

Through the Screen: Meaning, Mediation, and Trust in Video Remote Interpretation for Pediatric
Care — A Multi-Stakeholder Analysis

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ABSTRACT

Language barriers in healthcare continue to affect the quality of communication for patients with limited English proficiency (LEP). Although professional interpretation services are widely used, less is known about how communication unfolds when interpretation is mediated through video remote interpretation (VRI), particularly in pediatric subspecialty care. This study examines how patients, providers, and language services leaders experience communication during VRI-mediated clinical encounters and identifies themes related to interpretation quality, understanding, and meaning negotiation.

Grounded in Communication Accommodation Theory, this study uses a qualitative, multi-method design to examine communication within technology-mediated interpreted encounters. Clinical visits were observed in a pediatric neurology clinic serving Spanish-speaking caregivers of children with complex conditions. Semi-structured interviews were conducted with healthcare providers, language services leaders, and Spanish-speaking caregivers to capture diverse perspectives on interpreted communication. Data were analyzed using an iterative thematic analysis to identify recurring patterns across observations and interviews.

The findings reveal that interpreted communication in VRI encounters is shaped by three interrelated domains: interpretive experience and meaning transformation, structural reliance, uncertainty, and risk, and monitoring and adaptive response. Across stakeholder groups, participants described how interpretation actively reshapes meaning, creates conditions of reliance and uncertainty within communication, and prompts both patients and providers to continuously monitor and adjust their communication behaviors to sustain understanding.

These findings contribute a conceptual framework that reconceptualizes interpreted clinical communication as a mediated, interactional process rather than a simple translation mechanism. By illuminating how meaning is transformed, how reliance and risk are embedded within communication structures, and how participants adapt in real time, this study provides a foundation for future research on language access and communication within technology-mediated healthcare environments.

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1. Introduction

1.1 Introduction to the Research Topic

Clear and effective communication is fundamental to the delivery of safe, high-quality healthcare. Clinical encounters rely on the accurate exchange of information between patients and providers to establish diagnoses, communicate treatment plans, and support informed decision-making. When patients and clinicians do not share a common language, however, this exchange becomes more difficult and may compromise the quality of care delivered. Language discordance has been widely recognized as a barrier to safe and equitable healthcare and has been associated with poorer patient experiences, lower satisfaction with care, and increased risk of adverse events (Karliner et al., 2007; Kiblinger et al., 2024).

Patients with limited English proficiency (LEP) are less likely to fully understand diagnoses and treatment plans and may experience higher rates of communication breakdowns when appropriate language services are not available. To address these challenges, healthcare systems rely on professional interpretation services to facilitate communication between patients and providers who do not share a common language. While these services improve access to communication, the presence of an interpreter does not guarantee that meaning is conveyed clearly or that shared understanding is achieved.

The modalities through which interpretation services are delivered have evolved over time, with healthcare organizations increasingly adopting virtual approaches such as video remote interpretation (VRI). VRI allows providers to connect with interpreters in real time through video interfaces, expanding access to language services and reducing logistical barriers. However, this shift introduces new communication dynamics. In VRI-mediated encounters, communication

occurs through a three-party interaction among patient, provider, and interpreter, facilitated by a technological interface. This mediated structure may influence conversational flow, visibility of nonverbal cues, and opportunities for clarification during clinical exchanges.

These dynamics are particularly important in pediatric healthcare settings. Pediatric encounters typically involve communication between providers and caregivers who are responsible for making medical decisions on behalf of their children and managing treatment plans outside the clinical setting. Caregivers must interpret complex medical information and translate clinical guidance into day-to-day care practices. For families with limited English proficiency, language barriers may further complicate these interactions and affect understanding of diagnoses, treatment plans, and follow-up care. As a result, effective communication during interpreted encounters is critical for ensuring that caregivers feel informed, confident, and supported in managing their child's care.

Despite the widespread implementation of interpretation services, much of the existing research has focused on interpreter access, utilization, or patient satisfaction rather than examining how communication unfolds during interpreted clinical interactions. In particular, limited research has explored how communication is experienced in technology-mediated encounters such as VRI. As healthcare systems increasingly adopt virtual interpretation tools, there remains limited qualitative evidence describing how patients, caregivers, and healthcare professionals experience communication within these mediated environments.

This study addresses this gap by examining communication dynamics during VRI-mediated encounters in pediatric outpatient care. Focusing on Spanish-speaking caregivers and healthcare providers, the research explores how participants describe their communication experiences within these interactions. Through interviews and observations, the study identifies themes

related to communication clarity, meaning negotiation, and interactional dynamics during interpreted encounters.

1.2 Research Questions and Objectives

This study is guided by research questions designed to explore communication experiences within VRI-mediated healthcare encounters. The questions focus on how patients and providers experience communication when interpretation is delivered through a technology-mediated environment.

The study is guided by the following research questions:

RQ1: How do patients and providers describe their experiences with communication during VRI-mediated healthcare encounters?

RQ2: What themes emerge regarding interpretation quality, understanding, and meaning negotiation during VRI interactions?

These questions orient the study toward examining lived communication experiences rather than evaluating operational performance or technological efficiency. The focus is on how communication is perceived, constructed, and negotiated within clinical encounters that are mediated through VRI.

To address these questions, the study is organized around three primary research objectives. The first objective is to identify themes that characterize healthcare providers' experiences with communication during VRI encounters. The second objective is to identify themes that characterize patients' or caregivers' experiences during these same encounters. The third objective is to compare and contrast themes across stakeholder groups in order to examine areas

of convergence, divergence, and tension in how communication quality, clarity, and trust are experienced.

Together, these objectives support a thematic analysis that seeks to generate a structured understanding of communication dynamics within pediatric outpatient VRI interactions. The study aims to illuminate how meaning is negotiated across languages within technology-mediated clinical encounters and how VRI shapes the communication experience for families with limited English proficiency.

1.3 Theoretical Framework

This study is grounded in Communication Accommodation Theory (CAT), which explains how individuals modify their communication behaviors during interaction to manage social distance, build rapport, or support understanding. These adjustments may involve changes in tone, pacing, vocabulary, and conversational structure. CAT emphasizes that communication is dynamic and shaped by participants' perceptions of relational and contextual factors.

In healthcare encounters involving language discordance, communication becomes both triadic and mediated. Providers, caregivers, and interpreters each participate in accommodation processes. Providers may simplify language or adjust pacing to support comprehension, while caregivers may modify their responses based on perceived expectations or uncertainty.

Interpreters must balance linguistic accuracy with preservation of tone and meaning. These dynamics are further shaped in VRI encounters by technological mediation and reduced access to nonverbal cues.

Several communication theories offer insight into aspects of this process, including Social Presence Theory, Media Richness Theory, and Interactional Sociolinguistics. However, these

frameworks tend to address communication challenges in isolation and are most applicable within more bounded interactional contexts. VRI-mediated encounters represent a more complex environment in which language discordance, technological mediation, and third-party interpretation occur simultaneously.

As communication complexity increases, the effectiveness of accommodation strategies may become less predictable. Adjustments such as simplification or pacing changes may support understanding in some contexts but may also alter meaning or reduce precision in others. CAT is therefore applied in this study as a guiding framework for examining how communication behaviors are adjusted under these layered conditions and how those adjustments shape meaning and understanding.

1.4 Significance of the Study

This study contributes to the literature by examining VRI not only as a mechanism for language access, but as a relational communication process. By focusing on communication experiences across patients and providers, it provides a structured understanding of how meaning is negotiated within technology-mediated clinical encounters.

The study's focus on Spanish-speaking caregivers in pediatric outpatient care further strengthens its relevance. These encounters often involve complex and emotionally charged discussions, where clear communication is essential for informed decision-making and effective care management. By examining how communication unfolds within VRI-mediated interactions, this study contributes to broader discussions on health equity, language access, and the integration of digital technologies in healthcare.

2. Literature Review

The use of professional interpreters in healthcare is widely recognized as essential to promoting safe, effective, and equitable care for patients with limited English proficiency (Karliner et al., 2007). As healthcare systems increasingly adopt digital technologies, video remote interpretation (VRI) has become a common modality for delivering language services. Existing research provides substantial insight into interpreter effectiveness, adoption patterns, and patient satisfaction. However, while many studies examine access, utilization, and cost outcomes, fewer explore how communication processes unfold within VRI-mediated clinical encounters.

A consistent finding across the literature is the benefit of professional interpreters compared to ad hoc interpretation. Professional interpretation has been shown to reduce clinical errors, improve patient satisfaction, and support clearer communication between patients and providers. Effective communication is also associated with improved treatment adherence and reduced medical error (Pines et al., 2025). While this body of research establishes the value of interpretation broadly, many studies do not distinguish between in-person and virtual modalities, leaving the communication dynamics specific to VRI less well understood.

The literature reflects a growing reliance on VRI, particularly following the COVID-19 pandemic. Healthcare organizations have adopted virtual interpretation platforms to improve interpreter availability and operational efficiency. These technologies expand access to language services, particularly for less commonly spoken languages or during off-hours. However, increased access does not necessarily translate into improved communication quality. Research has given limited attention to how VRI is integrated into clinical workflows and how that integration shapes communication clarity and relational understanding.

Studies examining patient experience indicate that while access to interpretation improves satisfaction, virtual modalities may introduce challenges related to communication clarity and relational connection. Patients value the availability of interpretation services but may perceive VRI encounters as less personal than in-person interactions. Reports of technical disruptions, reduced nonverbal communication, and feelings of detachment suggest that communication within VRI extends beyond accurate message transmission to include perceptions of presence, trust, and engagement (Lion et al., 2023; Saeki et al., 2022).

Provider experiences further highlight the complexity of VRI-mediated communication. Clinicians report challenges related to managing triadic interactions, navigating technology, and ensuring understanding in time-constrained environments (Tam et al., 2021). Communication with patients with limited English proficiency often requires additional time, repetition, and clarification. When interpretation is mediated through VRI, these demands may be intensified, particularly in outpatient settings where workflow efficiency and time pressures shape how interactions unfold.

These communication challenges are especially relevant in pediatric healthcare. Pediatric encounters involve communication between providers and caregivers who are responsible for making medical decisions and managing care outside the clinical setting. These interactions often include complex and emotionally sensitive information, requiring both clarity and relational connection. For Spanish-speaking caregivers, communication may be further shaped by cultural expectations and the importance of nonverbal cues in building trust. When interpretation occurs through a screen, elements such as eye contact, body language, and shared presence may be altered, potentially influencing how information is understood and experienced.

Institutional factors also shape how VRI is implemented and experienced. Healthcare systems often adopt virtual interpretation technologies to improve efficiency and reduce costs while expanding access to language services. However, workflow pressures, technical disruptions, and time constraints may influence how interpreted conversations unfold. While these structural factors are acknowledged in the literature, they are rarely examined in relation to communication dynamics during the interaction itself.

Methodologically, prior research includes qualitative, quantitative, and mixed-methods approaches. Qualitative studies have provided insight into patient and provider experiences, while quantitative research has focused on measuring communication outcomes such as clarity and empathy. However, many studies do not distinguish between interpretation modalities or examine the triadic structure of VRI encounters involving patient, provider, and interpreter simultaneously. As a result, the interactional processes through which meaning is negotiated remain underexplored.

Taken together, the literature demonstrates that while VRI expands access to language services, the relational and communicative mechanisms within these encounters remain insufficiently understood. Much of the existing research emphasizes access, satisfaction, or efficiency rather than examining how meaning is constructed during interpreted interactions. This gap is particularly evident in pediatric outpatient contexts and among Spanish-speaking caregivers.

This study addresses this gap by examining communication as an interactional process within VRI-mediated pediatric encounters. By focusing on how patients and providers experience communication, it contributes a qualitative understanding of how meaning is negotiated, how reliance on interpretation is experienced, and how communication unfolds within technology-mediated clinical settings.

3. Conceptual Framework

Effective communication is central to high-quality healthcare, particularly in encounters involving patients with limited English proficiency. Interpretation services are intended to bridge linguistic divides and support shared understanding between patients and providers. However, the presence of an interpreter, particularly within a virtual format, does not guarantee that meaning is communicated clearly or that relational connection is maintained. Communication remains a dynamic and relational process shaped by adaptation, perception, and context. This study therefore draws on Communication Accommodation Theory (CAT) as a conceptual lens for examining how communication behaviors are adjusted within VRI-mediated encounters.

Communication Accommodation Theory, developed by Howard Giles, explains how individuals modify their verbal and nonverbal communication behaviors during interaction to manage social distance, build rapport, or support understanding. These adjustments may involve changes in tone, pacing, vocabulary, and conversational structure. CAT emphasizes that communication is adaptive and shaped by participants' perceptions of relational and contextual factors.

In healthcare encounters involving language discordance, communication becomes both triadic and mediated. Providers, caregivers, and interpreters each participate in accommodation processes. Providers may simplify language or adjust pacing to support comprehension, interpreters balance linguistic fidelity with preservation of tone and nuance, and caregivers adjust responses based on perceived expectations and uncertainty. Within pediatric outpatient care, these dynamics are further shaped by emotional and relational complexity, as caregivers are responsible for making medical decisions and managing care for their children.

Several communication theories offer insight into aspects of this process, including Social Presence Theory, Media Richness Theory, and Interactional Sociolinguistics. Each provides valuable perspective on relational connection, communication channels, or meaning-making. However, these frameworks tend to address communication challenges in isolation and are most applicable within more bounded interactional contexts.

VRI-mediated encounters represent a uniquely complex communicative environment in which multiple constraints co-occur, including language discordance, technological mediation, and the presence of a third-party interpreter. As communication complexity increases, the effectiveness of accommodation strategies may become less predictable. Adjustments such as simplification or pacing changes may support understanding in some contexts but may also alter meaning or reduce precision in others.

CAT is therefore applied as a guiding framework for examining how communication behaviors are adjusted under these layered conditions. In this study, CAT is not treated as a complete explanatory model but is extended to account for the compounded challenges present in VRI-mediated encounters. The framework supports analysis of how participants adapt, align, and respond within mediated communication, providing a lens for understanding how meaning is constructed, interpreted, and negotiated in pediatric outpatient care.

4 Methodology

This study employed a qualitative, multi-method design to examine communication dynamics during VRI-mediated encounters in a pediatric specialty clinic. The aim was to identify and analyze themes related to interpretation quality, understanding, and meaning negotiation across

multiple stakeholders, including Spanish-speaking caregivers, healthcare providers, and language services leaders.

The research was conducted in a teaching clinic that cares for children with complex neurological conditions. Because the clinic operates within an academic medical center, patient visits often involve multiple providers, including medical students, residents, and attending physicians, as well as allied health professionals. This structure produces extended encounters with multiple communication exchanges, providing opportunities to observe how interpretation unfolds across roles and stages of care.

4.1 Clinical Observations and Caregiver Interviews

The first component of the study involved direct observation of VRI-mediated clinical encounters. A total of twenty patient visits were observed, generating more than ten hours of recorded interaction between Spanish-speaking caregivers and members of the clinical care team. Observations were conducted during routine outpatient visits, with the researcher present in the examination room for the duration of each encounter.

Encounters were audio recorded, professionally transcribed, and de-identified prior to analysis. Because of the teaching environment, many visits included interactions with multiple providers, allowing examination of how communication patterns shifted across professional roles and stages of care.

Field notes were documented using a structured observation guide focused on conversational flow, pacing, repetition and clarification, nonverbal indicators such as hesitation or confusion, interpreter responsiveness, and technical aspects of the VRI platform. The focus was not on

evaluating interpreter performance, but on understanding how communication unfolded and how participants adapted within the interaction.

Immediately following each visit, attending physicians completed a brief structured check-in assessing satisfaction, perceived communication clarity, and confidence in interpretation. These ratings were used descriptively to provide contextual insight.

Following observed visits, caregivers were invited to participate in semi-structured interviews. Interviews explored experiences during the encounter, perceptions of communication clarity, comfort with VRI, and prior experiences with interpreted care. Interviews were audio recorded, transcribed, and de-identified.

4.2 Healthcare Professional Interviews

The second component consisted of semi-structured interviews with healthcare professionals. A total of twelve professionals were interviewed, including attending physicians and language services leaders. Interviews continued until thematic saturation was reached.

Physician participants represented a range of experience levels, from early-career clinicians to senior physicians with several decades of practice. Subspecialties included pediatric neurology, developmental pediatrics, movement disorders, oncology, and emergency care, providing insight into communication across high-acuity settings.

In addition, leaders in language services were interviewed to provide institutional perspectives on VRI implementation, including workflow integration, policy development, and quality monitoring. These participants contributed insight into how VRI is operationalized and sustained within healthcare systems.

A semi-structured interview guide explored experiences with VRI, perceptions of communication clarity, comparisons between virtual and in-person interpretation, workflow integration, and relational dynamics such as trust and engagement. Interviews were audio recorded, transcribed, and de-identified.

4.3 Analytical Approach

All qualitative data, including observation transcripts, caregiver interviews, provider interviews, and field notes, were analyzed using thematic analysis. An inductive approach guided the process, allowing themes to emerge from the data rather than being predefined.

Analysis began with repeated reading of transcripts and field notes to achieve familiarity with the data. Initial coding focused on identifying recurring patterns in communication behaviors, perceptions of interpretation, moments of clarification or misunderstanding, relational tone, and workflow dynamics. Codes were applied iteratively and refined as analysis progressed.

As patterns emerged, related codes were grouped into broader categories and ultimately organized into higher-order themes. Themes were initially developed within stakeholder groups and then compared across groups to identify areas of convergence, divergence, and tension. This cross-group analysis enabled examination of how communication experiences differed by role while reflecting shared structural conditions.

NVivo qualitative analysis software was used to support data organization, coding, and comparison across transcripts. The software facilitated systematic analysis but did not replace the interpretive role of the researcher.

Although Communication Accommodation Theory informed interpretation, it was applied after themes were identified to deepen analysis rather than structure coding in advance.

4.4 Methodological Rigor

Rigor was supported through triangulation, consistent procedures, and analytic transparency.

Data were collected from multiple sources, including observations, caregiver interviews, provider interviews, and language services leaders, allowing comparison across perspectives.

The inclusion of real-time observations alongside interviews strengthened credibility by linking reported experiences with observed communication dynamics.

Consistent data collection procedures were used across observations and interviews, and all recordings were transcribed and de-identified prior to analysis. Analytic memos were maintained throughout the coding process to document decisions and emerging interpretations, supporting transparency and reflexivity.

4.5 Researcher Positionality

The primary researcher is a native Spanish speaker with formal training in medical interpretation and more than ten years of experience in the healthcare industry. This background provided linguistic fluency and familiarity with clinical communication dynamics, which supported accurate observation and interpretation of nuanced exchanges during VRI-mediated encounters.

At the same time, prior experience with interpreter use and healthcare systems may influence assumptions about communication effectiveness. To mitigate potential bias, analytic memos were maintained throughout the coding process to document reflections and emerging interpretations. Peer debriefing with the dissertation committee further supported reflexivity and helped ensure that themes were grounded in participant narratives rather than researcher expectations.

5. Research Findings

This chapter presents the findings from the qualitative analysis of patient and healthcare provider interviews, triangulated with direct observations of patient–provider encounters conducted by the researcher, to examine experiences with virtual interpretation in pediatric outpatient care.

Analysis revealed a structured pattern of experiences across both participant groups. While patients and providers occupy different roles within the clinical encounter, their narratives revealed consistent patterns in how communication is experienced within VRI-mediated interactions. Across interviews, experiences organized around three overarching domains: interpretive experience and meaning transformation; structural reliance, uncertainty, and risk; and monitoring and adaptive response.

Across both patient and provider data, participants described how interpretation actively reshapes meaning, creates conditions of reliance and uncertainty, and prompts continuous adjustments in communication to sustain understanding. Rather than representing separate or mirrored experiences, these domains reflect shared structural conditions of mediated communication that are experienced differently depending on participant role. Although the specific themes within each domain vary between patients and providers, the domains themselves were consistently observed across the dataset. This consistency suggests that virtual interpretation functions not as a neutral communication tool, but as a mediating layer that reshapes how clinical communication unfolds.

The first domain, interpretive experience and meaning transformation, captures how interpretation reshapes both the content and emotional tone of communication during the clinical encounter. Participants described instances where meaning appeared altered, compressed, or filtered during interpretation. Both patients and providers referenced concerns about missing

nuance, simplified terminology, and the flattening of emotional tone when communication passed through an interpreter. Although these experiences were described differently across perspectives, the underlying pattern was consistent: interpretation actively influences how medical information is expressed and received.

The second domain, structural reliance, uncertainty, and risk, reflects the conditions under which communication occurs in VRI encounters. Patients described reliance on interpretation as their primary means of accessing care, often accompanied by an inability to verify accuracy. Providers described parallel forms of uncertainty, including limited visibility into how their message was conveyed and concerns about the potential consequences of miscommunication. These dynamics highlight how mediated communication redistributes control and knowledge within the interaction, creating conditions in which both parties must operate under partial information and structural dependence on the interpreter and technology.

The third domain, monitoring and adaptive response, captures the strategies participants use to navigate these mediated conditions. Both patients and providers described actively monitoring communication and adjusting their behavior to support understanding. Providers reported modifying speech, pacing, and phrasing, as well as checking for comprehension more frequently. Patients described relying on external supports, such as family members, directly correcting interpreters, or seeking confirmation after the visit to ensure understanding. These adaptive behaviors illustrate how communication becomes an active, effortful process in which participants work to maintain clarity within a constrained interactional environment.

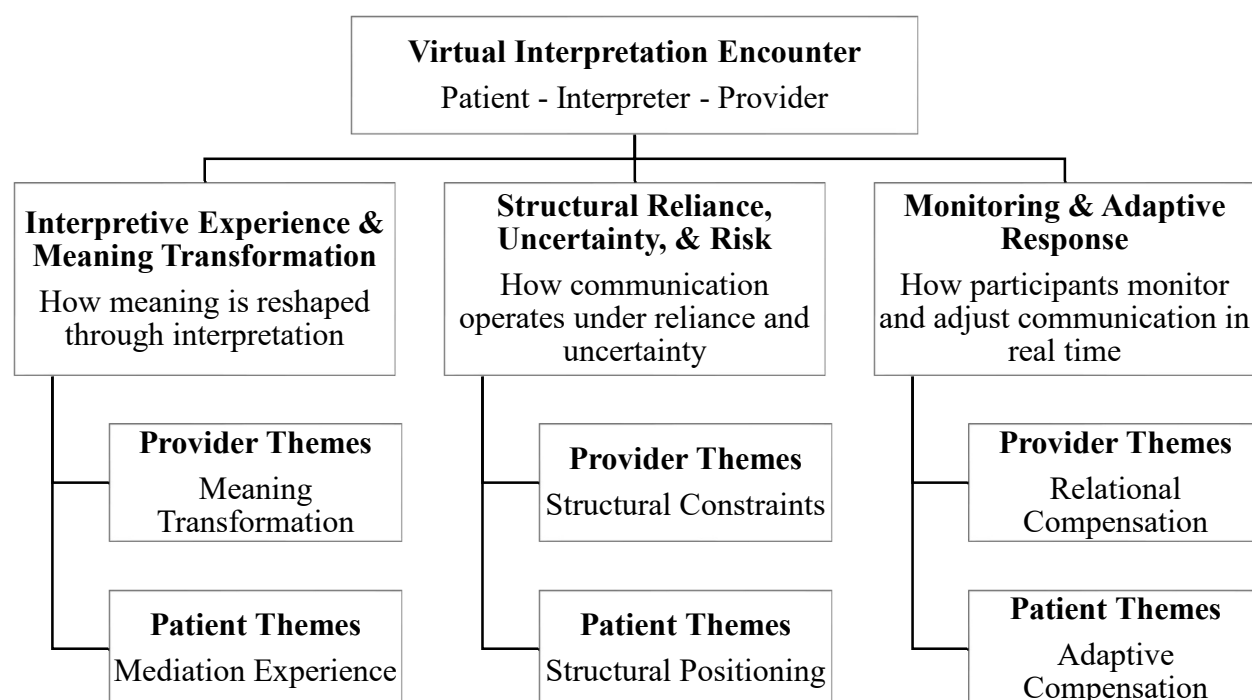
While these three domains were consistently observed across both groups, differences emerged in how they were experienced and navigated. Patients more often emphasized access, emotional reassurance, and reliance on external supports, while providers emphasized information

precision, professional responsibility, and potential clinical or legal risk. These differences reflect the distinct roles and constraints associated with each position within the clinical encounter.

However, despite these variations, both groups ultimately described communication as occurring within the same mediated system, shaped by shared constraints and requiring ongoing adaptation.

Together, these findings suggest that virtual interpretation creates a communicative environment characterized by transformed meaning, structural reliance, and continuous adaptation. These domains do not operate independently but form an interconnected system that shapes how clinical encounters unfold. Rather than functioning as a simple mechanism for translating language, interpretation becomes an active component of the interaction itself, influencing how meaning is constructed, monitored, and negotiated in real time.

Figure 1. Domains of Communication Experience in VRI-Mediated Clinical Encounters



5.1 Interpretive Experience and Meaning Transformation

Across interviews, both patients and providers described interpretation as a process through which meaning could shift rather than pass unchanged. Participants did not generally frame this as blatant incompetence or intentional distortion. Instead, they described more subtle forms of transformation in which messages became shortened, softened, simplified, or linguistically reconfigured as they moved through the interpreter. These shifts appeared across both emotionally sensitive and clinically technical conversations.

For providers, this domain included concerns about filtering of difficult information, reduction of emotional nuance, conceptual drift in technical terminology, and dialect-based ambiguity. For patients, the same domain emerged through experiences of perceived incomplete translation,

confusion around medical terminology, and dialect or phrasing differences that affected understanding. Together, these accounts show that interpretation was experienced not simply as a linguistic bridge, but as an active layer that shapes how medical information is delivered and received.

5.1.1 Filtering, Softening, and Compression of Meaning

Several providers described instances in which interpreters appeared to soften, shorten, or selectively filter difficult information. This was particularly salient during emotionally charged discussions, including conversations about prognosis, serious diagnoses, or complex developmental conditions. One provider described repeated situations in which interpreters appeared to blunt the force of the original message:

“I have had many situations where they have tried to blunt the message that I'm getting across... to try to ease the blow to the family, or... they think I'm being too much.” (Provider 4)

This concern was not framed simply as incorrect translation. Rather, providers perceived that some emotional or clinical precision was lost during the interpretive process. In high-stakes conversations, even small changes in phrasing were described as meaningful. A statement intended to communicate certainty or urgency could become moderated in translation, leaving more room for ambiguity than the provider intended. In this sense, interpretive softening did not necessarily constitute overt misinformation, but it changed the emotional and decisional context in which families received the information.

Another provider reflected on how the emotional burden of delivering distressing content may itself shape interpretation:

“For them to have to say things to families that are so emotional... it's very difficult for them, and so sometimes they do blunt the message.” (Provider 4)

This framing is important because it shifts the issue away from blame and toward structural complexity. The interpreter is not merely repeating content but participating in a communicative act that may be emotionally difficult to reproduce verbatim. The result, however, is still consequential. When message intensity is softened, families may receive something technically related to the provider's statement but emotionally different in force or urgency.

Patients described a parallel concern from the receiving side. Their language often centered less on “softening” and more on “not saying everything” or saying much less than what had originally been spoken. One patient captured this perception clearly:

“Lo que yo decía en diez minutos ella lo decía en dos o tres minutos... no está diciendo todo lo que yo quiero que diga.”

“What I said in ten minutes, she said in two or three minutes... she's not saying everything that I want her to say.” (Patient 16)

This account illustrates how patients sometimes assessed interpretation through proportionality. Even without being able to verify every word, they noticed when their lengthy explanation seemed to return in a dramatically compressed form. Another patient described how bilingual family members sometimes identified these discrepancies:

“Mi hija me dice: ‘mami, no le dijeron lo que tú dijiste.’”

“My daughter tells me, ‘Mom, they didn't say what you said.’” (Patient 10)

Together, these provider and patient accounts suggest that a shared experience of compression exists across both groups. Providers interpret it as filtering or softening; patients experience it as incompleteness or omission. In both cases, the perceived issue is that meaning does not fully survive the interpretive process intact.

5.1.2 Emotional Tone and Relational Attenuation

A second pattern involved the loss or flattening of emotional tone. Providers repeatedly emphasized that clinical communication is not only about content but also about affect, reassurance, and relational presence. They described difficulty assessing urgency, empathy, or emotional resonance when communication passed through both a device and a third-party voice. One provider described the interaction as “robotic”:

“It definitely appears a lot more robotic, and so I do wonder how much the families do feel comfortable...” (Provider 6)

Here, the concern moves beyond whether the message is technically correct. The issue is whether the relational feel of the encounter is altered in ways that affect comfort, trust, and willingness to engage. Another provider made this connection even more explicit:

“It’s so important to make that initial connection that actually establishes trust. And I don’t know how much of that really happens through the online system.” (Provider 8)

This suggests that emotional attenuation is linked not only to patient comfort but to the foundations of trust itself. Trust, in these accounts, is not built solely through correct information transfer. It depends on warmth, tone, timing, and a sense of interpersonal grounding, all of which may be altered when interpretation is mediated through VRI.

Providers also emphasized that some diagnoses require substantial nuance. In discussing autism, one provider noted:

“Autism is not a black or white evaluation. There’s incredible nuances and shades of gray.”

(Provider 2)

In this context, emotional flattening and conceptual simplification overlap. When nuance is compressed, families may still hear a medically relevant explanation, but the relational and interpretive subtleties accompanying that explanation may be diminished.

Patients did not always describe emotional attenuation in the same conceptual terms, but they did speak to the emotional significance of the interpreter’s presence. For some, the connection itself produced relief:

“Cuando se conecta el intérprete uno se siente más tranquilo.”

“When the interpreter connects you feel more at ease.” (Patient 14)

This quote illustrates that interpretation carries both informational and emotional value. It also highlights a subtle asymmetry: patients often spoke with gratitude about access, while providers were more likely to focus on what the mediated structure might dilute. Yet the underlying issue is shared. Both groups recognized that interpretation affects not only understanding, but also the emotional environment in which understanding occurs.

5.1.3 Technical Language, Conceptual Precision, and Dialect Variation

Providers also reported concern about how technical medical terminology was conveyed. This was particularly pronounced in complex clinical discussions where conceptual precision mattered. Some providers who understood partial Spanish informally monitored the translation

and noted mismatches or simplifications. Others acknowledged that when they did not speak the language, they had no way of confirming whether technical terms were translated accurately.

One provider stated:

“I want you to translate my words word for word... and I don't want you to think about what the meaning is, just translate the words.” (Provider 4)

The same provider added:

“I would say at least half the time... they're saying something that is different than what I said.” (Provider 4)

These statements reflect concern that translation may drift from precision toward paraphrase.

Providers distinguished between conversational reformulation and the exact transmission of diagnostic language. When terminology is simplified or reformulated, the conceptual boundaries of a condition or recommendation may subtly shift.

Patients described the same problem from the standpoint of comprehension. One noted:

“A veces se habla con términos médicos... y si el intérprete no tiene como el conocimiento médico es más complicado comunicarlo.”

“Sometimes they speak using medical terms... and if the interpreter doesn't have that medical knowledge, it becomes more complicated to communicate it.” (Patient 14)

Another patient stated:

“Muchas cosas quizás no llevan una traducción exacta.”

“Many things maybe don't have an exact translation.” (Patient 14)

These accounts suggest that patients are aware that effective interpretation requires more than bilingual ability. It also requires familiarity with specialized clinical language and the ability to communicate concepts in accessible ways.

Both groups also described language variation within Spanish itself. Patients explicitly referenced regional differences:

“En el español en Cuba se habla una cosa, en México otra, en Colombia otra.”

“In Spanish, in Cuba they say things one way, in Mexico another way, in Colombia another.”

(Patient 14)

Providers made similar observations, noting that some expressions may be literally translated but still remain clinically ambiguous. This indicates that meaning transformation is not limited to obvious mistranslation. It can also emerge through dialect, phrasing, and culturally embedded language that does not map neatly onto biomedical categories.

Taken together, the findings in this domain indicate that interpretation reshapes both the informational and emotional dimensions of communication. Patients and providers alike described communication as something that must pass through an active interpretive layer, where content may be filtered, tone may be flattened, and precision may shift.

5.2 Structural Reliance, Uncertainty, and Risk

A second domain captured the structural conditions under which interpreted communication occurs. Across both groups, communication was described as dependent on interpretation while also marked by uncertainty about whether meaning was being fully conveyed. This domain reflects not only reliance, but a deeper condition of asymmetry: both patients and providers depend on the interpreter, but neither fully controls the exchange.

5.2.1 Reliance as a Necessary Condition of Care

Patients consistently described interpretation as essential. It was not framed as an optional enhancement, but as the primary means through which communication with providers becomes possible.

One patient stated:

“Pues uno tiene que confiar en lo que dice el intérprete.”

“Well, you just have to trust what the interpreter says.” (Patient 5)

Another said:

“Uno confía porque es la única forma de poder hablar con el doctor.”

“You trust it because it’s the only way to be able to talk with the doctor.” (Patient 17)

These accounts frame trust as structurally necessary rather than earned through direct verification. Patients did not describe unconditional certainty. Instead, they described a form of pragmatic trust required in order to participate in care.

Providers also described reliance, but in a different register. Their comments focused less on access and more on the burden of responsibility under conditions of incomplete visibility. One provider noted:

“When I don’t speak any of the language, I have no ability to really kind of read that in real time.” (Provider 3)

Another stated:

“You’re responsible for the conversation, even though you’re not the one speaking the language.” (Provider 2)

These comments reveal that providers, too, rely on the interpreter, but with the added burden of accountability. Thus, both groups are dependent, but the meaning of that dependence differs by role.

5.2.2 Verification Limitations and Informational Asymmetry

Patients repeatedly acknowledged that they could not independently verify whether the interpretation matched the physician’s original statement.

“Si uno no entiende inglés, no puede saber si lo que dijeron es exactamente lo mismo.”

“If you don’t understand English, you can’t know if what they said is exactly the same.” (Patient 16)

Another patient expressed the same idea:

“Uno escucha lo que dice el intérprete, pero no sabe si es exactamente lo mismo que dijo el doctor.”

“You hear what the interpreter says, but you don’t know if it’s exactly what the doctor said.” (Patient 13)

These statements capture the structural uncertainty patients experience. Even when interpretation appears smooth, they remain aware that they cannot directly confirm fidelity.

Providers described a related but differently positioned asymmetry. Some who spoke partial Spanish described being able to monitor “most” of the exchange, but only partially:

“I understand Spanish fairly well... I can tell if most of what I’m saying is being interpreted fairly correctly.” (Provider 7)

Others described relying entirely on interpreter fidelity and occasionally needing to request a different interpreter when something felt off. These moments demonstrate that verification capacity is uneven and contingent. Both groups remain aware that communication is occurring under conditions of limited transparency.

5.2.3 Technology, Modality, and Risk

Providers also described how technology itself structures communication. VRI was not experienced simply as a delivery channel. It was described as an active mediator that influences pacing, fragmentation, and the visibility of interaction.

One provider noted:

“Sometimes it feels like they’re not interpreting everything we’re saying... with the limitation of having a third party who’s not physically present, that kind of limits some of those smaller interactions.” (Provider 8)

Another said:

“I just said a whole lot of stuff, and you did not say very many words...” (Provider 1)

These comments suggest that the mediated structure of VRI changes conversational rhythm and reduces the spontaneity of micro-interactions that often shape understanding. Providers also described a hierarchy of modalities in which in-person interpretation was viewed as superior for complex or emotionally sensitive encounters.

“It is nearly impossible to replace the value of an in-person interpreter with virtual services.”

(Provider 3)

Patients also noticed modality differences, though often less formally. Some described feeling reassured when the interpreter connected, while others highlighted variability in how well interpretation worked across contexts.

Finally, providers framed uncertainty not only as frustrating, but as risky. One provider stated:

“If something goes wrong and the family says, ‘Well, that’s not what we were told,’ that’s a problem. At the end of the day, it falls on me.” (Provider 2)

This extends the domain beyond communication quality into professional accountability.

Interpretation was seen as tied to informed consent, documentation, and medico-legal exposure.

In this way, the structural domain captures more than dependence. It reveals that communication occurs under conditions of uncertainty that carry emotional, clinical, and institutional consequence.

5.3 Monitoring and Adaptive Response

The third domain captures how participants responded to these conditions. Neither patients nor providers portrayed themselves as passive recipients of VRI-mediated communication. Instead, both groups described ongoing efforts to monitor the interaction, detect possible breakdowns, and adjust behavior in order to sustain understanding.

5.3.1 Provider Adaptation

Providers described slowing speech, breaking information into smaller parts, repeating key points, and checking for understanding more frequently than they might in same-language encounters.

One provider explained:

“You learn pretty quickly that you have to slow down and speak in smaller pieces so that it can be interpreted clearly. If you talk the way you normally would in English, it just doesn’t translate as well.” (Provider 7)

Another described repeating and reformulating messages to make sure they landed:

“Sometimes I’ll say something and then I’ll pause... or I’ll say it again in a slightly different way.” (Provider 9)

Providers also described closely watching facial expressions and nonverbal reactions as secondary indicators of comprehension:

“You watch their faces a lot more closely. You’re trying to see if they look confused or if they look like they understand what’s happening.” (Provider 5)

These strategies indicate that monitoring is not occasional. It becomes built into the provider’s communicative practice in interpreted encounters.

5.3.2 Patient Monitoring and Verification

Patients also described active monitoring. One of the most common strategies involved drawing on family members who understood more English:

“Mi hija me dice, ‘mami, no le dijeron lo que tú dijiste.’”

“My daughter tells me, ‘Mom, they didn’t say what you said.’” (Patient 10)

Others described verifying after the visit:

“A veces le pregunto a mi esposo después para asegurarme de que entendí bien.”

“Sometimes I ask my husband afterward to make sure that I understood correctly.” (Patient 5)

Patients also described directly intervening during the encounter when they believed something had been mistranslated:

“Yo le digo, ‘no, eso no fue lo que dije.’”

“I tell them, ‘No, that’s not what I said.’” (Patient 16)

And some used partial English knowledge to cross-check what was happening:

“Entiendo algunas palabras... me doy cuenta si dicen algo diferente.”

“I understand some words... I notice if they say something different.” (Patient 17)

These strategies show that patients are not simply receiving information. They are actively engaged in preserving accuracy and confidence where they can.

5.3.3 Communication as Co-Produced Work

Providers further described how interpretation changes the cadence and structure of the visit itself.

“It changes the cadence of the visit.” (Provider 2)

Another provider explained:

“Sometimes there’s a pause... and you don’t know if it’s the interpreter thinking, the patient thinking, or something got lost.” (Provider 5)

These pauses introduce ambiguity into turn-taking and force providers to infer what is happening without direct linguistic access. This contributes to a sense that communication becomes work: something actively managed rather than naturally flowing.

Patients, meanwhile, described their own forms of work through correction, cross-checking, and reliance on informal supports. Across both groups, monitoring and adaptation emerge as routine rather than exceptional. Participants do not simply move through interpreted encounters. They continuously manage them.

5.4 Integrative Summary

Across interviews, participants did not describe interpreted communication primarily in terms of whether translation was simply correct or incorrect. Instead, their accounts reflect a layered experience shaped by how meaning is transformed, how reliance and uncertainty are structured within the clinical environment, and how both patients and providers respond to moments of ambiguity.

The domain of interpretive experience and meaning transformation captures how messages may be shortened, softened, technically simplified, or emotionally flattened as they move through mediation. The domain of structural reliance, uncertainty, and risk situates those shifts within a broader context of dependence on interpretation, limited verification, technological mediation, and professional accountability. The domain of monitoring and adaptive response reflects the strategies participants enact in response to these conditions, demonstrating that communication in VRI encounters is active, effortful, and continuously managed.

Patients and providers emphasized different aspects of these domains. Patients more often highlighted access, reassurance, and the need to rely on available supports. Providers more often emphasized precision, verification limits, and responsibility for what ultimately reaches the family. Yet both groups described communication as occurring within the same mediated system, shaped by shared constraints and requiring ongoing adaptation.

Taken together, these findings suggest that VRI-mediated communication is not simply enabled by interpretation. It is reshaped by it. Meaning is transformed, uncertainty is embedded, and understanding is actively negotiated in real time. Interpretation therefore functions not as a neutral conduit, but as an active component of the clinical encounter that influences how meaning is constructed, monitored, and trusted.

6. Conclusion and Contributions

6.1 Overview of the Study

This study examined how communication unfolds during clinical encounters mediated by VRI in pediatric outpatient care. As healthcare systems increasingly rely on technology-enabled interpretation services to support linguistically diverse populations, understanding how these systems shape clinical interaction becomes increasingly important. While prior research has focused on access to language services and patient satisfaction, fewer studies have examined interpretation as an interactional process experienced simultaneously by both patients and clinicians.

Using qualitative interviews with healthcare providers and Spanish-speaking caregivers, this study explored how participants experienced communication during VRI-mediated encounters. The analysis revealed that interpretation is not perceived as a neutral conduit for linguistic

exchange. Instead, both patients and providers described interpretation as a communicative layer that shapes how meaning is transmitted, how trust is formed, and how participants adapt within the interaction.

Across interviews, experiences organized around three interrelated domains: interpretive experience and meaning transformation; structural reliance, uncertainty, and risk; and monitoring and adaptive response. While themes within these domains differed across participants, the overall structure was consistently observed, suggesting that interpretation shapes a shared communicative environment across roles.

6.2 Summary of Key Findings

Findings demonstrate that interpreted clinical communication operates as a complex, dynamic process rather than a simple act of translation. Providers described concerns about how meaning may shift during interpretation, including changes in emotional tone, conceptual precision, and linguistic nuance. These experiences suggest that interpretation influences not only what information is conveyed but how it is perceived within the clinical encounter.

Patients described similar dynamics from a different perspective. Rather than focusing on conceptual precision, they emphasized understanding of medical terminology, trust in the interpretation process, and their ability to participate meaningfully in the interaction. Patients acknowledged reliance on interpreters while recognizing their limited ability to verify translation accuracy.

A key finding across both groups was the emergence of adaptive strategies used to manage uncertainty. Providers described adjusting communication style, repeating information, and monitoring interactions closely. Patients described involving family members, correcting

interpreters, and using partial language knowledge to verify meaning. These behaviors illustrate that both parties actively work to stabilize communication within mediated environments.

Together, these findings suggest that interpretation effectiveness extends beyond linguistic accuracy. Instead, interpretation functions as a relational and structural environment that shapes how information is transmitted, interpreted, and trusted.

6.3 Theoretical Contributions

This study contributes to research on interpreted healthcare communication by conceptualizing interpretation as a mediated communicative system rather than a purely linguistic process. The thematic framework highlights how interpretation influences multiple dimensions of interaction, including meaning transformation, structural reliance, and adaptive response.

A key contribution is the identification of shared domains across patients and providers. While experiences differed by role, both groups described communication within the same structural conditions. This suggests that interpretation shapes the communicative environment in ways that affect all participants, though through different experiential lenses.

The findings also extend Communication Accommodation Theory by demonstrating that communication adaptation occurs within conditions of layered complexity. In VRI-mediated encounters, accommodation is shaped not only by relational dynamics but also by technological mediation, language discordance, and structural uncertainty.

6.4 Practical Contributions for Healthcare Systems

This study offers several practical insights for healthcare organizations seeking to improve communication with patients with limited English proficiency.

First, interpretation should be recognized as an interactional process rather than a purely technical service. Training for clinicians may benefit from focusing on how to communicate effectively in interpreted encounters, including pacing, repetition, and strategies for confirming understanding.

Second, the technological environment plays a significant role in shaping communication. Providers described how device placement, audio quality, and conversational flow influence interpretation. Attention to these factors may improve both patient comprehension and provider experience.

Third, families often play a role in supporting interpreted communication. Healthcare systems may benefit from acknowledging these dynamics while ensuring that professional interpretation remains central to clinical communication.

Finally, providers expressed interest in brief pre-encounter communication with interpreters, particularly for complex or emotionally sensitive discussions. Even short preparation may improve alignment and clarity during high-stakes interactions.

6.5 Implications for Healthcare Communication

These findings suggest that interpreted communication should be understood as a shared communicative environment rather than a simple translation mechanism. Both patients and providers operate under conditions of partial linguistic visibility, where neither has full control over the flow of information.

Within this environment, communication becomes a collaborative process shaped by interpretation, technology, institutional structures, and participant adaptation. Recognizing

interpretation as an interactional system may encourage healthcare organizations to approach language access as a broader communication challenge rather than a technical solution.

6.6 Future Research Opportunities

This study highlights several directions for future research. Expanding observational research across additional clinical settings may further illuminate how communication unfolds during interpreted encounters.

Future studies may also examine micro-level interactional processes, including conversational pacing, turn-taking, and clarification strategies. These approaches could provide deeper insight into how participants respond to communication uncertainty in real time.

Comparative research across interpretation modalities, including in-person, VRI, and telephone interpretation, may help determine when each format is most effective. Additionally, emerging technologies such as AI-assisted interpretation present opportunities to examine how new tools influence communication clarity and trust.

Longitudinal research may further explore how interpreted communication shapes patient understanding, trust, and decision-making over time.

6.7 Final Reflections

As healthcare systems serve increasingly diverse populations, interpretation services remain essential for equitable care. At the same time, clinical communication continues to grow more complex, requiring patients and families to process large amounts of information during medical encounters.

This study demonstrates that interpretation functions as more than a linguistic bridge. In VRI-mediated encounters, it becomes a dynamic communicative process that shapes how meaning is conveyed, how trust is negotiated, and how participants interact.

By examining both patient and provider perspectives, this research highlights a shared yet asymmetrical communicative environment in which interpretation enables access while introducing uncertainty and the need for adaptation. Recognizing these dynamics may support more effective and relationally grounded communication in clinical practice.

Ultimately, interpreted healthcare communication should be understood not as a series of translation events, but as a mediated system in which meaning, trust, and understanding are continuously constructed and negotiated.

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