions necessary for ICT-based interpreting to work may be gleaned.

One prerequisite is clearly optimal equipment and staff trained in the use of this equipment. Only if technical problems can be kept to a minimum and all participants know how to use the equipment correctly can ICT-based interpreting work.

Another important condition is the introduction of quality standards for equipment and interpreters. (Vidal 1998/Bischoff and Grossmann 2006) Control mechanisms should be installed to make sure that only qualified interpreters using adequate equipment provide interpretation.

Wadensjö (1998) states that the participants in the conversation need to be educated on the way TI works. They should be aware that the telephone line might make it more difficult for the interpreter to understand them and they should not feel annoyed if the interpreter asks them to repeat a statement. This shows that another important condition is that not only interpreters but also users of TI should be instructed in how to use TI. We believe that this statement can be extended to encompass all kinds of remote interpreting.
Bischoff and Grossmann (2006) further recommend that remote interpreting services should be easy to use and operate so that no time is lost in emergency situations, and that an introduction of such a service should be evaluated continuously. Additionally, they state that video interpreting should be considered an option, as it is becoming technically feasible and would enable the participants to gain access to non-verbal information as well.

Lee (2007) suggests that TI should become part of interpreter training curricula to better prepare future interpreters for the challenges they might face in TI. The same goes for video interpreting.

Based on the findings concerning the use of video interpreting equipment summarized by Köykkä (2006) and Tuhkanen (2004) a few more prerequisites are that if the necessary equipment is not available in every room it should at least be possible to move the equipment from one room to another. Technical support should be available around the clock and staff should be well trained in how to properly operate the equipment. Both patients and health care personnel should be aware that remote interpreting is an option. The interpreters considered it vital that the customer should give their approval for the use of the technique beforehand, in order to avoid a suspicious attitude towards it. In order to cut costs, video interpreting should be used as much as possible. A text camera should be an integral part of the equipment, so that interpreters have access to any written material handled in the interpreting situation.

One of the most promising of the projects summarized above seems to be the "Remote Interpreter" project (Troger 2008) as it might solve the problem of availability of suitable equipment. As many people, work places, offices and service centers already are connected to the web via broadband, a system making good use of the existing facilities, adding relatively inexpensive extensions to it and exploiting modern authentication technology to ensure data protection presents an interesting approach.

Another interesting option might be an American invention, namely MARTTI (My Accessible Real-Time Trusted Interpreter). MARTTI – a computer providing two-way digital video/audio communication – is used in certain areas like emergency units. Communication between patients and medical staff is interpreted live by a remote interpreter via a wireless computer connection (http://www.languageaccessnetwork.com/subpages/meet_martti.aspx). Yet MARTTI is a new product – no research on or scientific evaluation of the effects of remote video interpreting in medical settings via MARTTI is yet available. But as telephone interpreting has one main disadvantage for the interpreter as compared to FTFI, namely the lack of any possibility to communicate nonverbally and to evaluate nonverbal signs and the body language of the conversation partners, MARTTI’s most important strength seems to be that all parties see each other.

Both projects should be observed and evaluated in order to find out if they really present ideal solutions and in what manner they may be improved and implemented in other countries and health care systems.
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