



INTERPRETING IN PEDIATRIC THERAPY
SETTINGS DURING THE COVID-19 PANDEMIC:
BENEFITS AND LIMITATIONS OF REMOTE
COMMUNICATION TECHNOLOGIES AND THEIR
EFFECT ON TURN-TAKING AND ROLE
BOUNDARY/LA INTERPRETACIÓN EN SESIONES
DE TERAPIA PEDIÁTRICA DURANTE LA
PANDEMIA DE COVID-19: BENEFICIOS Y LIM-
TACIONES DE LAS TECNOLOGÍAS DE COMU-
NICACIÓN REMOTA Y SU EFECTO EN LA TOMA
DE TURNOS Y LAS LIMITACIONES DE ROLES



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ABSTRACT: With the disruptions caused by the COVID-19 pandemic in the United States, social, educational, and health services, in addition to legal proceedings and conferences, became accessible primarily through various remote technologies. Language access was almost exclusively provided through remote telecommunication platforms' audio and/or video. Many of these platforms were neither optimized nor designed for interpreting support. Service providers, interpreters, and their Limited English Proficient (LEP) clients were faced with increased communication and logistical challenges and had to employ a creative approach to ensure minimal disruption and continuity of care and service provision. This study explores remote interpreting in pediatric therapy settings. More specifically, it examines the benefits and challenges of remote interpreting in speech, physical, and occupational therapy settings.

It also considers how different remote communication platforms may impact role boundaries and turn-taking from both the provider's and the interpreter's perspective.

KEY WORDS: remote interpreting; video remote interpreting; pediatric therapy interpreting; occupational therapy interpreting; physical therapy interpreting; speech therapy interpreting; turn-taking in remote settings

RESUMEN: Debido a las interrupciones causadas por la pandemia de COVID-19 en los servicios sociales, educativos y sanitarios de los Estados Unidos, además de los procesos judiciales y las conferencias que pasaron a ser accesibles principalmente a través de diversas tecnologías a distancia, el acceso a los servicios de interpretación se realizó casi exclusivamente a través de plataformas de telecomunicación a distancia, de audio o de vídeo. Muchas de estas plataformas no estaban optimizadas ni diseñadas para los servicios de interpretación. Los proveedores de servicios, los intérpretes y sus clientes con conocimientos limitados de inglés (LEP, por sus siglas en inglés) se enfrentaron a un gran número de obstáculos logísticos y de comunicación y tuvieron que innovar para garantizar que la interrupción fuera mínima, así como la continuidad de la atención y de la prestación de servicios. Este estudio explora la interpretación a distancia en entornos de terapia pediátrica. Más concretamente, examina tanto los beneficios como los retos de la interpretación a distancia en las especialidades de logopedia, fisioterapia y terapia ocupacional. El artículo analiza los modos en los que las diferentes plataformas de comunicación a distancia afectan los límites de los roles y la toma de turnos tanto desde la perspectiva del proveedor como del intérprete.

PALABRAS CLAVE: interpretación a distancia; interpretación a distancia por vídeo; interpretación en terapia pediátrica, terapia ocupacional, fisioterapia, logopedia; toma de turnos en entornos remotos.

1. Introduction

New communication platforms are constantly being developed, and our ability to engage with others, regardless of their geographical location, has never been greater. During the COVID-19 pandemic, telecommunication platforms quickly rose to prominence for allowing access to various services. However, for all their benefits, they also highlighted the inequities and the socioeconomic differences between diverse ethnic, cultural, and linguistic communities. Conversely, they have also provided, to varying degrees of success, continuity of services and support to the most vulnerable and disadvantaged community members. Remote interpreting, video or telephonic, even before the COVID-19 pandemic, was used in conference interpreting contexts, as well as for provision of care and delivery of various health, social, and legal services. Remote interpreting options, despite their convenience, have also posed a series of challenges to the participants in an interpreted or communicative event.

Remote interpreting is defined by Fantinuoli (2018, p. 4) as “a broad concept which is commonly used to refer to forms of interpreter-mediated communication delivered by means of information and communication technology.” In addition to its convenience, it is often promoted by language service providers as the more cost-effective option (Fantinuoli, 2018). In spite of, or even because of this ease and convenience, and especially since the beginning of 2020, these remote language access solutions have proven viable time and time again. They have established themselves in different public service settings, often as the only option for less commonly used languages. Existing standards and best practices for remote interpreting have been adapted and

are ever evolving to ensure access and accessibility, especially as new communications solutions are made available to both service providers and service users.

In the United States, telehealth, or audio and video communication options used in healthcare settings, must historically be designed to comply with Health Insurance Portability and Accountability Act of 1996 (HIPAA), adding another layer to the existing conversations of access and accessibility. During the COVID-19 pandemic, however, the Office of the Civil Rights (OCR) and the Department of Health and Human Services (HHS) loosened the regulations around the use of only HIPAA-compliant telehealth platforms in order to help keep the public safe, making it possible for providers to offer services through “non-public facing” video remote communication platforms available to them (e.g., “Apple FaceTime, Facebook Messenger video chat, Google Hangouts video, Zoom, or Skype” (Telehealth Discretion During Coronavirus section, para. 3 and para. 5). However, providers were advised to inform their patients of potential risks to privacy when using these platforms. Additionally, OCR and HHS supplied the list of the following HIPAA-compliant telecommunication options, including “Skype for Business/Microsoft Teams, Updox, VSee, Zoom for Healthcare, Doxy.me, Google G Suite Hangouts Meet, Cisco Webex Meetings/Webex Teams, Amazon Chime, GoToMeeting, Spruce Health Care Messenger” (Telehealth Discretion During Coronavirus section, para. 7). In an age of increasing “digital divide” (Valero-Garcés, 2018), the OCR and HHS decision around loosening regulations with various remote communication platforms and HIPAA compliance, made it possible for socio-economically disadvantaged individuals with limited connectivity and/or technical savvy to access services on different personal electronic devices.

2. Literature review

Although remote communication technologies have been used in various public service settings, research on Video Remote Interpreting (VRI) has largely been focused on sign language (Napier & Leneham, 2011; Yabe, 2019; Douglas, 2012, etc.), legal settings (Mikkelsen, 2016; Braun, 2015), and medical or healthcare settings (Azarmina & Wallace, 2005; De Boe, 2020; Klammer & Pöchhacker, 2021). Both VRI and telephone or Over the Phone Interpreting (OPI), their benefits, limitations, and best practices, have been explored by several scholars over the years (Kelly 2008; Braun & Taylor 2012; Braun 2015, 2017; 2019; Napier et al., 2018). Perspectives of interpreters on the different modalities used in medical encounters have also been explored (Price et al., 2011). Similarly, conversations about remote simultaneous interpreting (RSI), and subsequent guidelines for RSI, especially for conference interpreting, were set forth by the International Association of Conference Interpreters (AIIC) in 2019, and later updated in 2020. The AIIC Taskforce on Distance Interpreting (TDI) published a “best practices for interpreters during the COVID-19 crisis” in March of 2020, taking evolving COVID-19 protocols into account. These documents consider the various distance interpreting configurations with regards to an interpreter’s location in relation to the interlocutors, as well as other factors, such as technical savvy, quality of equipment, and both data and personal protection (AIIC Guidelines for Distance Interpreting, 2020).

In Europe, the AVIDICUS¹ project is, to date, the most comprehensive project that explores remote interpreting in legal settings along with its various participant configurations. The project's multiphase research offers insight and provides best practices and guidelines for remote interpreting as it pertains to the interlocutors and their respective locations. Although primarily focused on legal proceedings, the resultant research is groundbreaking, and the project's approaches were adopted for research in other interpreting contexts.

Turn taking during interpreting can be challenging for in-person interpreting assignments and is further complicated in remote settings. The differences between the two modalities have been studied by Belisle-Hansen, J. P. (2016). When speakers talk over each other, the difficulty for an interpreter in any setting, but especially in remote interpreting, can result in incomplete renditions or omissions (Braun, 2015). Subsequently, it can occur in situations where the interpreter is inexperienced, not familiar with the subject matter or if they have not been briefed on the content or purpose of the session.

It is of note, although it is not the focus of the present study, that the perception of challenges and benefits of remote interpreting may vary among the different participants based on (1) their employment status; (2) whether they work for a language service provider who uses a video or telephone interpreting platform, such as Martti² or CyraCom³ or similar commercial solution; (3) if they've received training on remote interpreting best practices; and (4) their ability to advocate when technical difficulties may be solvable. Many providers or their contracting agencies or hospitals, who may not contract with the commercially available solutions, had to pivot to one of the above-mentioned, non-public facing options to continue offering their services.

Although remote interpreting is used in different contexts, the present study focuses on pediatric therapy, which can be offered in various contexts such as hospitals, home health, schools, or in the patient's home. It explores both the interpreters' and the providers' perspectives regarding the challenges they faced in the process of providing speech, occupational, and physical therapy to, and interpreting for, LEP patients and their families, using remote or telehealth technologies during the COVID-19 pandemic. It offers an overview of the challenges, the effects these challenges had on communication, and explores the interpreter's ability to adapt and problem solve to help ensure clear provider-client communication. More specifically, it seeks to answer the following questions: a) What were the main challenges of remote interpreter-mediated encounters in speech, physical, and occupational therapy during the pandemic? b) What were the benefits and the limitations of the type of remote technology used? c) What challenges did interpreters and providers face with regards to turn-taking, power dynamics, and navigating the role boundaries while working in this modality?

¹ See <http://wp.videoconference-interpreting.net/> for more.

² See <https://www.martti.us/> for more.

³ See <https://interpret.cyracom.com/> for more.

3. Methods

This study was conducted using a survey instrument and is centered around interpreter and provider experiences of working in pediatric therapy settings using different remote communication platforms during the COVID-19 pandemic. Two separate surveys were designed, and study data were collected and managed using REDCap⁴ electronic data capture tools hosted at Virginia Commonwealth University (Harris et al., 2009).⁵ Approval from the Institutional Review Board (IRB) was obtained prior to data collection.

Since the study is based on the perceptions of both interpreters and providers, two surveys were created to ensure that questions aligned with the unique experience of each, as well as to facilitate data analysis once completed. The surveys followed the same format and comprised two sections. The first section consisted of multiple-choice questions, while the second included open-ended questions. There was a total of 14 multiple-choice questions in each survey, with 11 open-ended questions in the interpreter survey, and 10 open-ended questions in the provider survey. General demographic questions, questions regarding training and education, professional experience, and experience working with remote communication platforms prior and during the COVID-19 pandemic were asked of all participants.

The open-ended questions differed only slightly to account for the differences between the interpreter and the provider roles. The questions focused on interpreter briefing, perceived benefits, challenges, drawbacks, the effect on turn-taking and performance, role-boundary, whether remote communication technology improvements were observed since the beginning of the pandemic, and if the participants felt there were ways in which the technology could be further improved. All qualitative data was analyzed, coded manually, and organized by theme.

Participation in the study was voluntary and a separate email invitation with a link to the questionnaire was sent to each group of participants. The emails were sent to professional interpreting groups, program coordinators, directors, providers of pediatric therapy services, and through snowball sampling (Dudovskiy, n.d.). A reminder email was sent one week following the initial email. The surveys remained open for a total of three weeks, after which data could no longer be recorded.

For the interpreters to meet the study criteria, they needed to be at least 18 years of age and have experience with remote interpreting in occupational, speech, and/or physical therapy settings since the beginning of the pandemic. For the providers to participate in the study, they must also be at least 18 years of age and have experience with interpreter-mediated remote

⁴ "A secure, web-based software platform designed to support data capture for research studies." Read more at: <https://projectredcap.org/resources/citations/>

⁵ Data collection was made possible through the C. Kenneth and Dianne Wright Center for Clinical and Translational Research grant support (UL1TR002649).

communication in pediatric speech, physical, or occupational therapy settings since March 2020, or the start of the COVID-19 pandemic.

4. Results

A total of 112 ($n = 112$) spoken language interpreters and signed language interpreters took part in the survey. Out of 112, 53 (47.3%) completed the survey, while 59 (52.7%) did not. Data from 4 interpreter participants were excluded for failing to meet the study criteria of working in pediatric therapy settings. Those 4 participants had only interpreted for adults during both VRI and OPI appointments. Thirty-seven ($n = 37$) providers took the survey. A total of 26 (70.3%) completed it, while 11 (29.7%) did not. During the process of data cleanup, answers from 2 provider participants were also discounted for lack of experience with remote interpreter-mediated encounters during the pandemic.

Results are presented in two sections. Section 4.1 outlines general demographic data, such as the training and professional experience of the participants, their experience with remote interpreting prior to, and since the beginning of, the COVID-19 pandemic, and practices around interpreter briefing. Data from the qualitative portion of the survey are presented in section 4.2.

4.1. General demographic data

General participant data are included in this section. Table 1 outlines the interpreter participants' language combinations.

Language combination	Other working language(s)	Number of participants
English – Spanish	Portuguese (2), American Sign Language (1)	58
English – Arabic	French (1)	5
English – American Sign Language	Spanish (1)	2
English – Japanese		3
English – German		1
English – Portuguese		3
English – French	Creole (1)	1
English – Russian		1
English – Cantonese	Mandarin (2)	3
English – Mandarin		1
English – Thai		1

Table 1. Interpreter participants' working languages.

Participants' age and gender are shown in Tables 2 and 3, respectively.

Age group	Interpreters	Providers
18-24 years old	0 (0.0%)	1 (3.0%)
25-34 years old	6 (6.2%)	17 (51.5%)
35-44 years old	17 (17.5%)	10 (30.3%)
45-54 years old	29 (29.9%)	3 (9.1%)
55-64 years old	41 (42.3%)	1 (3.0%)
Over 65	4 (4.1%)	1 (3.0%)

Table 2. Number and percentage of participants per age group.

Self-reported gender of participant	Interpreters (n=90)	Providers (n=37)
Female	71	33
Male	15	
Gender nonbinary	1	
Gender non-conforming	1	
No answer provided	2	4

Table 3. Self-reported gender identity of participants.

The employment status of interpreter participants varied, as shown in Table 4.

Type of employment	Interpreters (n=96)
Full-time freelance/contract interpreters	27 (28.1%)
Part-time freelance/contract interpreters	25 (26%)
Full-time staff interpreters	28 (29.2%)
Part-time staff interpreters (PRN)	7 (7.3%)
Volunteer interpreters	0 (0.0%)
Other	9 (9.4%)

Table 4. Interpreter employment status.

Among those who selected Other, the following descriptions were provided regarding their employment status: hospital interpreter coordinator whose role includes interpreting; per diem interpreter; manager of interpreter services; full-time staff interpreter; part-time human services, part-time interpreter by contract; LAS (Language Access Services) supervisor and dual role nationally certified interpreter.

A question regarding interpreters' training and education was also posed. The number of interpreters who received some form of interpreter training can be seen in Table 5.

Training received	Interpreters (n=97)
Yes	95 (97.0%)
No	2 (2.1%)

Table 5. Number of trained interpreters.

The type of interpreter training and education varied among the participants as evident from Table 6.

Type of training	Interpreters (n=76)
Medical/Healthcare	62 (63.9%)
Community/Public Service	1 (1.0%)
Legal	2 (2.1%)
Educational	3 (3.1%)
Conference	0 (0.0%)
Other	8 (8.2%)

Table 6. Type of interpreter training and education.

Of those who marked Other, training combinations included: educational and medical; court, medical and travel; medical, administrative, forensic pathology, immigration, legal and sexual harassment terminology studies; behavioral health settings, non-profit, MATI⁶ degree; medical, community, educational, conference, simultaneous interpreting by text [sic].

The number of years of professional interpreting experience, and experience working in pediatric therapy settings are shown in Table 7 below.

Years of experience	Professional interpreting experience (n=97)	Experience interpreting in pediatric therapy settings (n=96)
0-5	13 (13.4%)	33 (34.4%)
6-10	21 (21.6%)	22 (22.9%)
11-15	18 (8.6%)	22 (22.9%)
16-20	20 (20.6%)	8 (8.3%)
21-25	12 (12.4%)	6 (6.3%)
More than 25 years	13 (13.4%)	5 (5.2%)

Table 7. Years of general and pediatric therapy interpreting experience.

Interpreters were asked to report on the primary interpreting modality prior to the COVID-19 pandemic. Their answers are illustrated in Table 8.

⁶ Midwest Association of Translators & Interpreters. See website [here](#).

Modality	Interpreters (n=83)
In person	55 (66.3%)
VRI only	4 (4.8%)
OPI only	1 (1.2%)
VRI and OPI	3 (3.6%)
In person and remotely (VRI and OPI)	20 (24.1%)

Table 8. Main interpreting modalities prior the COVID-19 pandemic.

They were then asked to report on the main interpreting modalities used since March 2020, up until the time of survey completion. The interpreter responses are shown in Table 9 below.

Modality	Interpreters (n=83)
In person	20 (24.1%)
VRI only	9 (10.8%)
OPI only	2 (2.4%)
VRI and OPI	18 (21.7%)
In person and remotely (VRI and OPI)	34 (41.0%)

Table 9. Main interpreting modalities since the beginning of the COVID-19 pandemic.

To better understand the challenges and the benefits of remote interpreting through various communication platforms, both participant groups were asked if the technology had been optimized for interpreter-mediated interaction. Their responses are recorded in Table 10.

Participant answer	Interpreters (n=81)	Providers (n=32)
Yes	26 (32.1%)	3 (9.4%)
No	31 (38.3%)	16 (50.0%)
I don't know	24 (29.6%)	13 (40.6%)

Table 10. Participant responses regarding communication platform optimization for interpreting.

Participants were asked to report on the type of remote communication platforms used for interpreting and in interpreter-mediated interaction in occupational therapy, physical therapy, and speech therapy settings during COVID-19. Table 11 lists proposed options that were given to the participants, with additional values in the paragraph below.

Communication platforms used	Interpreters (n=74)	Providers (n=32)
Zoom	39 (52.7%)	19 (59.4%)
Webex	0 (0%)	1 (3.1%)
Google Meet	2 (2.7%),	0 (0.0%)

Microsoft Teams	2 (2.7%)	0 (0.0%)
All of the above	7 (9.5%)	0 (0.0%)
Other	24 (32.4%)	12 (37.5%)

Table 11. Communication platforms used to offer therapy services during COVID-19.

Of the 24 interpreter participants who selected Other, audio and video communication platforms used for interpreted events included: a combination of the above-listed solutions, telehealth with Pexip Infinity⁷, VPN, Integrated video/phone line Cisco, Doximity, Phone, VMI⁸ (video-mediated interpreting), Facetime, company-offered solutions (unspecified), HCIN (Health Care Interpreting Network), and working for a video relay interpreting agency in addition to the above examples. Similarly, the 12 providers who also indicated solutions other than the ones provided, indicated having worked with a combination of solutions, including GoToMeeting, Martti, CyraCom, Facetime, and WhatsApp (when families did not have access or preferred to use another option available to them). Two only used a three-way telephone call for remote therapy sessions.

Both participant groups were also asked if these platforms were used or available as telehealth options prior to the pandemic. Their responses are listed in Table 12.

Participant answer	Interpreters (n=80)	Providers (n=32)
Yes	17 (21.3%)	8 (25.00%)
No	43 (53.8%)	15 (46.9%)
I don't know	20 (25.0%)	9 (28.1%)

Table 12. Participant's responses regarding whether the above telehealth solutions were available prior to the pandemic.

Both groups were also asked to report on the mode of interpreting that they primarily used for remote communicative events. Their responses are illustrated in Table 13.

Mode of interpreting	Interpreters (n=83)	Providers (n=31)
Consecutive	38 (45.8%)	29 (93.5%)
Simultaneous	2 (2.4%)	1 (3.2%)
Sight translation	1 (1.2%)	0 (0.0%)
All of the above	24 (28.9%)	1 (3.2%)
Consecutive and simultaneous	14 (16.9%)	0 (0.0%)
Other	4 (4.8%)	0 (0.0%)

Table 13. Modes of interpreting primarily used by participants.

Providers were asked how long they have been working as pediatric speech, physical, or occupational therapists. Their answers are included in Table 14.

⁷ A Virtual Meeting Room (VMR) option through the [Epic](#) system. See explanation of its integration [here](#).

⁸ See <http://wp.videoconference-interpreting.net/> for more.

Years of experience	Providers (<i>n</i> =33)
0-5	12 (36.4%)
6-10	10 (30.3%)
11-15	7 (21.2%)
16-20	2 (6.1%)
21-25	1 (3.0%)
More than 25 years	1 (3.0%)

Table 14. Years of provider pediatric therapy experience.

Additionally, providers were asked to report on their respective job titles. They are provided in Table 15, with additional clarification in the paragraph below.

Job title	Providers (<i>n</i> =33)
Occupational therapists	13 (39.4%)
Physical therapists	6 (18.2%)
Speech therapists	13 (39.4%)
Other	1 (3%)

Table 15. Provider occupation.

The participant who selected Other identified as a developmental therapist and special education teacher.

Providers were also asked to report on the most requested languages prior to the COVID-19 pandemic. The most frequently encountered languages are listed in Table 16.

Language	Providers (<i>n</i> =33)
Spanish	30
Arabic	5
Dari	2
Russian	1
ASL	3
Burmese	1
Urdu	1
Nepali	1

Table 16. Most frequently encountered languages in pediatric therapy settings.

Providers were asked approximately how many of their monthly sessions during the COVID-19 pandemic were interpreter-mediated. Their answers are listed in Table 17 below.

Number of monthly sessions	Providers (n=33)
Fewer than 5	15 (45.5%)
6-10	12 (36.4%)
11-15	4 (12.1%)
16-20	1 (3.0%)
21-25	0 (0.0%)
More than 25	1 (3.0%)

Table 17. Number of monthly interpreter-mediated sessions.

Providers also reported on the modalities they primarily used to deliver pediatric therapy services prior to the COVID-19. Table 18 lists their responses.

Modality	Providers (n=32)
In person	27 (84.4%)
Telehealth/remote	1 (3.0%)
In person and remote	4 (12.5%)

Table 18. Modalities used for therapy services prior to the pandemic.

Modalities used by the providers since March of 2020, are shown in Table 19.

Modality	Providers (n=32)
In person	12 (37.5%)
Telehealth/remote	1 (3.1%)
In person and remote	19 (59.4%)

Table 19. Modalities used for therapy services during the pandemic.

Providers were asked if they performed interpreter briefings prior to the start of each session and whether they did so regularly. Their answers are recorded in table 20 below.

Briefing	Providers (n=32)
Yes	2 (6.3%)
No	24 (75%)
Only when the case was new or when working with a new interpreter	6 (18.8%)

Table 20. Provider-interpreter briefing practices.

4.2. Qualitative data

The findings in this section are categorized based on the questions asked in the qualitative portion of the study, and further organized by themes. They are presented in this order: the biggest challenges and limitations of interpreter-mediated care through remote communication platforms (Section 4.2.1), benefits of remote communication technologies used in pediatric

therapy settings (Section 4.2.2), the effect of remote communication technology on turn-taking between the provider, the interpreter, and the patient/parent (Section 4.2.3), role-boundary (Section 4.2.4), the effect on and quality of interpreter performance (Section 4.2.5), and improvements in remote technology since the beginning of the pandemic and recommendations for further developments (Section 4.2.6).

4.2.1. Challenges and limitations of interpreter-mediated care through remote communication platforms

Both groups of participants reported several challenges and limitations to the delivery of language access and pediatric therapy services. They have been categorized into the following themes: technical, environmental or contextual, performance-based, and administrative.

Technical factors

In their survey responses, all participants described some degree of difficulty and limitation resulting from the type of technology used. The following examples illustrate the most frequently encountered challenges:

- Issues with internet connectivity (getting the patient connected, bandwidth and internet connection – dropped calls, lagging, freezing of screens)
- Inadequate equipment, audio (sometimes also due to muffled speech through masks), and video quality
- Lighting (too dark and unable to see the parties well)
- Lack of familiarity with the technology causing delays in starting the meeting
- Incorrect meeting IDs and passwords contributing to session delays
- Costly equipment
- Having to navigate multiple screens

One interpreter specified: “In clinics without bilingual office staff, the interpreter is often the default tech support for the patient/parent.” For one provider, the “quality of the audio combined with serving a child with communication or articulation challenges made it hard for the interpreter to provide some of the feedback I needed to provide skilled services.”

Environmental or contextual factors

For both participant groups, remote communication challenges were also dependent upon several environment and contextual factors which have been categorized as follows:

- Background noise and interruptions from family members
- Side conversations between providers or parents and children
- Children getting distracted by their home environment
- Patient/family having difficulty with “dual speakers”

- Participant configuration
 - Several providers in the same room/space
 - Remote interpreter booths closely arranged resulting in overlap between different languages

Performance challenges

For interpreter participants some of the reported limitations to their performance included:

- Difficulty with concentration/focus
- Inability to effectively interpret using simultaneous mode due to the platform used
- Consecutive sessions taking longer due to connectivity issues, speaker overlap, background noise
- Knowing when to use third person vs. first person to avoid confusion – especially in OPI encounters
- Size of screen and mask-wearing of the participants impacting the interpreters' ability to see and read non-verbal cues (such as body language and facial expressions) and leading to misunderstandings
- Hearing and/or comprehension issues resultant from background noise such as a “child screaming, toys/TV playing”
- Only being able to speak in short sentences
- Ensuring communicative autonomy for all parties
- Lack of pre-session or briefing prior to the appointment
- Interlocutors overlapping

Administrative factors

Participants also listed several administrative challenges which included:

- Scheduling of sessions
- Scheduled interpreters not showing on time
- (Un)availability of interpreters

4.2.2. Benefits of remote communication technologies used in pediatric therapy settings

The benefits of remote technologies have been organized by theme: convenience, cost-effectiveness, safety, expansion of and access to services, continuity of services, and improved communication. The themes are presented below with their respective subcategories.

Convenience

- No travel time – decreased travel time and time between appointments for interpreters and providers, and patients did not have to drive
- Ability to conduct appointments despite not sharing a physical space
- Easier and near-immediate access to, and availability of, interpreters for a wide variety of languages
- More flexibility in one's schedule
- Client availability
- Decrease in no-show rates

One participant maintained that interpreting remotely also made it easier for encounters with new and challenging terminology, stating that it provided “immediate access to a computer to quickly research an unknown term or to quickly understand aspects of the subject matter that may have been unknown” leading to greater “accuracy and efficiency of the interpreter's rendition.”

Two participants also felt that an additional benefit was the ability to provide language access to “COVID patients who were in isolation and quarantine in their homes and in hospitals” and ensure “language access to special needs patients, psychiatric patients.”

Cost-effectiveness

- Ability to save money on gas, parking, and tolls

Safety

The health and safety of all stakeholders were also reported as among the benefits. Participants felt that remote interpreting:

- Reduced risk of exposure to COVID-19
- Made it possible for patients to receive advice and treatment without fear of infection
- Allowed all parties to practice social distancing

Expansion of and access to services

- Providers did not have to depend on or be limited by in-person interpreter availability
- Providers were able to access interpreters for more languages
- Remote platforms provided timely access to interpreters
- Remote platforms contributed to expansion of interpreting markets to different geographical locations
- Increase in number of possible daily encounters

Continuity of services

- Ability to continue to offer therapy sessions through telehealth regardless of language

Improved communication

Providers felt that the remote communication platforms contributed to:

- Greater accuracy and completeness of interpreted message with one provider elaborating: “I prefer the interpreter being remote as I feel like they are interpreting exactly what I am saying and trusting what I say.”
- Ability for providers to “clarify recommendations/information”

4.2.3. The effect of remote communication technology on turn-taking

The following themes have been identified as having an effect on turn-taking in remote interpreted encounters between the different interlocutors: (1) speech overlap and interruption and (2) communication flow management.

Speech overlap and interruption

Participants reported that speaker overlap happened due to:

- Technical issues (lag or delay or screens freezing on either end)
- Children being unaware of the interpreter role and unfamiliar with the concept of turn-taking
- Participants often being impatient and unable to wait for the interpreter to finish their rendition
- Parents often speaking for the children or telling them what to say
- Parents participating in remote sessions “from a moving vehicle”
- Providers and/or parents not pausing to give the interpreters requisite time to interpret
- Providers sometimes feeling rushed

Communication flow management

Both providers and interpreters reported that the ability to clearly see the participants on video made it easier to engage in dialogue and anticipate each speaker’s turn. Technical issues (e.g., limited view, sound quality, interpreter “left in the waiting room” on Zoom, “late reactions” due to connectivity) were cited by interpreter participants as having a negative impact on communication management. Participant configuration was also cited as challenging, especially in instances where interpreters were at a different physical location and providers and patients shared a device in the exam room. This made it difficult for the parties to know whom to address during an encounter.

One provider stated that turn-taking was not affected with established therapy patients, or when, as one interpreter reported, they were able to hold a pre-session. Furthermore, according to interpreter participants, managing the flow of communication was easy with parents or adults but more challenging with children in remote settings.

One interpreter reflected that they had to “be firmer in managing the flow and rely on note taking to make sure nothing is missed” and “take extras turns to ask if everything is clear.”

One provider had the following perspective on why managing communication may have been difficult for interpreters during the pandemic, relating:

It seemed like because of the technology challenges, more verbal language would get shared at a time, so each turn was longer, and it was less conversational. [...] As a therapist, I try to be mindful of providing pauses in my speech to allow time for interpretation, but parents/caregivers during the pandemic seemed to have more to share leading to long monologues of speech the interpreter then had to synthesize to share. Notably, other families I saw during the pandemic without interpretation needed, also would “word vomit” in this way unloading tons of information at once. I think this speaks to the isolation many people were feeling.

4.2.4. Interpreter’s ability to remain within the bounds of their professional role

With regards to interpreter’s role boundary, interpreter participants felt that in virtual settings, their role often evolved to include that of tech support or that they, as described by one participant, needed to take “liberties” within their role if “the set-up is not effective for the patient.” Another participant shared that “the providers often knew less about using the platform than I did so even if a provider was present, they couldn't help.”

Others shared that they clarified more and provided more cultural brokering in remote settings. One interpreter felt that they had to more often remind the providers of their role and to direct their questions to the patient or the child. There were those who treated the remote modalities the same as in-person assignments and others who opted to withdraw from assignments they could not manage. One participant shared that they sometimes had to speak up and ask the parent “to step out of the scene.”

Two providers felt that remote communicative events make the interpreters “less likely to speak outside of their role” and able to “strictly interpret for a session.” However, they reported that the ability to stay within professional bounds varied between interpreters of different languages. For example, one provider shared that Spanish-English interpreters were successful at remaining within their role. Others did not observe a difference between in-person and remote encounters with regards to interpreters’ professionalism. However, one example was provided that speaks to systemic issues related to the pandemic such as access to services, internet access, patient privacy, and the digital divide, in addition to that of the interpreter role boundary and professionalism:

I feel interpreters, like many of us therapists providing services during the pandemic, often had some role blur as families looked to us to provide guidance on things beyond our scope. To me, this speaks to systemic problems with access to services for many of the families we serve. The flexibility of being able to interpret from anywhere did lead to a professionalism issue with one interpreter I worked with. She joined the videocall from a car where she was a passenger with another family member driving. She was not using headphones and this situation seemed like a "red flag" for potential HIPAA violations. Luckily, the family ended up "no showing" us that day, never joining the videocall. Certainly, more specific training should be provided on this and understanding the privacy of these videocalls, even when the interpreter can join from anywhere.

4.2.5. Quality of interpreter performance based on the type of communication platform used

Participants were asked if they felt that their interpreting performance or the quality of service provided was affected, due to the type of remote communication platform used. The biggest impediments to performance cited by the interpreters were technical in nature and ranged from connectivity issues to poor video and/or audio quality, subsequently leading to incomplete or inaccurate renditions. Repetition and clarification requests were also cited, in addition to insufficient information provided ahead of different encounters. One interpreter felt that "you could become somehow complacent and not give the best you could" in remote settings.

Providers observed similar effects on the quality of the interpreter performance. One participant felt that "an on-site interpreter may be more accurate/helpful, as they are also able to observe/interpret body language." Another participant cited the inability to consistently request the same interpreter as negatively impacting speech therapy services since it was not possible to build rapport and become familiar with the "family dynamic." For another participant "Using PLAY project techniques" meant that they had to "move and run with the kids, making it hard to stay near the phone," which in turn resulted in partially delivered information or missed content.

4.2.6. Improvements to technology since COVID-19 and recommendations for further enhancements

Both groups of participants were asked to share their observations regarding remote communication technology improvements since the beginning of the COVID-19 pandemic. These ranged from technological developments, increased language offerings, better audio and video quality, the ability to have an interpreter on a separate channel for simultaneous interpreting, and the participants' familiarity and comfort with this modality.

Similarly, both stakeholder groups were asked to provide recommendations for additional developments to remote communication platforms, access and accessibility, and improvements for delivery of therapy and language services. They are as follows:

- Making the technology more user friendly and easier to access and navigate
- Ensuring families know how to use the technology prior to their scheduled session
- Offering more training and education for interpreters on how to work in this modality
- Developing more wireless options and devices for increased mobility, decreasing the negative impact of prolonged sitting
- Having more local operations and working with local interpreters who are familiar with the demographic they are serving
- Educating providers on the scheduling and conducting of virtual visits and on considering the availability of devices (laptops, tablets, phone, etc.) in certain households
- Developing a guide for providers and platform developers on remote interpreting best practices
- Requiring a provider and interpreter briefing to establish ground rules and a debriefing to discuss recommendations for improvement
- Adding the ability to request the same interpreter for continuity and rapport-building
- Having a “1-click option” to connect to the language service provider (similar to the option in Martti), which would “cut down on administrative time within the session”

Lastly, one provider expressed the need for training for all parties, as well as interprofessional collaboration between providers and interpreters.

5. Discussion

The findings from this study show both the benefits and the limitations of remote communication technologies used during the COVID-19 pandemic in the provision of interpreter-mediated pediatric therapy services. Despite having experience with remote language access solutions prior to the pandemic, both interpreters and providers were faced with various challenges. The biggest reported obstacles to communication in video remote settings were technical in nature. These included connectivity issues, the inability to read or decipher nonverbal cues, environmental factors such as background noise, and interlocutor overlap. The reported challenges resulting from the quality of the speaker’s equipment, speaker configuration, body language, and their proximity to the microphone, align with findings from the Klammer & Pöchhacker (2021) study on the importance of technical and spatial arrangement of participants in VRI encounters. These further highlight the need for the participants in an interpreter-mediated or language discordant (Klammer & Pöchhacker, 2021) pediatric therapy session to understand these remote communication requirements. These are particularly important when listening for specific sounds in speech therapy, engaging in parent-coaching, or working on positioning. Nevertheless, despite the challenges and the various limitations of these technologies, many benefits were reported, such as the continuity of therapy services offered, and immediate and expanded access of interpreters.

Although remote communication platforms did have reported effects on interpreter performance and turn-taking, the findings in this study align with other studies on VRI and

impact of interlocutor overlap on interpreter-mediated communication (Braun & Taylor, 2012; Braun, 2015). Speech overlap, whether resultant from technical difficulties such as delay, or screens freezing due to poor internet connection, in addition to having an impact on the interpreters' performance, also affected the interpreters' ability to successfully manage the dialogue. Interpreters reported that it also increased their need for repetitions and clarifications.

Interpreter's own perception of their ability to remain within the bounds of their professional role was overwhelmingly positive. Their role did, however, evolve to include that of technical support, especially with clients who lacked technical savvy, or were not able to read the instructions often only available in English. Therefore, it can be argued that the role of the interpreter as technical support is only natural since interpreters are generally the only participant who can speak both the provider's and the client's language.

A small number of providers also felt that remote communication solutions had a positive impact on interpreter professionalism. It improved accuracy and completeness of the interpreted message, and helped keep interpreters from engaging in side conversations with the clients. Conversely, the ability to connect from any location raised some privacy concerns, even as OCR and HHS loosened their regulations around HIPAA compliant telehealth solutions at the height of the pandemic.

Provider-interpreter briefings or pre-session practices are of note as well. Most of the providers did not use briefings as a best practice when engaging in interpreter-mediated interaction, neither prior to nor during the COVID-19 pandemic. However, some participants reported that the briefings allowed for the provider and the interpreter to discuss the session and manage expectations.

While the findings show that, over the course of the pandemic, improvements in communication were observed by the participants (and there were some verified improvements and enhancements, such as Zoom's auto captioning and the ability to assign an interpreter to a virtual simultaneous session), additional developments are still needed.

Although, to my knowledge, no other studies on this topic have been conducted to date and it, therefore, adds to the body of extant knowledge on VRI, this study is not without limitations. It accounts for only two of the three stakeholders involved in an interpreted event. It does not consider the results by language combination, the participants' previous experience, or their bias. Although the study was open to both spoken and signed language interpreters, the survey participants on the provider side primarily worked with spoken language interpreters. The survey questions were limited to the challenges and benefits of remote communication platforms used during a global health emergency, and, therefore, no significant parallels or comparisons with experiences prior to the pandemic can be drawn.

6. Conclusion

The aim of this study was to explore the challenges and the benefits of remote interpreter-mediated encounters in speech, physical, and occupational therapy during a pandemic and to consider turn-taking and role boundaries from both the interpreters' and the providers' perspectives. Although remote communication platforms were already part of the interpreting profession prior to the emergence of COVID-19, they have established themselves as not only a viable, but also (un)reliable solution during the pandemic. Even with their limitations, the benefits of VRI still far outweigh the challenges faced by those who engage in communicative events in this modality. That said, and as the findings from this study suggest, further inquiry into their adequacy for interpreter-mediated pediatric therapy encounters outside of emergency use is needed.

Telehealth and remote interpreting platforms, both video and audio, have contributed to the expansion of interpreting markets to different geographical locations and have increased language offerings. They have also improved the availability of interpreters, reduced costs, and provided immediate access for providers already strapped for time. Nonetheless, further trainings are still needed for all stakeholders for successful provision of services through existing and new remote communication technologies.

Although the findings from this study offer valuable insights into the challenges and benefits of remote interpreting in pediatric therapy settings, question about access and accessibility, and the digital divide, remain.

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