

Research Articles and Essays**Healthcare Providers' and Deaf Patients' Perceptions Toward Video Remote
Interpreting**

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Abstract

This mixed-methods study identified healthcare professionals' and deaf patients' preferences for video remote interpreting (VRI) and in-person interpreting. The study found that both groups preferred in-person interpreting for critical care and proposed hospital stakeholders to not exclusively popularize VRI, but also allocate funding for in-person interpreting for appropriate clinical situations.

Keywords: Video Remote Interpreting, Healthcare Communication, Deaf Patients

Background

Approximately 37.5 million adults report some degree of hearing loss (National Institute on Deafness and Other Communication Disorders, 2020). However, many of these people who are deaf/hard of hearing (D/HH) encounter communication barriers in healthcare settings (Harmer, 1999). Despite the legal obligation under the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973 (U.S. Department of Justice, 2020), healthcare professionals, often, do not provide interpreting services due to scant knowledge about the availability of professional interpreters, difficulties in arranging for interpreters, and high costs of interpreting services (Jacobs et al., 2004; Reis et al., 2004).

Due to technological developments, many hospitals have popularized the use of video remote interpreting (VRI). This technology involves the use of a video camera mounted on a computer or a tablet screen to facilitate communication between healthcare professionals and patients who are D/HH or have limited English proficiency (LEP) through a remote

interpreter. While VRI is cost-effective and can be accessed at all times (Alley, 2012), technical issues, such as poor connectivity, a small screen, and limited mobility for placement, are some of its drawbacks. Some patients with visual impairment, cognitive disability, or limited literacy are not comfortable using VRI (National Association of the Deaf [NAD], 2018). Despite this, hospitals try to reduce in-person interpreting and replace it with VRI to save money (NAD, 2018). However, there has been little research on healthcare professionals' and D/HH patients' preferences for critical and non-critical care related to interpreting.

Theoretical Framework

The study adopted two theories — deaf studies' cultural perspective on deafness and disability studies' social model of difference (DeVault et al., 2011) — in order to understand the perspectives of healthcare professionals and D/HH patients on VRI and in-person interpreting.

Within the purview of deaf studies, there are two different perspectives on deafness: cultural and pathological. From a pathological perspective, deafness is a hearing impairment that needs to be recovered from for the patient to be assimilated with the rest of society (McLeod & Bently, 1996). From a cultural perspective, the capitalized Deaf people are viewed as a linguistic minority that uses the American Sign Language (ASL) and shares cultural values; the non-capitalized deaf people are viewed as a group that does not belong to the Deaf community and is not familiar with Deaf culture or ASL (Padden & Humphries,

1988).

Within disability studies, the two basic organizing models of disability considered are the social model and the medical model (Oliver, 1996). In a manner similar to that of the pathological perspective, the medical model views disability as an impairment to rectify and from which to recover. In contrast, the social model suggests society is often the central problem because it may not provide an accommodating environment for people with disabilities (Oliver, 1996).

As an example of these theoretical applications, the ADA obligates institutions to ensure that people with disabilities receive accommodation in healthcare settings, as the definition of disability is rooted in the pathological perspective that deafness is a physical impairment (Donoghue, 2003). This approach applies to the medical model of disability studies. Meanwhile, D/HH patients have been found to request interpreters to communicate with their healthcare professionals because they are unable to physically hear oral spoken language, and healthcare professionals provide interpreting services as a legal obligation under the ADA.

In contrast, deaf studies' cultural perspective on deafness treats this example differently. The use of interpreting services is to build a bridge between healthcare professionals' and D/HH patients' communication barriers. Since most healthcare professionals are not fluent in ASL, they need an interpreter to communicate with D/HH patients. The interpreting preferences of D/HH patients are rooted in cultural perspectives and the desire for effective communication. However, healthcare professionals' interpreting preferences are rooted in the social model of difference and the desire for cost-effectiveness.

Therefore, both theoretical frameworks identify communication barriers in healthcare

settings. When hospital administrators reduce the number of on-site interpreters and popularize the use of VRI interpreters in favor of economic values rather than preferences associated with patient-provider communication, D/HH patients end up using VRI interpreters due to the lack of availability of on-site interpreters. Thus, the hybrid model comprising the social model of difference and the cultural perspective of deafness helps understand the interpreting preferences of healthcare professionals and D/HH patients either opting for critical or non-critical care.

Research Questions

In light of the above, the present study proposes and aims to respond to the following three research questions:

1. What are the interpreting preferences of healthcare professionals and D/HH patients opting either for critical or non-critical care?
2. What percentage of healthcare professionals has received training for using VRI and treating D/HH patients?
3. What are the recommendations of healthcare professionals and D/HH patients for improving VRI services?

Methodology

The study uses a mixed methods approach, called an explanatory sequential design, which first collects quantitative data, followed by qualitative data, to explore findings in an in-depth manner (Creswell & Clark, 2017). The mixed methods approach allows us to cover both the strengths and limitations of the research methods. For instance, quantitative data can provide overall data generation on the characteristics of the sample and association relationships, but the numbers cannot explain why these occur in detail (Johnson &

Christensen, 2016). On the other hand, qualitative data can provide information in an in-depth manner to answer why, but the qualitative sample size is too small for the researchers to draw a generalization for the overall population (Johnson & Christensen, 2016). Thus, using both methods strengthen the data research outcomes (Johnson & Christensen, 2016).

The study consists of Parts I and II. Part I involved the administration of online questionnaires asking about the interpreting preferences of healthcare professionals and D/HH patients either opting for critical or non-critical care, training experiences of healthcare professionals, and recommendations of healthcare professionals for improving VRI services. In statistical data analysis, the chi-square test was used to identify a significant difference in interpreting preferences between the two populations. The study also used Fisher's exact test for accuracy of data due to the small sample size (Lane, 2021).

Part II involved face-to-face interviews with eight healthcare professionals and eight D/HH patients to explore the findings from Part I. The interviews with healthcare professionals were audio-recorded by an interpreter of sign language and transcribed for data analysis. The interviews with D/HH patients were audio-recorded and video-recorded using an interpreter of sign language. While audio-recorded files were transcribed for data analysis, video-recorded files were used to check the translation accuracy of the interview transcripts. In the qualitative data analysis, the study used a direct analysis of content (Hsieh & Shannon, 2005).

Results

Table 1 presents the demographic characteristics of participants. The study included a majority of healthcare professionals and D/HH patients identified as white, compared to a minority group. Both groups were from Illinois, the United States of America (XXX, 2019;

XXX, 2020).

Table 1

Healthcare Professionals' and Patients' Demographic Characteristics

Healthcare Professionals			D/HH Patients		
Variables	<i>n</i>	%	Variables	<i>n</i>	%
Gender			Gender	17	41.5
Male	16	25.8	Male	22	53.7
Female	45	72.6	Female	2	4.9
Not Answered	1	1.6	Other		
Age			Age		
20-29	25	40.3	20-29	5	12.2
30-39	15	24.2	30-39	6	14.6
40-49	8	12.9	40-49	9	22.0
50-59	6	9.7	50-59	8	19.5
60 Over	1	1.6	60 Over	9	22
Not Answered	7	11.3	Not Answered	4	9.8
Race			Race		
White	41	66.1	White	28	68.3
Black	2	3.2	Black	5	12.2
Hispanic	4	6.5	Hispanic	4	9.8
Asian	11	17.7	Asian	3	7.3

Other	3	4.8	Other	1	2.4
Not Answered	1	1.6			

Study of Part I

Research Question 1: Interpreting Preferences

The study asked whether there was a difference between the interpreting preferences of the two groups opting for critical care. Critical care refers to care such as emergency care, postoperative care, cancer treatment, or a condition that requires intense treatment. Non-critical care refers to concerns such as colds, follow-up appointments, or refilling medicines; thus, conditions that require less intense treatment. No difference was found and both groups preferred in-person interpreting for critical care. The study then examined whether there was a difference between the interpreting preferences of the two groups opting for non-critical care. It was found that healthcare providers did not have strong interpreting preferences, but D/HH patients had a tendency to prefer in-person interpreting for non-critical care as well (XXX, 2019; XXX, 2020).

Table 2

Healthcare Professionals' and D/HH Patients' Interpreting Preferences for Critical Care

	In-Person Interpreting	Video Remote Interpreting	Exact Sig. (2-sided)	Fisher's Exact Test	Total
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Healthcare Professionals	20	1			2
					1a
Deaf/Hard of Hearing Patients	35	2	1.00	1.00	3
					7b
Total	55	3			5
					8

^a Five healthcare professionals who had no preference were omitted from the data analysis.

^b Four deaf/hard of hearing patients who had no preference were omitted from the data analysis.

Healthcare Professionals' and D/HH Patients' Interpreting Preferences for Non-Critical Care

Healthcare Providers	11	10			2
					1a
Deaf/Hard of Hearing Patients	26	6	0.027	0.027	3
					2b
Total	37	16			5
					3

^a Five healthcare professionals who preferred telephonic interpreting or had no preference were omitted from the data analysis.

^b Nine deaf/hard of hearing patients who had no preference were omitted for the data analysis.

Research Question 2: Training Experiences

The study asked healthcare professionals whether they had received training for using VRI while treating D/HH patients. It was found that 46.2% of the healthcare professionals who worked with D/HH patients had received little training for treating D/HH patients, and only a few healthcare professionals, such as speech-language pathologists who often work with D/HH patients, had received such training (XXX, 2019; XXX, 2020).

In other words, healthcare professionals tend to learn to use VRI or treat D/HH patients through their experiences, but not through training or academic instruction at medical schools. Another factor is the fact that medical schools often do not have disability curricula (Symons et al., 2009). Therefore, like babies who learn to walk by themselves without formal training, healthcare professionals learn to use VRI and treat D/HH patients. This method can be a good approach to learning, but may not be so at other times, negatively impacting patient-provider communication.

Research Question 3: Recommendations

The study inquired whether healthcare professionals and D/HH patients would recommend VRI training in the future, and both groups recommended training (73.1% of the healthcare professionals who worked with D/HH patients; 87.8% of D/HH patients). Training can help engage effective communication, understand Deaf culture, and advocate and empower the D/HH patients' needs. Therefore, hospital administrators need to understand why it is essential to balance the use of VRI and in-person interpreting, and they should not exclusively popularize VRI, but provide interpreting services for appropriate treatments (XXX, 2019; XXX, 2020).

Study of Part II

Although the study found interesting facts from the online survey, it could not identify the reasons behind why the two groups preferred in-person interpreting or VRI for critical and non-critical care. Thus, in-depth interviews based on quantitative findings were conducted. From the results of the interviews, the author, with the help of the peer reviewer, established themes and coded the transcripts of the interviews, added additional subthemes,

and discussed this information with the peer reviewer for agreement through content analysis (XXX, 2019; XXX, 2020). Table 3 presents the characteristics of healthcare professionals and D/HH patients who participated in Part II.

Table 3

Healthcare professionals' and D/HH Patients' Characteristics

Healthcare Professionals					
ID*	Gender	Age	Profession	ID*	Gender
BE	Female	58	Physical Therapist	BU	Male
EP	Female	31	Speech-Language Pathologist	DE	Female
GJ	Female	31	Dentist	ED	Female
GO	Female	32	Physical Therapist	IK	Female
MN	Female	38	Nurse Practitioner	JA	Male
KS	Male	26	Oral Surgeon	ML	Female
TY	Female	27	Nurse Practitioner	RM	Male
WD	Male	50	Physician	RP	Male

*ID is coded as a fictitious initial name.

Research Question 1: Interpreting Preferences

As discussed in Part I, there was no statistical difference between healthcare professionals' and D/HH patients' interpreting preferences for critical care, but there was a

statistical difference for non-critical care. When the author looked into the specific theme of *Preference* in the transcripts, the reasons behind why both groups preferred in-person interpreting for critical care were found. Healthcare professionals, GJ, KS, and WD, explained that in-person interpreting provided effective access to communication during surgery care. GJ explained that she did not have to worry about turning VRI on or off during oral surgery, as VRI cannot be placed on hold for more than five minutes. KS, an oral surgeon, explained:

For something more serious, like oral surgery or a root canal, I would prefer using an in-person translator because VRI is awkward. This is because I am working on my patient's mouth/face. Most of the time, I and an assistant are there and our hands/arms are completely obstructing our field of vision. Therefore, having someone in person to tag in when communication is necessary is good.

On the other hand, D/HH patients, BU, DE, IK, RM, and RP explained that in-person interpreting could help them communicate and clarify information during critical treatments, allow access to complete information in a doctor's room, and provide effective patient-provider communication smoothly. The patient RM explained, "If it were a serious case and — well, even if — I feel like if it were a serious case, such as something more critical, then an in-person interpreter would be better. I do not think VRI would be acceptable in that situation."

In contrast, there was a statistical difference between healthcare professionals' and D/HH patients' interpreting preferences for non-critical care. Healthcare professionals did not have strong preferences for VRI as compared to in-person interpretation. For example, the healthcare professionals GO and TY preferred VRI in non-critical care because

it was already set up in hospitals and in-person interpreters were not often available. The professionals EP, KS, TY, and WD preferred in-person interpreting for non-critical care because of logical reasons associated with the effectiveness of patient-provider communication. KS explained that in-person interpreting increases trust between the patient and provider, which leads to better treatment outcomes. EP, a speech-language pathologist, pointed out that in-person interpreting provides more effective communication for cognitive and speech therapy.

As for D/HH patients, ED and IK said they would accept VRI for non-critical care for specific reasons, such as follow-up appointments. ED explained:

If it is just a follow-up from a test or maybe taking a blood pressure check, or maybe going in for a refill, something routine, something that is done pretty often, and everyone kind of knows what is going to happen, then I think that is fine and I would accept the use of VRI because I understand it is not easy to get interpreters at the last minute.

However, the patients BU and DE preferred in-person interpreting for non-critical care, even when the appointments were pre-arranged. The patient DE said, “If a hospital uses VRI, I mean, I will make an exception for an emergency situation, but if it is an appointment planned ahead of time, there is no reason why VRI should be used, and I would prefer a live, in-person interpreter.”

Research Question 2: Training Experiences

As in Part I it was found that more than 50% of healthcare professionals had little training in using VRI or treating D/HH patients, the author looked into the theme of

Experience with VRI. EP, a speech-language pathologist, explained:

I think it is interesting. When I worked with VRI at the hospital, I did not even know that we had access to it. I just saw it on the [hospital] floor and I asked what it was, and I remember, oh, okay. I looked at it myself. We had no training, no in-service, did not even know how to use it, and I actually simply asked to use it for a patient and I liked it. I thought it was convenient. It was helpful.

GO, a physical therapist, also received no training, and she simply learned to log in, pick up, and select a language. Moreover, she explained that her D/HH patients looked comfortable using VRI. She said, “I mean I think that it has improved over the time that I have been here, and I think most of the time patients feel comfortable using that. So, I think that it works fairly well.”

Furthermore, KS, an oral surgeon, pointed out that the VRI interpreter was unprofessional. He had seen that the VRI interpreter gave a biased opinion, ignoring the patient’s opinion. He said that the patient needed to get his tooth extracted and had no other option, but the interpreter gave a biased opinion that more options of treatment were available.

Research Question 3: Recommendations

As in Part I it was found that both groups recommended training for improving VRI services, Part II explored the type of training resources recommended by both groups. As a result, there were commonalities and differences in their recommendations. Healthcare professionals, GJ, GO, KS, and MN, suggested improving VRI equipment in terms of better connectivity, gooseneck attachment, larger screens, and wider availability of

VRI. While BE suggested more bilingual providers, EP and GJ suggested training students and healthcare professionals to interact with D/HH patients, as well as advocate for D/HH patients and their families.

The D/HH patients, BU, ML, RM, and RP had similar suggestions for improving VRI services. JA, additionally, suggested there be more bilingual providers. DE, IK, ML, and RM had specific suggestions for training needs, such as the necessity of not only training students and healthcare professionals to interact with D/HH patients, but also training VRI interpreters in medical terminology and advocating for D/HH patients and training hospital administrators in aspects that healthcare professionals did not address. IK explained that hospital administrators need more rigorous training to determine whether D/HH patients need VRI or in-person interpreters. Meanwhile, hospital administrators should be aware of the interpretation preferences of D/HH patients for different types of treatments.

In particular, the patient ED suggested that VRI companies and hospital administrators should meet legal obligations. She argued that VRI should take responsibility under law enforcement and educate hospitals on how to use VRI interpreters; hospital administrators should fulfill the legal obligation to provide D/HH patients' preferred interpreting services. She sharply explained:

However, I had to explain to many providers and deaf people as well to, in a way, advocate for them and teach them that this is a right and a lot of people just assume that deaf people do not know their rights and that is not true. They know their rights. The problem pertains to those hospitals, doctors, or providers who refuse to honor their request for the preferred method of communication. That is the problem.

To summarize, through the study of Parts I and II, the author explored the findings in an in-depth manner to identify healthcare professionals' and D/HH patients' interpreting preferences for critical and non-critical care and their recommendations for improving VRI services, as well as healthcare professionals' training experiences.

Discussion

First, this study has several limitations. Due to time constraints and a limited budget, the study was unable to arrange for an ASL survey designed for D/HH patients with limited literacy skills; therefore, D/HH patients who participated either had college education or were working professionals. The survey questions were designed for this specific study and had not been tested for reliability and validity prior to their administration in the study. The study also planned to recruit 12 healthcare providers and 12 Deaf patients for data saturation, but the study was only able to recruit 8 healthcare providers and 8 deaf patients, resulting in a lack of diverse participants.

Second, the study found that the cultural perspectives of deaf studies on deafness did not align well with the findings of Parts I and II. However, the disability studies' social model of difference was more applicable to these findings. The study addressed environmental barriers, such as technical issues associated with VRI, lack of availability of in-person interpreters, budget concerns, and surgery demands, that affected the healthcare professionals' and D/HH patients' choice of interpreting modality for critical and non-critical care. For instance, healthcare professionals preferred VRI for time sensitivity for emergency treatments, and D/HH patients accepted VRI for non-critical care, including the treatment of colds and follow-up or appointments for refilling/replenishing medicines. Healthcare professionals preferred in-person interpreters for surgical care, and D/HH patients preferred

in-person interpreters to clarify information and facilitate full access to treatment.

More importantly, a majority of healthcare professionals did not have cultural knowledge pertaining to the Deaf community, but they valued the importance of patient-provider communication that impacts their treatment outcomes. Thus, both groups had logical reasons for their interpreting preferences based on their surroundings and the demands of critical and non-critical care. These examples were related not only to environmental factors but also physical, social, and economic factors.

Third, the study addressed the author's positionality and reflectivity, which includes bias and awareness of the relationship between the author and participants (Bourke, 2014). The topic of the study focused on healthcare professionals' and D/HH patients' interpreting preferences for critical and non-critical care. Personally, the author experienced both VRI and in-person interpreting during critical and non-critical care, which led to her dissertation journey. Thus, the author was aware of her positionality and reflectivity to maintain a distinction between her own experience and that of her healthcare professionals and D/HH patients when she developed the research design and methodology of data collection and data analysis.

Furthermore, the author was also aware of the importance of establishing a relationship of trust between researchers and participants. As the Deaf community encountered negative experiences with VRI in healthcare settings, the author clarified that the purpose of the study was to propose that hospital administrators should balance the use of VRI services, and not support the popularity of VRI services. The author maintained a professional relationship with her former healthcare professionals and her former D/HH clients during data collection. The author also worked with peer reviewers for data analysis on Parts I and II in order to balance the cultural perspective of both the Deaf and those who

can hear.

To conclude, this study identified the interpreting preferences of healthcare professionals and D/HH patients for critical and non-critical care. Both healthcare professionals and D/HH patients suggested training for students, healthcare professionals, hospital administrators, VRI interpreters, and D/HH patients. This study confirmed that only VRI is not recommended for clinical treatments, but that a balanced use of in-person interpreting and VRI for specific clinical treatments to ensure better treatment outcomes is desirable.

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