

This is the final draft of a handbook article to appear as: Braun, S. (2015). Remote Interpreting. In H. Mikkelsen & R. Jourdenais (Eds.) (2015). *Routledge Handbook of Interpreting*. London/New York: Routledge.

Remote Interpreting

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Abstract

The development of communication technologies such as telephony, videoconferencing and web-conferencing in interpreter-mediated communication has led to alternative ways of delivering interpreting services. Several uses of these technologies can be distinguished in connection with interpreting. 'Remote interpreting' in the narrow sense often refers to their use to gain access to an interpreter in another location, but similar methods of interpreting are required for interpreting in virtual meetings in which the primary participants themselves are distributed across different sites. In spite of their different underlying motivations, these methods of interpreting all share elements of remote working from the interpreter's point of view and will therefore be subsumed here under one heading. Although the practice of remote interpreting (in all its forms) is controversial among interpreters, the last two decades have seen an increase in this practice in all fields of interpreting. As such, it has also caught the attention of scholars, who have begun to investigate remote interpreting, for example, with a view to the quality of the interpreter's performance and a range of psychological and physiological factors. This chapter will begin by explaining the key terms and concepts associated with remote interpreting and then give an overview of the historical development and current trends of remote interpreting in supra-national institutions, legal, healthcare and other settings, referring to current and emerging practice and to insights from research. This will be followed by the presentations of recommendations for practice and an outlook at future directions of this practice and for research.

1 Introduction and definition of key terms

The evolution of communication technologies has created ample opportunities for distance communication in real time and has led to alternative ways for delivering interpreting services. On the one hand, mobile and internet telephony have made telephone communication more flexible, enabling conference calls with participants in two or more locations. On the other hand, videoconferencing has slowly established itself as a tool for verbal and visual interaction in real time, also between two or more sites.

Two main uses of telephone and videoconference communication can be distinguished in connection with interpreting. One of these, **remote interpreting (RI)**, refers to the use of communication technologies to gain access to an interpreter in another room, building, town, city or country. In this setting, a telephone line or videoconference link is used to connect the interpreter to the primary participants, who are together at one site. Remote interpreting by telephone is nowadays often called *telephone interpreting* or *over-the-phone interpreting*. Remote interpreting

by videoconference is often simply called *remote interpreting* when it refers to spoken-language interpreting. In sign-language interpreting, the term *video remote interpreting* has established itself. Remote interpreting is best described as a method of delivering interpreting. It has been used for simultaneous, consecutive and dialogue interpreting.

A similar method is required for interpreting in a telephone call or videoconference between parties at different sites who do not share the same language, i.e. for interpreter-mediated telephone or videoconference communication, but in this setting, the interpreter is either co-located with one of the parties or at a separate site. The latter configuration leads to a three-way telephone or videoconference connection. The method of interpreting required in this setting can be termed **teleconference interpreting** to cover both telephone and videoconference communication. However, the terms *telephone interpreting* and *videoconference interpreting* may also be used here. In relation to sign-language interpreting, the term video relay service is used for this method.

Given the above definitions, the term telephone interpreting emerges as a cover term for remote interpreting via telephone and working in interpreter-mediated telephone calls. However, in this chapter, **telephone-based interpreting** will be used as a cover term to avoid ambiguity. With regard to videoconferencing and interpreting, the cover term for remote interpreting via videoconference and interpreter-mediated videoconferencing will be **videoconference-based interpreting**.

To return to the difference between remote and teleconference interpreting, it should be noted that these methods or modalities have different underlying motivations, i.e. the use of communication technology to link an interpreter with the primary participants vs. its use to link primary participants at different sites, and that they are not interchangeable. However, both methods overlap to a certain extent, for example in three-way telephone or videoconferences, which can be seen as a combination of remote and teleconference interpreting. Moreover, both share elements of remote working from the interpreter's point of view. Both methods will therefore be discussed in this chapter.

Although Paneth noted in 1957—in what is probably the first reference to remote interpreting—that this was “a very neat and obvious use of interpreters” which “might easily be developed further” (Paneth 1957/2002: 39), the actual development of remote and teleconference interpreting has sparked heated debate among practitioners and interpreting scholars and has raised questions of feasibility and working conditions; but the debate has also been linked to the efficiency of service provision and the sustainability of the interpreting profession. Whilst uptake in traditional conference interpreting has been relatively slow, there is a growing demand for remote and teleconference interpreting in legal, healthcare, business and educational settings, and both methods are used to deliver spoken and sign-language interpreting alike.

2 Historical perspectives/developments

The Australian immigration service is commonly credited with establishing the first service for **telephone-based interpreting**, the Telephone Interpreting Service (TIS), in 1973. In the US and in most Western European countries, such services have been offered since the 1980s and 1990s respectively (Mikkelsen 2003). Today, telephone-based interpreting is the business of large and

mostly private operators who act as agencies between clients and interpreters, but some large hospitals have their own in-house telephone interpreter provision (Angelelli 2004). Telephone-based interpreting is mostly carried out in consecutive mode (see Chapter 6 on consecutive interpreting).

Although some telephone interpreting services are now being replaced by videoconference-based interpreting services, telephone-based interpreting is still a growing market which was worth an estimated US\$994.18 million worldwide in 2011, compared to US\$700 million in 2007, and was expected to grow further by more than 15% per year from 2011 to 2013 (Commonsense Advisory 2011). This is particularly interesting in view of Ozolins' (2011) observation that telephone interpreting services still rely nearly exclusively on the use of landline phones rather than mobile or internet-based connections due to concerns about line quality and confidentiality. Thus, whilst the 'telephony revolution' has fundamentally changed global business communication, leading to a possible increase in the demand for interpreter-mediated telephone conferences, it does not seem to be the driver of the expansion of remote interpreting by telephone. Ozolins believes that it is the fall in call rates, including long-distance rates, following deregulation that has fostered the expansion of telephone-based interpreting.

Another important factor is demand. Based on an analysis of over 1000 instances of telephone-based interpreting, Rosenberg (2007) showed that at the time of his study, the demand for remote interpreting by telephone mainly arose from migration and associated language policies, and that it was most widely used in healthcare settings while interpreting in three-way telephone conversations was more common in the business world. Rosenberg described interpreting in telephone conversations as less problematic than remote interpreting by telephone, as a three-way telephone connection puts the primary participants and the interpreter "on equal footing". However, detailed analyses comparing interpreter-mediated telephone conversations with non-interpreted telephone conversations (Oviatt & Cohen 1992) and face-to-face communication (Wadensjö 1999) identified a number of interactional problems and showed that the interpreters spent considerable effort coordinating the conversation. Rosenberg, in turn, believes that the difficulties of telephone-based interpreting arise more from situational factors and the lack of a shared frame of reference than from inherent difficulties of telephone communication (2007: 75).

Whilst these studies refer to consecutive interpreting, Hornberger *et al.* (1996) conducted an experimental study comparing remote interpreting via telephone connection using the simultaneous mode (see Chapter 5 on simultaneous interpreting) with consecutive on-site interpreting in doctor-patient conversations and found the remote simultaneous delivery to be more complete and more accurate than the onsite consecutive delivery. The interpreters participating in the study preferred consecutive on-site interpreting but thought that the remote simultaneous delivery would be beneficial for doctors and patients. The doctors and patients preferred the remote option.

Ko (2006) and Lee (2007) draw attention to the working conditions of telephone interpreters arguing that the generally high levels of dissatisfaction associated with telephone interpreting partly stem from the working conditions including low remuneration rather than from the use of the technology as such. Lee also highlights advantages that the respondents in her study reported, especially the anonymity of telephone interpreting. Ko reports that experienced telephone interpreters exhibit more positive views.

With the spread of telephone interpreting, the method has seen improvements in the technology used. Whilst Rosenberg (2007) denounced the inappropriate practice of passing the handset between clients such as a doctor and a patient, to listen to the remotely located interpreter, service users now increasingly make use of speakerphones or dual headset phones.

Kelly (2008) provides a comprehensive overview of the practicalities of telephone interpreting. She cites a number of advantages especially for interpreters who feel disadvantaged by face-to-face interpreting due to race or disability, and advocates specific protocols and training for telephone interpreting. Overall, Kelly paints a positive picture of telephone interpreting. However, as Ozolins (2011) notes, her description mostly refers to the US, where the size of the market and “the particular situation of having Spanish as a majority minority language” (43) has led to a level of sophistication in terms of technology use and logistics that is unlikely to be found in many other countries.

The development of telephone-based interpreting is closely associated with access to public services and is especially wide-spread in healthcare interpreting (see also section 3.3) (see also Chapter 15). By contrast, the development of **videoconference-based interpreting** was originally driven by the interest of supra-national institutions such as the United Nations and the European Union in this method of delivering interpreting services. The earliest documented experiment was organised by the UNESCO in 1976 to test the use of the Symphonie satellite. The experiment linked the UNESCO headquarters in Paris with a conference centre in Nairobi and involved three different methods: remote interpreting by telephone, remote interpreting by video link and interpreting in a videoconference between Paris and Nairobi, with the interpreters being situated in Paris (UNESCO 1976). Similar experiments were organised by the UN later in the 1970s and 1980s (Luccarelli 2011, Mouzourakis 1996). Although reports about these early tests do not always make a clear distinction between remote and teleconference reporting, they indicate that remote interpreting was perceived to be challenging or unacceptable, whilst interpreting in a videoconference link seemed more feasible.

It was, however, remote interpreting that the supra-national institutions were most interested in. When videoconferencing over the Integrated Services Digital Network (ISDN), i.e. digital telephone lines, became available in the 1990s, a series of studies into the feasibility of remote interpreting was organised by various institutions, including the European Telecommunications Standard Institute (ETSI) in 1993 (Böcker & Anderson 1993), the European Commission in 1995, 1997 and 2000, the United Nations in 1999 and 2001, the International Telecommunications Union (ITU) in collaboration with the École de traduction et d'interprétation (ETI) in 1999 (Moser-Mercer 2003), the European Council in 2001, and the European Parliament in 2001 and 2004.

As reported by Mouzourakis (2006), the studies used a variety of technical conditions. For example, the ETSI and ITU/ETI studies and the first European Commission study used ISDN connections based on H.320, the encoding and transmission standard developed by the ITU for ISDN-based videoconferencing. However, this was found to be unacceptable for simultaneous interpreting, because the sound quality fell short of the ISO 2063 standard for simultaneous interpreting booths. The UN experiments used ISDN connections with non-standard encoding to achieve a better audio signal, and the more recent tests in the European institutions were based on coaxial or fibre optics cable connections to avoid a loss of sound and also image quality. The equipment used also varied

widely. According to Mouzourakis the studies revealed a range of physiological and psychological problems which recurred in different technical conditions, so that it would be “difficult to attribute [these problems] solely to a particular technical setup or even to the working conditions provided by a particular organisation” (2006:52). Mouzourakis suggests that the problems are, in the first instance, caused by the overarching condition of remoteness.

The idea of remote interpreting was also met with considerable resistance by professional conference interpreters, most visible in the discourse of the International Association of Conference Interpreters (AIIC). In its ‘Code for the use of new technologies in conference interpretation’, published in 2000, the association warned that “the temptation to divert certain technologies from their primary purpose e.g. by putting interpreters in front of monitors or screens to interpret at a distance a meeting attended by participants assembled in one place (i.e. tele-interpreting), is unacceptable” (2000). The updated version of 2012 is unchanged in this respect.

The insight that remote interpreting is challenging regardless of technological improvements was a blow to the institutions which saw remote interpreting as a means of improving interpreter availability, saving interpreter travel time and costs, and from the 1990s onwards, increasingly as a way of meeting the linguistic and logistical challenges entailed by the expansion of the European Union, including the shortage of interpreting booths in meetings rooms (Mouzourakis 2003).

The motivation for the use of videoconference-based interpreting in legal and healthcare settings shares many of these reasons, especially the shortage of qualified interpreters for many of the languages that are required in these settings and the short notice at which many interpreting assignments need to be scheduled. Moreover, the short duration of many legal and healthcare assignments make the interpreter’s travel and physical presence particularly uneconomical. A survey among 200 legal interpreters conducted by Braun & Taylor (2012a) shows a wide variety of attitudes towards videoconference-based interpreting. Although many interpreters perceive the introduction of videoconferencing and interpreting as a cost-cutting exercise, some also have positive views, especially regarding the potential of videoconference technology to improve access to interpreting services and fairness of justice. Moreover, the survey reveals links between the interpreters’ attitudes towards videoconferencing and the situation in the country in which they work, in terms of the quality of the equipment and the general working conditions. This is similar to the observations made by Ko (2006) and Lee (2007) in relation to telephone-based interpreting.

In the more recent past, encouraged by the European efforts to promote the use of videoconferencing in legal proceedings, many European countries have implemented videoconferencing facilities in courtrooms based on the ITU’s more recent H.323 standard for videoconferences using the internet, which provides better video and audio quality than ISDN-based systems. Together with high-end peripheral equipment such as cameras and microphones, these systems can provide better support for videoconference-based interpreting than older systems. At the same time, the availability of web- or cloud-based videoconference services providing varying and unstable sound and image quality, and access to them on tablets and other mobile devices, especially in healthcare settings, raises new questions about the feasibility of remote interpreting using such systems.

3 Current situation, trends and issues

This section delves more deeply into current practice and research findings in different settings. Section 3.1 specifically addresses the situation in supra-national institutions, focussing on simultaneous conference interpreting in multilingual settings. In accordance with current practice and research in relation to this setting, this section refers mainly to remote interpreting by video link. Section 3.2 outlines the situation with regard to legal interpreting, showing the reasons for the variety of configurations in this field, i.e. the use of both remote and teleconference interpreting, mostly by video link. Section 3.3 then turns to the field of healthcare, where remote interpreting by telephone is the most common method of technology-supported delivery. Section 3.4 gives a brief overview of other settings.

3.1 Supra-national institutions

As was pointed out above, supra-national institutions have experimented with remote interpreting via video link for some time now, and a number of studies were launched to explore the conditions of interpreting in this setting. Whilst early studies focused on technical factors, two experimental studies addressed the quality of interpreting and a range of physiological and psychological variables. The ITU/ETI study (Moser-Mercer 2003) included six conference interpreters working from English and Spanish into French, whose performance was sampled over several days of traditional and remote interpreting. The study conducted by the European Parliament in 2004 (reported in Roziner & Shlesinger 2010) included 36 interpreters working in several language combinations whose performance in traditional and remote interpreting was sampled over a period of two weeks. As well as investigating the interpreters' performance, the two studies also surveyed the interpreters' emotional responses to remote interpreting, and measured stress indicators and aspects of the working environment.

The performance analysis of the ITU/ETI study revealed, as one of the major differences between on-site and remote interpreting, that the interpreters' performance in remote interpreting declined faster than their on-site performance, and this was explained by an earlier onset of fatigue in remote interpreting (Moser-Mercer 2003). In the European Parliament study, the comparison of the interpreters' performance in the two conditions resulted in slightly lower rates for remote interpreting but the difference failed to reach statistical significance, and Roziner & Shlesinger believe that the differences "may be regarded as rather minor in practical terms" (2010: 241).

With regard to stress, the interpreters participating in the ITU/ETI found remote interpreting more stressful, and their stress hormone values were higher in remote interpreting, although neither difference reached statistical significance (Moser-Mercer 2003). The interpreters participating in the European Parliament study perceived remote interpreting as being significantly more stressful than on-site interpreting, but again no such differences were found in objective measures of stress in this study (Roziner & Shlesinger 2010). In general, the most striking result of these studies seems to be the discrepancy between objective findings and subjective perception. Roziner and Shlesinger conclude for the European Parliament study that "[w]hereas the interpreters themselves were significantly less satisfied with their own performance in RI, the objective judgments of a panel of judges (two for each excerpt), based on 1,059 different judgments, point to almost no decline in quality, with a possible acceleration in the rate of decline, compared with the rate in on-site interpreting" (2010: 242).

A different, more technically-oriented approach was taken by the Interpreting Service of the European Commission (SCIC) in 2010. The aim of a study conducted by the Fraunhofer Institute for the SCIC was to define the minimum quality of digital video and audio sources required to provide on-site and remote simultaneous interpretation. A total of 36 conference interpreters underwent a series of tests in which they rated, for example, different audio and video qualities, albeit without performing any actual interpreting task. The so-called 'human factors', which were found to be important in other studies (see above) were not included in this study. The findings resulted in a comprehensive list of technological recommendations for video and audio transmission (see Causo 2012). Whether the use of the equipment recommended in this study will improve the interpreters' subjective perception of RI during their interpreting task remains to be seen.

3.2 Legal settings

As outlined Court services and other legal institutions have turned to videoconferencing as a means to make proceedings more efficient, to minimise security concerns arising from the transport of detained persons and to support cross-border judicial co-operation. In many English-speaking countries, videoconference facilities were implemented in courtrooms, prisons, detention centres and police stations in the 1990s to create 'virtual courts', i.e. links between court rooms and prisons, for example (for an overview see Braun & Taylor 2012b). This development has entailed a demand for videoconference interpreting (as opposed to remote interpreting).

The 2000s saw a worldwide spread of videoconference technology in legal proceedings. In the Netherlands, for example, videoconferencing has been used in pre-trial hearings since 2007, using internet-based equipment (van den Hoogen & van Rotterdam 2012). All courtrooms with videoconferencing facilities have the exact same equipment and layout to facilitate the work of all involved. A similar approach is now taken by other jurisdictions. By contrast, in countries such as the UK, where such equipment was implemented in the era of ISDN-videoconferencing, there are often problems with videoconference interpreting. Fowler (2007) notes problems with the interpreters' positioning in the courtroom and access to the microphone, as well as visibility of the video image. She argues that these problems, together with the absence of a protocol, lead to frequent disruptions, requests for repetition and misunderstanding.

A comprehensive feasibility study of videoconference interpreting in immigration proceedings was conducted by Ellis (2004). In the examined setting, the immigration judge, the refugee protection officer and the interpreter were together in the immigration office, whilst the refugee and his/her lawyer were in another city. The findings are based on interviews with 14 immigration lawyers and questionnaire responses from 25 immigration judges, 16 refugee protection officers and 17 interpreters. The lawyers were mostly sceptical about the suitability of video links, whilst the other three groups were generally more positive. One of the major problems reported was that the interpreter was not co-located with the refugee, leading to a weaker personal rapport between the interpreter and the refugee, difficulties with the co-ordination of the communication and the sight translation of documents presented by the refugee, and the impossibility of using whispered interpreting. Judges felt that consecutive interpreting was disruptive, especially when they delivered their final submissions. The hearings by video link also tended to be longer and were considered to be more fatiguing than comparable face-to-face hearings. The interpreters were concerned that body language and emotions were not transmitted efficiently and that this might undermine the

refugee's credibility. The interpreters also felt that videoconference communication involved more repetition and overlapping speech, which was difficult to resolve and impeded accurate interpretation.

A study of immigration bail hearings by video link conducted by two British charities – Bail for Immigration Detainees (BID) and the British Refugee Council – (BID 2008) came to similar conclusions. Three applicants, who were separated from the interpreter and all other participants, felt that they had difficulty following what happened in the courtroom and that only the questions directed towards them and their answers were interpreted; they had problems seeing and hearing the other exchanges in the courtroom.

The General Directors' Immigration Services Conference (GDISC), an informal network for European collaboration on immigration issues, created an 'Interpreters' pool project' in 2007, which was a European-wide initiative to supply interpreters for asylum interviews by way of relay interpreting to overcome problems with interpreter availability, especially for rare languages (GDISC 2007). (For a discussion of relay interpreting, see Chapter 10 on conference interpreting.) The interpreter who speaks the immigration case worker's language was co-located with the case worker and the applicant. The second interpreter, who speaks the language of the applicant, was located in another country. The project ended in 2012, but it is an example of how the uses of videoconference technology have evolved to go beyond the two basic distinctions between remote and teleconference interpreting.

The most comprehensive study to date relating to videoconference-based interpreting in criminal proceedings was conducted by the European AVIDICUS projects. AVIDICUS 1 (2008-11) assessed the viability and quality of videoconference and remote interpreting in criminal proceedings (Braun & Taylor 2012c). Based on the outcomes of a survey among 200 legal interpreters in Europe, designed to identify the most pressing problems and the most likely settings for videoconference-based interpreting, the project conducted a series of experimental studies to compare the interpreting quality in traditional interpreting and in video links for some of the settings identified in the survey (e.g. police interviews in the UK). The quantitative analysis of the data shows a significantly higher number of interpreting problems and, like Moser-Mercer's (2003) data, a faster decline of interpreting performance over time in video links, suggesting greater difficulties for interpreters and a faster onset of fatigue, and ultimately a higher cognitive load for the interpreters. This is corroborated by qualitative analyses, which highlight lexical activation problems in the videoconference setting (Braun 2013). They also reveal that many of the problems arising are related. For example, overlapping speech was often followed by omissions. The findings suggest that improvements in videoconference-based interpreting may be achieved through training (e.g. to avoid overlapping speech, and the use of better equipment (e.g. equipment that provides 'full duplex' sound to ensure that voices can be heard clearly even in situations of overlapping speech). However, the data suggests that there are also deeper-rooted behavioural and communication problems which may change the dynamic of legal communication and which warranted further research (Braun & Taylor 2012c, Braun 2013). Based on these findings, the AVIDICUS 1 project developed guidelines of good practice for videoconference-based interpreting in criminal proceedings, and designed and piloted training modules for interpreters and legal practitioners. Interestingly, Napier conducted a similar study for sign language interpreting around the same time and came to very similar results, and presented similar recommendations (Napier 2012).

To follow up further on the potential impact of training and equipment and on the potentially changing communicative dynamics in videoconference-based interpreting, the AVIDICUS 2 project was designed to address two strands of research (Braun & Taylor 2014). The first strand replicated the AVIDICUS 1 studies, involving the same interpreters but providing them with short-term training in videoconference-based interpreting before they participated again. Moreover, better equipment was used. The findings of this research create a complex picture, making it impossible to say without reservation that training, familiarisation and the use of better equipment resulted in a clear performance improvement. The second strand of research focused on the analysis of the communicative dynamic in real-life court hearings that used videoconferencing and interpreting and revealed differences in the dynamics of the communication between traditional and video-mediated settings. Videoconference interpreting in court seems to entail a reduction in the quality of the intersubjective relations between the participants and a greater fragmentation of the discourse. AVIDICUS 3 (2014-16) is currently assessing the implementation of videoconferencing facilities in legal institutions across Europe in terms of their fitness for the purposes of bilingual proceedings and interpreter integration (see www.videoconference-interpreting.net).

Whilst the research conducted in AVIDICUS for the first time also included research into remote interpreting in legal proceedings, the practice of remote interpreting in this field goes back, as pointed out above, to the 1970s. At that time, remote interpreting by telephone was introduced in Australia, followed by the US in the 1980s. The Telephone Interpreting Project of US courts started in 1989 but was never analysed systematically. Over time, remote interpreting over the phone has gradually been replaced by video remote interpreting.

A well-known example of videoconference-based remote interpreting is in the 9th judicial circuit in Florida, which introduced a central interpreter hub in 2007. The interpreter hub is in one of the courthouses and serves all judicial locations that fall under the jurisdiction of the Ninth Judicial Circuit from a single point. The interpreters' workstations are configured to provide a combination of remote consecutive and simultaneous interpreting (<http://www.ninthcircuit.org/programs-services/court-interpreter/centralized-interpreting/>). The Metropolitan Police Service in London introduced remote interpreting in August 2011, with interpreters working in consecutive mode from centralised videoconferencing hubs linked to London police stations.

3.3 Healthcare settings

More homogeneous methods of interpreting are used in healthcare settings than in legal settings. It is mainly remote interpreting that is required, and the interpretation is most frequently delivered by telephone, although the advent of mobile videoconferencing devices is gradually changing this (Locatis *et al.* 2011). As was pointed out in section 2, the demand for telephone-based interpreting in healthcare has increased steadily since its introduction in the 1970s. A number of surveys on user satisfaction have been conducted. However, empirical studies of interpreter performance, quality and interaction are largely absent.

An exception is Hornberger *et al.*'s (1996) early study which compared remote simultaneous interpreting with on-site consecutive interpreting. Hornberger and his colleagues found the former to be more complete and accurate than the latter, although the use of two different modes of interpreting may have made the comparison difficult. The findings from the survey-based studies of remote interpreting in medical encounters using telephone and video link are also difficult to

compare because of a great variance in the conditions under which they were conducted. In a review of these studies, Azarmina & Wallace conclude, perhaps somewhat optimistically, that “the findings of the selected studies suggest that remote interpretation is at least as acceptable as physically present interpretation to patients, doctors and (to a lesser extent) interpreters themselves” (2005:144). In spite of the lack of any formal assessment of the interpreters’ performance in the studies referred to, the authors conclude that “[r]emote interpretation appears to be associated with levels of accuracy at least as good as those found in physically present interpretation” (*ibid*). They do, however, note that interpreters generally preferred face-to-face interpreting and that they had a preference for video remote interpreting by to remote interpreting by telephone. This is corroborated by more recent studies comparing the three methods of delivery. Of the over 200 patients, 24 healthcare providers and 7 interpreters surveyed by Locatis et al. (2010), the majority of both providers and interpreters showed the same preferences with regard to the three methods. Patients found no difference between the 3 modes, but were only subjected to one mode each. The 52 interpreters responding to a survey conducted by Price *et al.* (2012) in a clinical setting found all three methods satisfactory for conveying information, but less satisfactory for interpersonal aspects of communication. They favoured face-to-face interpreting and found that video remote interpreting presented an improvement to remote interpreting by telephone.

A study on video remote interpreting currently being conducted by the Belgian Ministry of Health takes account of the features of interpreted interaction and intercultural mediation, and makes recommendations for behaviour in such video links. Based on initial results from the pilot, which was conducted in four Belgian hospitals, the study highlights the importance of training, covering equipment use as well as protocol (Verrept 2011).

3.4 Other settings

The use of remote and teleconference interpreting in business settings is not very well documented, but some reports and the websites of interpreting service providers suggest that all methods of technology-supported interpreting are used across different segments of the commercial interpreting market. There may also be a greater variety of configurations than likely encountered in legal settings. Solutions here tend to be more custom-made to cater to the specific requirements of business clients, and they may combine the use of telephone and videoconferencing for teleconferences with interpreters (Kurz 2002, Selhi 2004).

In the late 1990s, the ViKiS project in Germany investigated the possibility of integrating simultaneous interpreting into a point-to-point videoconference between two clients. As with the studies conducted in supra-national institutions, the project was developed on the back of the then increasing use of ISDN-based videoconferencing, which had made videoconference communication affordable for small and medium enterprises, allowing them to communicate globally. The project designed a solution for integrating an interpreter into a point-to-point videoconference from a third location. Using the ViKiS set-up. Braun (2004, 2007) analysed the adaptation of interpreters to this (then) novel working condition. All participants in the study reported that the communication was more fatiguing than face-to-face communication and that it was more difficult to establish a rapport with the other participants. Due to the limitations of ISDN videoconferences, especially the low sound quality, there were also a number of listening comprehension problems which, given the other problems, were difficult to overcome. The one aspect to which interpreters were able to adapt

was the interaction. However, the interpreters felt that they were required to adopt the role of a moderator, which posed a number of ethical problems, and led them to do more coordination than in traditional bilateral interpreting assignments. Different stages of adaptation were identified. The first stage was one of problem discovery and awareness raising, often leading to performance reduction or the use of *ad hoc* problem solving strategies. With increasing experience, however, the interpreter moved from problems-solving to avoidance and preventative strategies, based on their understanding that the resolution of problems (e.g. turn-taking problems) is often difficult in the videoconference situation (Braun 2004; Braun 2007).

4 Recommendations for Practice

AIIC (2000) has provided initial guidelines for the use of remote and teleconference interpreting in the context of conference interpreting, although these have, in part, been superseded by practical realities, for instance, the rejection of remote interpreting. Based on the studies conducted in supra-national institutions, Causo (2012) outlines technical minimum standards for remote conference interpreting by video link. Van den Hoogen & van Rotterdam (2012) describe minimum requirements for the use of videoconferencing in legal proceedings. The AVIDICUS projects have developed comprehensive guidelines for videoconference-based interpreting in legal proceedings (Braun & Taylor 2012, 2014, www.videoconference-interpreting.net). Napier (2012) presents a set of guidelines for the use of videoconference-based sign-language interpreting in legal proceedings. Kelly (2008) and Rosenberg (2007) suggest protocols and have provided guidelines for telephone-based interpreting. Moreover, some institutions have issued their own practical guidelines for interpreters and staff working in teleconference or videoconference situations.

Given the variation in the use of remote and teleconference interpreting in terms of setting, communication purpose, number and distribution participants, mode of interpreting and other variables, it is difficult to make general recommendations for practice. However, it has become clear that the viability of remote and teleconference interpreting depends on a range of factors, not only on the technical quality of the equipment or the connection. The following points can be used as a general guide for implementing and using teleconference and remote interpreting.

Institutions planning the implementation and use of remote and/or teleconference interpreting facilities should, as a first step, specify whether these facilities are intended for occasional or regular use, and whether they will be employed for a single purpose (e.g. a link between a courtroom and a number of prisons in the vicinity) or whether multiple purposes are possible in the future (e.g. make court-prison video links, as well as connecting an interpreter to a court room). All variables such as number and distribution of participants, especially the possible locations of the interpreter, the main communication needs and the mode of interpreting, should be considered carefully to determine the requirements and the scale of investment. Interpreters should be involved in the planning stages. An incremental introduction of new technology is recommended, i.e. any large-scale purchase, implementation and roll-out of new equipment should be preceded by a pilot phase and adjustments made to the original plans where necessary.

In relation to videoconference-based interpreting, the quality of the equipment and the connection has received much attention. Although it has become clear that some of the main challenges of videoconference-based interpreting occur regardless of the technology used (Moser-Mercer 2005,

Mouzourakis 2006, Braun & Taylor 2014), it is also understood that any form of remote or teleconference interpreting should be supported by the best possible equipment and connection to achieve an appropriate quality of service, including clear sound and image, lip synchronicity and connection stability. AIIC (2000) states that the frequency bandwidth required for remote (simultaneous) conference interpreting is at least 100-12.500 Hz. In the practice of videoconference-based interpreting in legal and healthcare contexts and in telephone-based interpreting, other conditions have been found to be satisfactory, but these methods mainly rely on consecutive interpreting. Sound quality is an issue that is highlighted in almost all studies relating to remote and teleconference interpreting. Full-duplex sound is required, allowing sound from both locations to be transmitted at the same time without the sound 'cutting out'.

Causo also highlights further conditions that may have an adverse effect on the sound quality and comprehension of videoconference-based interpreting, emphasising that "videoconferences are frequently linking standard offices unsuitable for this purpose, or have a poor set up, which means sound reverberation [...], simple omni directional microphones integrated in the table, etc." (2012:229). Rosenberg (2007) and Kelly (2008) make similar points in relation to telephone-based interpreting. They highlight the inappropriateness of using ordinary telephones and speakerphones for remote interpreting. Ordinary telephones force recipients to pass the handset back and forth between them, whilst speakerphones can elicit too much background noise. To resolve some of these issues, Kelly recommends the use of dual-headset phones.

In videoconference-based interpreting, another question with regard to equipment relates to the number of cameras and screens required. The answer will depend on the setting, i.e. for a small group, it may be sufficient to have one camera and one screen per site to capture and display the image of all participants. The involvement of a larger number of participants, however, requires multiple cameras and multiple screens or a split screen showing the different participants. A separate document camera may also be required so that text, diagrams and images are clearly visible to the interpreter.

The distribution of cameras is also closely related to the visibility of the participants and the interpreter. In remote conference interpreting, it is not normally necessary for the interpreter to be seen by the delegates (an exception is the case of remotely located sign language interpreters) but in healthcare, legal and business settings, reciprocity of visibility is recommended, i.e. all participants, including the interpreter, see the other participants and are seen by all. The interpreter should also be able to see a small image of him/herself. This image is an important means of monitoring non-verbal communication, allowing this interpreter, for example, to check whether important gestures such as signalling a speaker to stop are visible on screen, although some interpreters report that they feel disconcerted seeing themselves.

Similarly, there is little agreement over how much control the interpreter needs over the equipment. This will again depend on the setting, but in videoconference-based interpreting, interpreters should have a say in the choice of images they see; and in all settings of remote and teleconference interpreting, interpreters should have their own microphone, which they should be able to mute. They should also be able to adjust the volume of the remote speakers.

Such problems also point to wider issues regarding the working environment in remote and teleconference interpreting. In connection with implementing videoconference equipment, it is also

necessary to consider the room layout, positioning and seating arrangements for the interpreter and for the other parties. Van den Hoogen & van Rotterdam (2012) suggest, with reference to courtrooms, that the use of a videoconference should not force the participants in the communication to change their normal position. This may not be possible in all situations of teleconference and remote interpreting, but when compromises have to be made, the situation of the interpreter needs careful consideration. Kelly (2008) also highlights the importance of a quiet and undisturbed working environment for the interpreter. She refers to problems that can arise in call centres (or interpreter hubs) where interpreters may disturb each other, as well as problems caused by background noise when interpreters work from home. Some telephone interpreting providers therefore impose strict requirements on the workspace of interpreters who work from home. Similarly, where necessary, the space in which the interpreters work should be 'closed' and/or soundproof where necessary to ensure confidentiality.

One issue for debate is the length of interpreter-mediated encounters that involve the use of communication technology. Given that research shows a faster onset of fatigue in remote interpreting (Braun 2013, Moser-Mercer 2003), an interpreter's working turn in remote and teleconference interpreting should be shorter than in traditional interpreting. The guidelines issued by the Wisconsin court authorities, for example, recommend a maximum of 15 minutes (<http://www.wicourts.gov/services/interpreter/docs/telephoneinterpret.pdf>).

Teleconferences and videoconferences require thorough preparation, and any briefing that an interpreter would normally receive should not be omitted because of the use of communication technology. Similarly, institutions using teleconference or videoconference interpreting should develop procedures for deciding whether or not these methods of interpreting are suitable for a particular situation. Interpreters should be consulted where necessary. Furthermore, testing of the connections between the locations is crucial, especially when the equipment is used only occasionally.

Given the many challenges of remote and teleconference interpreting, interpreters and the users of interpreting services should be trained to work with interpreters in situations of remote or teleconference interpreting. The extent of the training required is not yet clear, but recent research in a legal setting suggests that short-term training may not be able to solve all problems (Braun & Taylor 2014).

5 Future directions

To date there is no consensus about the quality of interpreting that can be achieved in remote and teleconference interpreting compared to the quality of traditional interpreting in comparable situations, and what exactly the relevant shaping forces are. The variation in settings, requirements for quality and research methods means that the findings from different fields of interpreting are difficult to compare. One of the most pressing questions for future research is to resolve apparent discrepancies in current research findings (see section 3). Moser-Mercer (2005) and Mouzourakis (2006) suggested that the condition of **remoteness** or the lack of '**presence**' may be the most likely common denominator for the problems with remote interpreting. The concept of 'presence' and its effects are issues that will require a substantial amount of further research.

Furthermore, Moser-Mercer (2005) has raised questions about **adaptation** of interpreters to remote interpreting, arguing that experienced interpreters may find it more difficult to adapt to the conditions of remote interpreting because they rely on automated processes, whilst novice interpreters, especially when they are subjected to new methods of interpreting during their training, may have a greater potential for adaptation. Braun (2004, 2007) discusses adaptation and its limits in three-way videoconferences. However, the interpreters who took part in experiments with remote conference interpreting were able to maintain their performance, although not for as long as in traditional interpreting (onset of fatigue). Roziner & Shlesinger (2010) argue the maintenance of the performance quality over at least a certain period of time comes at a price, i.e. that interpreters put more effort into the interpreting task and may suffer post-work exhaustion. The issue of adaptation also requires further investigation.

A related consideration is how the physical separation and distribution of all participants and their perception of the situation via telephone lines and/or video screens affects aspects such as the processing of information, the communicative behaviour of the primary participants and the communicative dynamic. Moser-Mercer (2005) outlines problems with multi-sensory integration in videoconferences, which she believes prevent interpreters from processing the information and building mental representations of the situation in the usual way. Licoppe & Verdier (2014) suggest that distributed courtrooms change the dynamic of the communication and lead to **fragmentation** of the communication. The sources and implications of this kind of fragmentation are not very well understood yet and warrant further study.

In relation to these questions it will be necessary to investigate the possible short-term and long-term effects of remote and teleconference interpreting on the interpreters, on the success of the communicative event as a whole and on important societal issues such as the quality and fairness of justice. Research needs to highlight the possible **correlations between variables** in order to show how the likely increase in remote and teleconference interpreting, the further 'industrialisation' of interpreters associated with this and the expectation that they are available 'at the push of a button' impacts on the interpreters' working conditions, their status and remuneration. It will also be necessary to highlight the potential links between this and interpreting quality.

Given the speed with which communication technologies develop and spread, the future is likely to bring an increase and diversification of teleconference and remote interpreting. The latest developments which are likely to be relevant for remote interpreting fall into two categories, i.e. high-end solutions such as videoconferencing systems (HD and 3D 'tele-presence' or 'immersive' systems) and the merger of videoconferencing with 3D virtual reality technology to create 'augmented reality' communication solutions and low-end solutions such as web-based videoconferencing services which were originally developed for the home market (e.g. Skype), and video calls using mobile devices and apps. It will be important to investigate how the virtual spaces that these technologies create are able to support the development of 'presence' and the dynamic of the communication. **Robust research methods** are required to cover the potential impact of emerging technologies on interpreting. (Also see Chapter 26 on technology.)

Legislative frameworks are likely to change and become more accommodating of remote work. One recent example is the European Directive 2010/64/EU on the right to interpretation and translation in criminal proceedings, which highlights the need for quality in legal translation and interpreting in

Europe and explicitly refers to the possibility of using communication technologies such as telephony and videoconference to gain access to an interpreter. This is likely to lead to an increased demand for remote interpreting in many European countries.

A crucial point for research and practice is **collaboration**. Assuming that technologies are here to stay and that it would be a mistake to dismiss them cursorily, given their advantages, it will be important that the main stakeholders, i.e. interpreter associations, interpreting service providers, users of interpreting services, representatives of client groups (especially in public service interpreting contexts) and researchers collaborate in the investigation and mitigation of the risks and challenges of remote and teleconference interpreting and in designing, implementing and piloting appropriate solutions.

Given the insights into adaptability and its limitations, **training** of interpreters and those who use their services is crucial (and the influence of training is another topic for research, see Braun & Taylor 2014). European conference interpreter training courses, in collaboration with the interpreting services of the European Commission and the European Parliament, have used videoconferencing for simulations of interpreting for several years now (Virtual classes). Hlavac (2013) points to the need to train and test future interpreters in their knowledge about remote interpreting. The European project IVY (Interpreting in Virtual Reality) and its follow-up project EVIVA (www.virtual-interpreting.net) evaluate different technological solutions, including videoconferencing and 3D virtual worlds, for the simulation of interpreting practice to train interpreters and their clients. Chen & Ko (2010), as well as the European QUALITAS project (www.qualitas-project.eu), which develops certification procedures for legal interpreters, have explored possibilities for remote testing of interpreters.

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7 Further Reading

- Braun, S. (2013) Keep your distance? Remote interpreting in legal proceedings: A critical assessment of a growing practice. *Interpreting* 15 (2), 200-228.

This article provides a qualitative and quantitative analysis of interpreting quality in on-site and videoconference-based remote interpreting in the legal setting, drawing on police interviews as a source of data and discussing the implications for practice and research.

- Braun, S. & Taylor, J. (Eds) (2012) *Videoconference and Remote Interpreting in Legal Proceedings*. Cambridge/Antwerp: Intersentia.

This volume covers different configurations of videoconference-based interpreting in legal proceedings. It gives an overview of current practice and research, and presents research findings, suggestions for training and recommendations for best practice. It is of interest to interpreters, educators, students and legal professionals.

- Kelly, N., (2008) *Telephone interpreting: A comprehensive guide to the profession*. Clevedon: Multilingual Matters.

This monograph provides an overview of the growing field of remote interpreting via telephone covering healthcare, legal and other settings. The book offers information for practicing and trainee interpreters, educators and users of telephone interpreting services.

Ozolins, U. (2011) Telephone interpreting: Understanding practice and identifying research needs. *Translation & Interpreting* 3 (1), 33-47.

This article considers telephone-based interpreting in the context of changing technology. Based on a review of previous studies into different configurations of telephone-based interpreting, it identifies future research needs including research into practical issues such as the set-up of, and the coordination of interaction in telephone interpreting.

Roziner, I. & Shlesinger, M. (2010) Much ado about something remote: Stress and performance in remote interpreting. *Interpreting* 12 (2), 214–247.

This article discusses the aims, methods, conclusions and recommendations of the large-scale study into videoconference-based remote interpreting conducted in the European Parliament in 2005 and compares the findings this study to those of other studies into remote conference interpreting.