Insights from U.S. deaf patients: Interpreters' presence and receptive skills matter in patient-centered communication care

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Editors' Note: At the request of the author, this article was republished on April 9, 2021 with minor changes.

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ABSTRACT

In the U.S., deaf individuals who use sign language have a legislated right to communication access in the healthcare system, which is often addressed through the provision of signed language interpreters. However, little is known about deaf patients' perception of interpreter presence, its impact on their disclosure of medical information to physicians, and whether this perception affects their assessment of physicians' patient-centered communication behaviors (PCC). A total of 811 deaf adults responded to questions on a bilingual ASL-English online survey about their experiences with interpreters and physicians. Logistic regression analysis was used to assess the relationship between deaf patients' perception of interpreters' presence with disclosure of medical information and deaf patients' ratings of their physicians' patient-centered communication behaviors. The majority of deaf respondents reported feeling that an interpreter's presence does not interfere with disclosure of medical information to their provider; however, approximately 27% responded that an interpreter's presence does interfere with their disclosure of medical information. After controlling for correlates of physicians' patient-centered communication behaviors, the deaf respondents' negative perception of interpreters' presence was associated with 1) low ratings of interpreters' ability to understand their signed communication, and 2) low ratings of physicians' patient-centered communication behaviors. Deaf patients' perception of interpreters' interference with disclosure of medical information to physicians has implications for trust relationships between the deaf patient and the interpreter, as well as between the deaf patient and physician. Understanding the importance of establishing trust in interpreter-mediated healthcare encounters may foster additional training of interpreters' receptive skills and inform physician's patient-centered care for deaf patients.

INTRODUCTION

When facing health issues, patients need to communicate their concerns to healthcare providers. The ease of that communication can shape the level of trust that patients have in their providers and may impact their health outcomes.[1] Specifically, concordant language use between healthcare providers and their patient has been associated with positive health outcomes. For example, when communicating with providers who spoke their language, Spanish-speaking patients reported being more open to counseling on diet and physical activity (Eamranond, Davis, Phillips, & Wee, 2009), showed significant improvement in glycemic and LDL control (Parker et al., 2017), and adhered to protocols for cardiovascular medication (Traylor, Schmittdiel, Uratsu, Mangione, & Subramanian, 2010). Moreover, in direct communication, patients report that they were better able to assess providers' competence, compassion, and communication – factors that facilitate trust in the patient-provider relationship (Pearson & Raeke, 2000). Conversely, studies have shown that poor communication between the provider and patient results in misunderstandings about preventive care or treatment plans, missed follow-up appointments, and lower patient satisfaction (Bischoff et al., 2003; Ngo-Metzger et al., 2007; Scheier, 2009).

Deaf patients who use a signed language frequently experience non-concordant language use with their healthcare providers, which is sometimes, but not always, remedied through provision of a third-party interpreter. If the interpreter is not qualified or if there is no alternate accessible communication method, then the lack of language concordance and the lack of accommodation can negatively impact the deaf person's trust in the healthcare provider or system. In a survey study conducted in the UK, 298 deaf patients described their general experience of and confidence in their primary healthcare provider (Emond et al., 2015). Participants reported limited communication, poor explanations, and overall difficulty when communicating with their doctor and office staff, which contributed to their lack of trust in their healthcare providers. Further, a large percentage (44%) of deaf people reported that their most recent contact with their doctor or healthcare center was "difficult" or "very difficult." Among those who reported difficulty communicating with the doctor or healthcare center, only 25% of the respondents expressed trust in their primary care doctors, and a full 18% expressed no trust at all. This was in marked contrast to the percentage of the general UK patient population who expressed confidence and trust in their primary care doctor (67%), with only 4% expressing no trust at all. The authors concluded that deaf patients' understanding of their illness, adoption of lifestyle changes, and adherence to treatment were compromised.

In the U.S. deaf patients also face limited communication in healthcare every day. Only a very small percentage of deaf patients who use American Sign Language (ASL) have the opportunity to communicate directly with their healthcare providers (Kushalnagar, Engleman, & Sadler, 2018; McKee, Barnett, Block, & Pearson, 2011). Typically, healthcare personnel are hearing, non-signing individuals who have very limited or no knowledge about ASL. Well-intentioned healthcare personnel may ask deaf patients if they read lips or if they are willing to write back and forth during the healthcare exchange, not knowing the barriers inherent in lip-reading or writing for some deaf people (Arnold, 1993; Musselman, 2002). Without sharing the

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[1] A health outcome is defined by the World Health Organization as a change in the health of an individual, group of people, or population that may be attributed to an intervention or series of interventions (https://www.who.int/).

same language, deaf patients may be impacted in a variety of ways, including the opportunity to establish a trust relationship. The presence of an ASL-English interpreter in such situations may serve to foster the trust relationship between a deaf patient and provider, but little is known about the perceptions of deaf patients who experience interpreter-mediated healthcare. Since language concordance and trust development are shown to be indicators of positive health outcomes, further information is needed.

In this study, we examine deaf patients' perceptions about healthcare services when utilizing a signed language interpreter; specifically, whether the presence of an interpreter impacts their trust in healthcare encounters. Are deaf patients willing to disclose health information in the presence of an interpreter and, if not, what underlies their unwillingness to disclose? Does the presence of an interpreter impact deaf patients' evaluation of patient-centered communication behaviors (PCC) in healthcare settings? While recognizing that various factors influence the formation and maintenance of trust in healthcare relationships, we postulate that deaf patients' perceptions about interpreters' language fluency negatively affects deaf patients' willingness to disclose health information, the development of trust relationships, and their views about patient-centered communication behaviors.

Deaf people develop perceptions about interpreters' English to ASL skills based on seeing their ASL output, but they also assess the quality of interpreters' ASL to English skills in several ways (e.g., interpreters' comprehension of fingerspelling, use of non-manual markers while backchanneling, and requests for clarification) (White & Kraft, 2014). Further, one study showed that deaf leaders evaluate the quality of ASL to English interpretations by (a) asking other interpreters their opinion about an interpreter's skills, (b) asking hearing interactants if they understood the interpreter, (c) observing the responses of other participants, and (d) lip reading the interpreter during their English production (Haug, Bontempo, Leeson, Napier, Nicodemus, van den Bogaerde, & Vermeerbergen, 2017).

Another study using focus groups in three U.S. cities collected narrative data from 91 deaf adult ASL signers regarding their healthcare experiences (Steinberg, Barnett, Meador, Wiggins, & Zazove, 2006). The overarching finding was that the participants do not trust doctors for various reasons, including receiving insufficient information and feeling fearful of miscommunication (Steinberg et al., 2006). In another study of 20 deaf adult women with breast cancer, participants were interviewed about their experiences with healthcare providers. Fifteen percent reported distrusting doctors because of their perceived lack of concern or the providers' lack of cultural competency (Faix-Wilkinson, 2009). Another study revealed that 23 deaf women were dissatisfied their with prenatal care because of perceived communication issues (O'Hearn, 2006). Many studies have shown that inadequate communication with providers creates fear, frustration, mistrust, misunderstanding, poorer health outcomes, and reduced health literacy for deaf patients (Emond et al., 2015; Iezzoni, O'Day, Killeen, & Harker, 2004; Kushalnagar, Ryan, Smith, & Kushalnagar, 2017; Pollard & Barnett, 2009; Robb & Greenhalgh, 2006; Scheier, 2009).

In fact, studies indicate that significant communication challenges result in inequities and a continued risk for marginalization (Kuenburg, Fellinger, & Fellinger, 2016). To mitigate linguistic and cultural barriers between deaf patients and non-signing providers, healthcare systems frequently employ ASL-English interpreters (Iezzoni et al., 2004), which may be offered either in person or via video remote technology. Interpreters are often regarded as the solution to equal access; however, language access is not the only mitigating factor in healthcare experiences.

Patients experience improved health outcomes, personal agency and empowerment, and enhanced therapeutic alliances when their physicians demonstrate effective patient-centered communication (PCC) behaviors (Street, Makoul, Arora, & Epstein, 2009). PCC is a term used to describe communication behaviors in which healthcare providers are receptive to patients' needs and perspectives (King & Hoppe, 2013). Little is known about deaf patients' perception about disclosing their personal health information in the presence of interpreters and how this perception might relate to evaluations of their physicians' PCC behaviors.

Two recent studies of deaf patients explored the relationship between asking about cancer testing, disclosure of sexual orientation and gender identity, and PCC. One study of U.S. deaf adults with a history of smoking or lung disease found that the likelihood of asking about cancer screening tests was strongly linked to accessible communication between the deaf patient and their healthcare provider, but not to providers' PCC behaviors (Kushalnagar et al., 2018). Another study with deaf adults who self-identified as LGBTQ found that the likelihood of disclosing their sexual orientation and/or gender identity to the provider was strongly associated with the provider's PCC behaviors, and was not affected by the presence of an interpreter (Miller, Biskupiak, & Kushalnagar, 2018). These studies suggest interplay between healthcare providers' PCC behaviors and the presence of interpreters that may impact the formation of trust relationships. Specifically, when the patient's issue is more routine in nature (e.g. asking about a medical procedure), the presence of an interpreter is crucial in supporting communication relationship between the patient and provider. On the other hand, when the issue is very personal (e.g., disclosing sexual orientation or gender identity), the presence of an interpreter is not the sole solution to support the deaf patient's relationship with the provider; the provider must also exercise a culturally competent, patient-centered care approach to build a trustful relationship with the deaf patient.

In healthcare communication that is mediated with the use of an interpreter (interpreter-mediated healthcare), the experience of direct (dyadic) communication between a deaf patient and a hearing provider is typically constrained; as a result, trust relationships take on a more complex arrangement. Researchers argue that an inherent tension exists in a provider-patient-interpreter (triadic) relationship, because each individual holds a particular perspective and may have conflicting objectives (Hsieh, Ju, & Kong, 2010). The dyadic (patient-provider) vs. triadic (patient-interpreter-provider) nature of interaction is illustrated in Figure 1, in which solid arrows depict direct communication, and the dotted arrow depicts indirect, interpreter-mediated communication.

The indirect nature of interpreter-mediated communication diffuses the potential for PCC because it adds a layer between the direct relationship of patient and provider. In direct communication, patients can more easily assess providers' competence, compassion, and communication – factors that facilitate trust in the patient-provider relationship (Pearson & Raeke, 2000). A study of spoken language interpretation in the UK healthcare system gathered narratives from 69 individual interviews and two focus groups comprised of 18 patients, 17 professional interpreters, 9 non-professional interpreters (family members), 13 physicians, 15 nurses, 8 receptionists, and 3 managers (Robb & Greenhalgh, 2006). The data revealed that trust was a prominent theme across the participants' narratives.

Figure 1

Direct Communication Dyad and Interpreter-mediated Triad in Healthcare.

Direct communication dyad   **Language-mediated triad**
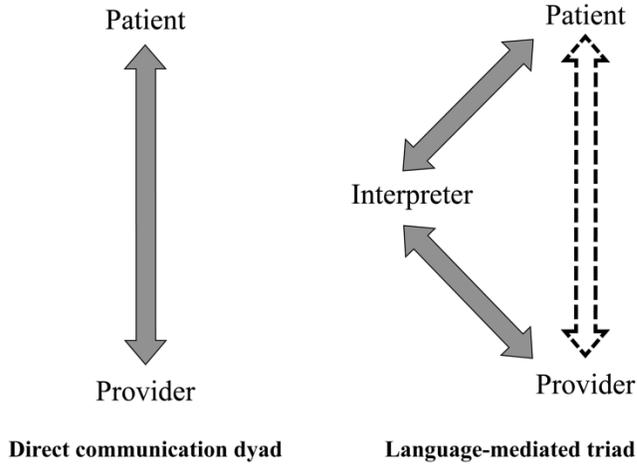
The results suggested that trust has important implications for the patients' communication and subsequent actions. The researchers described the triadic nature of interpreter-mediated healthcare as resulting in six trust relationships: (a) patient-interpreter, (b) patient-provider, (c) interpreter-patient, (d) interpreter-provider, (e) provider-patient, and (f) provider-interpreter (See Figure 2).

Figure 2

Six Trust Relationships in Healthcare Communication with Interpreter (Robb & Greenhalgh, 2006)
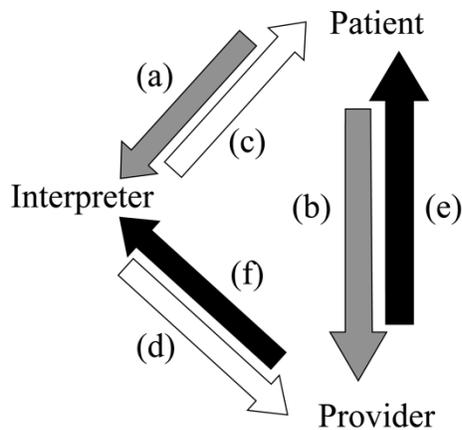
Triadic communication is further complicated in bilingual interactions that are cross modal, that is, one individual communicates via speech (spoken language) and the other via sign (signed language). In bimodal interactions, a provider and patient may misconstrue critical information expressed via intonation, volume, stress, and other prosodic features in one another's language. Even when mediated by an interpreter, these differences may not be fully resolved. For example, signed language interpreters frequently report that deaf patients ask their opinion about the tone

and trustworthiness of healthcare providers (e.g., "What do you think?" or "Is she irritated with me?" or "Do you think I should trust him?"). Although these accounts are anecdotal, they suggest that deaf patients may feel unable to independently assess the providers' trustworthiness. However, such questions place interpreters in an ethical dilemma. If they either offer an opinion or avoid the questions altogether, actions that conflict with the principles of maintaining impartiality and showing respect for consumers as described in the NAD-RID Code of Professional Conduct. Interpreters in this dilemma may not have the awareness or advanced training to be able to redirect the patient and healthcare provider toward an improved understanding of one another.

Deaf patients who perceive an interpreter's presence as interfering with disclosure of medical information may be reticent to ask questions or share their healthcare concerns, due to complexities of trust relationships in these settings. Reticence may be exacerbated in some healthcare contexts more than others, such as in reproductive health. In one study of young deaf Nigerian women, embarrassment about asking questions in the presence of an interpreter posed barriers to accessing reproductive health care (Arulogun, Titiloye, & Desmenu, 2013). Taken together, these studies suggest that deaf patients frequently experience reticence with disclosing health information as well as with developing trust in healthcare settings, situations that may be associated with the quality of the interpreted encounter.

The factors that comprise quality in healthcare interpreting are multi-layered and include competency in both ASL and English, interpreting expertise, cultural awareness, interpersonal skills, and medical knowledge (Malcolm & Swabey, 2012). However, not all ASL-English interpreters who work in healthcare settings possess the requisite competencies for effective health-related interpreting. At present, approximately 140 associate- and bachelor-level interpreter education programs exist in the U.S. ("About Interpreting Education Programs" - Registry of Interpreters for the Deaf, n.d.). These programs typically train interpreters to be generalists, rather than specialists. In ASL-English interpreter training, generalist curricula do not provide students with the specific linguistic, communicative, cultural, interpersonal, and knowledge needed to build trust and collaboration in healthcare interactions. The dynamics of triadic, bimodal communication along with the interpreter's limited training and language competencies may result in deaf patients' perception that the presence of interpreters may interfere with disclosing their medical information to providers.

Further, as interpreters seek to position themselves within a triadic relational dynamic, issues of control and autonomy may also arise (Brisset, Leanza, & Laforest, 2013). Figure 3 illustrates the trust relationship (a) between patient-interpreter and its relationship to their perception of providers' patient-centered communication behaviors.

To date, it is still unclear whether the perception of interpreters' presence and its interference to disclose health information with providers is common among deaf patients and, if so, whether this perception is associated with the deaf patients' ratings of providers' patient-centered communication behaviors. This study is the first large-scale investigation of this triadic relationship, controlling for socio-demographic characteristics and ratings of interpreters' ability to understand deaf patients' health narratives.

Figure 3

Trust Relationship (a) Between Patient-Interpreter and Its Relationship to Their Perception of Providers' Patient-Centered Communication Behaviors.

<div align="center">
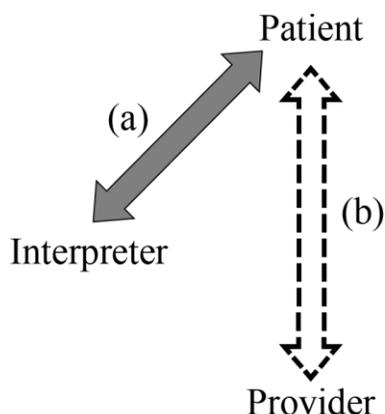
METHODS

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MATERIALS AND DATA SOURCE

With approval from the institution's human subjects review board and informed consent from the participants, data related to deaf adults' experiences with interpreters in medical settings was drawn from the Health Information National Trends Survey in ASL (HINTS-ASL). The survey was administered to a sample of deaf and hard of hearing (D/HH) adults in the U.S. between 2016 and 2018 (Kushalnagar, Harris, Paludneviciene, & Hoglind, 2017). Prior to distribution, the survey items were translated and back-translated by deaf bilingual professionals. The translated items were then tested for clarity and understanding through cognitive interviews with deaf people who had a high school education or less. Involving members of the deaf community with high school education or less in this cognitive debriefing process also helps to ensure the test items are understood by the greater majority of the deaf community, increasing the reliability and validity of the test items across a larger number of participants. The final translated items were then filmed and uploaded to an online survey platform prior to administration. All items had ASL videos with English text.

This paper focuses on the responses to questions directly related to patients' experiences with interpreters and healthcare providers. Items specific to this study included the following: *Patient-Centered Communication (PCC):* This is a scale score derived from a set of items that asked the respondent to evaluate their healthcare provider's behaviors. Responses [never (1) to always (5)] to each item were scored, averaged, and linearly transformed to a PCC scale score. A low PCC score indicated weak patient-centered communication behaviors demonstrated by the provider, whereas a high PCC indicates that the provider demonstrated strong patient-centered communication behaviors. The set of items for PCC score included the following:

1. How often did the doctors, nurses, or other healthcare professionals you saw during the past 12 months do each of the following:

   a) Give you the chance to ask all the health-related questions you had?

b) Give the attention you needed to your feelings and emotions?

c) Involve you in decisions about your healthcare as much as you wanted?

d) Make sure you understood the things you needed to do to take care of your health?

e) Help you deal with feelings of uncertainty about your health or healthcare?

f) In the past 12 months, how often did you feel you could rely on your doctors, nurses, or other healthcare professionals to take care of your healthcare needs?

Interpreter-Related Factors: Respondents were asked three questions about their experiences with an interpreter. Response options included "yes" or "no" options for the first question and a range of options from "did not understand at all" to "completely understood" for the second question.

1. Do you feel having an interpreter in the doctor's office will interfere with your disclosure of health information with the doctor?

2. Overall, how well did your interpreters understand you at your healthcare appointments in the past 12 months?

3. Overall, how well did you understand your interpreters at your healthcare appointments in the past 12 months?

PARTICIPANT RECRUITMENT, CONSENTING AND OTHER STUDY PROCEDURES

Following IRB approval, the researchers began recruitment through national channels, focusing on ASL-using deaf and hard of hearing (D/HH) community members. Given the nature of this low-incidence and hard-to-reach population, a purposive strategic, respondent-driven sampling method was used to ensure adequate inclusion of D/HH signers across the U.S. Recruitment methods included snowball and respondent-driven samplings that have been found to be effective for D/HH and hidden populations (Sadler, Lee, Lim, & Fullerton, 2010; Salganik & Heckathorn, 2004), flyers, and advertisements on D/HH-centered organizations' websites and e-newsletters. Bias associated with snowball sampling was overcome with a large sample size (Atkinson & Flint, 2013). Communication occurred through several accessible channels, including print mail, email, social media, and videoconference programs. Prospective participants were informed that the survey included questions about health status, health communication, and health behaviors.

Participant inclusion criteria were 1) use ASL as a primary language, 2) be 18 years or older, and 3) have a bilateral hearing loss. Each participant received a gift card for participating in the study. The survey took approximately one hour to complete. No names or identifying information were included in the online survey, and a unique identifier was used to avoid storing personal information in the online survey dataset. The identifying information was stored in a separate database that was accessible only by the principal investigator.

Statistical analyses

Descriptive statistics were used to summarize the sample characteristics. Bivariate correlation was used to identify sociodemographic and patient-related variables that were significantly associated with the patient-centered communication (PCC) outcome variable at p-value of .05 or lower. Significant correlates were entered in a logistic regression model to control for their relationships with deaf patients' perceptions of the healthcare provider's patient-centered communication behaviors (PCC variable). Since this model required dichotomous outcome variable, the PCC variable was recoded into two groups: Low PCC and High PCC. PCC scores that were at least one standard deviation higher than the mean were recoded as High PCC; the remaining responses were recoded as Low PCC. The statistical program SPSS (version 25.0) was used for all analyses.

RESULTS

A total of 811 deaf participants (18-95 years old) answered all questions about their perceptions of interpreters' interference with disclosure of health information, ratings of their interpreters' ability to understand patients' dialogues, and ratings of their providers' patient-centered communication behaviors. Table 1 describes the sample characteristics across two levels of perception: 1) the presence of an interpreter does not interfere with the deaf patient's disclosure of health information with doctors, and 2) the presence of an interpreter interferes with the deaf patient's disclosure of health information with doctors.

Approximately 27% of the sample reported feeling that the interpreter's presence interfered with disclosure of medical information with their doctors. Within this subgroup, 89% rated their interpreters' expressive skills as good. This figure decreased when asked about their interpreters' receptive skills; 74% rated their interpreters as not being able to understand their health narratives.

Among the 73% of the sample who reported feeling that the interpreter's presence did not interfere with disclosure of medical information with their doctors, 93% reported being able to understand their interpreters' expressive communication. This figure also decreased when asked about their interpreters' receptive skills; 85% rated their interpreters as being able to understand their health narratives.

Bivariate correlation analysis was conducted to identify socio-demographic and patient-related variables that significantly correlated with PCC at a p-value of .05 or less. There was no significant relationship between PCC and gender, race/ethnicity, or region. Age, preferred language, health-related, and interpreter-related variables were all significantly associated with PCC; and therefore, were entered as covariates in the subsequent linear regression model.

When all significant socio-demographic correlates were entered along with health-related, interpreter-related, and PCC variables in a linear regression model, the model was significant at (X^2=57.02; p<.001). After adjusting for demographic variables, health-related, and interpreter's receptive and comprehension language skill indicators, deaf patients who did not feel the interpreter's presence interfered with disclosure of medical information to their providers were nearly twice as likely to report that their providers had better patient-centered communication behaviors compared to deaf people who perceived the interpreter's presence as interfering with disclosing medical information to providers (See Table 2). Further, interpreters' language comprehension skills, but not expressive skills, were a significant contributor to the deaf patient's

perception of the healthcare provider's patient-centered communication (X^2=1.82; 95% CI: 1.22, 2.58).

Table 1

Sample Characteristics by Perception of Interpreter's Interference with Disclosure of Health Information with the Doctor

	Interpreter's presence *does not interfere* with disclosure of health information n=594		Interpreter's presence *interferes* with disclosure of health information n=217	
	Mean (SD)		**Mean (SD)**	
Age	44 (17)		45 (17)	
Patient centered communication (PCC)	65 (23)		57 (24)	
Subgroups	**n**	**%**	**n**	**%**
Gender				
Male	238	40.1%	97	44.7%
Female	343	57.7%	115	53%
Genderqueer	13	2.2%	5	2.3%
Race/Ethnicity				
White	388	65.3%	137	63.7%
African American	72	12.1%	25	11.6%
Asian	24	4.0%	9	4.2%
Hispanic	83	14.1%	35	16.3%
Other	27	4.5%	9	4.2%
Missing	-		2	
Region				
Northeast	59	9.9%	20	9.2%
South	253	42.6%	89	41.0%
Midwest	123	20.7%	47	21.7%
West	159	26.8%	61	28.1%
Preferred language				
ASL	285	48.0%	105	48.4%
ASL & English	309	52.0%	112	51.6%
Health status				
Poor/fair	67	11.3%	21	9.7%
Good	205	34.5%	90	41.7%
Very good/	322	54.2%	105	48.6%
Missing	0		1	
Regular provider				
No	254	42.8%	87	40.1%
Yes	340	57.2%	130	59.9%
Health insurance				
No/Not sure	22	3.7%	12	5.6%
Yes	571	96.3%	202	94.4%
Missing	1		3	
Interpreter's expressive skills				
Good	550	92.6%	194	89.4%
Not good	44	7.4%	23	10.6%
Interpreter's receptive skills				
Good	505	85.0%	161	74.2%
Not good	89	15.0%	56	25.8%

Table 2

Linear Regression Model for the Predictors of Patient Centered Communication Score

Predictor	Coefficient	SE	*P* value
(Constant)	55.136	5.613	0.000
Age	**0.116**	0.000	0.011
Preferred language	**2.005**	0.011	0.010
Regular provider	**8.608**	0.010	0.000
Health status	**4.811**	0.000	0.000
Interpreter's expressive skills	-0.877	0.000	0.781
Interpreter's receptive skills	**-13.038**	0.781	0.000
Interference of interpreter's presence in disclosing health information to the doctor	**-6.952**	0.000	0.000

Overall P=0.001 R^2=0.110

LIMITATIONS

As with all studies, we recognize limitations in this study. First, research bias involves limiting the sample to those who self-reported using ASL and demonstrated ability to communicate with the research staff who used ASL. We did not objectively assess each deaf person's sign language fluency, which would be cost prohibitive and unlikely to have a significant impact on the results. While the data collection method consisted of answering online questions in ASL and English, extensive cognitive debriefing work was undertaken to minimize potential misunderstandings of the questions (see Kushalnagar, Harris, Paludneviciene, & Hoglind, 2017 for details).

We did not conduct formal linguistic assessment of interpreters' expressive and receptive communication skills in healthcare setting. If such variable was included, we predict that higher level of interpreters' receptive skills will remain associated with higher PCC. In addition, this study did not collect perspectives from deaf patients on their preferences for or use of deaf interpreters in healthcare settings, a situation that may have ameliorated the issue of comprehension by interpreters.

DISCUSSION

Numerous studies have shown that deaf patients are dissatisfied with their healthcare communication, which has implications for their preventative and treatment care (Emond et al., 2015; Kushalnagar et al., 2018; Steinberg et al., 2006). This research is in keeping with these prior studies by revealing that a percentage of deaf patients withhold health information in the presence of an interpreter. If patients hold the belief that the interpreter does not understand their signed message, or if they cannot understand the interpreter's message, it follows that the patients will be reticent to disclose their personal health information and trust formation may be affected. This condition may directly impact the ability of the healthcare provider to establish therapeutic alliance and maintain patient-centered communication. In this situation, both the provider and the patient's trust and patient-center communication can become compromised. If hindered in their ability to accurately diagnose and treat deaf patients, healthcare providers are put in a position of potential liability and deaf patients are put in a position of not receiving optimal healthcare.

The results of this study suggest that deaf patients' perception about interpreters' presence interferes with disclosure of medical information with providers is linked to interpreters' ability to understand what the deaf patient is saying. After controlling for correlates of PCC, the deaf patient's rating of interpreters' receptive skills remained strongly associated with the deaf patient's evaluation of their healthcare providers' PCC behaviors. That is, in interpreter-mediated communication, deaf patients may develop negative impressions about their healthcare providers' behaviors based on their perception of the effectiveness of the interpreter's ability to understand their narratives. In effect, an interpreter's presence and the interpreter's receptive language skills create the potential for deaf patients to withhold health information during medical visits, which risks overlooked diagnosis and delayed treatment. The ongoing relationship between the patient, provider, and interpreter is an important factor in quality bilingual health care (Hseih, 2015) whereby trust and respect is required for a collaborative relational dynamic (Brisset et al., 2013). Thus, the situation of patients' withholding information during interpreter-mediated communication may be related to patient perceptions of the interpreter's ability to comprehend patients' health narratives.

While the provision of interpreters may appear to be the solution to the communication barriers between deaf patients and their non-signing healthcare providers, results suggest that interpreters who demonstrate relatively weak ASL comprehension skills may actually create a negative impact on healthcare communication, especially when personal disclosure is critical. If an interpreter with weak receptive skills is present, or there is a lack of trust that the interpreter will accurately convey a deaf patient's presentation of self and symptoms, the patient may feel inhibited in disclosing medical information. This perceived lack of control has potential to interfere with deaf patients' ability to engage in health-related discussions with the provider, receive preventive care or treatment information associated with the health concerns, and act on health information, all of which are critical elements in positive healthcare outcomes (Coulter, 2012). What can be done to improve trust relationships in interpreter-mediated healthcare communication and enhance patient-centered communication? Here we propose actions for each of the interactants (providers, patients, interpreters), as well as system-level interventions.

System-level

At the systemic level, interpreter education programs, interpreter agencies, and healthcare systems must each examine their current practices. Interpreter education programs must increase opportunities to train and strengthen student interpreters' ASL comprehension skills, which affect students' ability to build a trusting patient-interpreter relationship and engage providers in collaborating with the patient. Interpreter agencies and healthcare system should more frequently employ certified deaf interpreters (CDI) to partner with hearing interpreters. This deaf-hearing team approach can build shared understandings, bring specialized training, and increase the number of strategies to enhance communication for deaf patients ("Use of a Certified Deaf Interpreter" - Registry of Interpreters for the Deaf, n.d.). According to Forestal (2014), deaf-hearing interpreting team may also create a more "naturalistic" interpretation and enable deaf consumers to have the "least cognitive effort" to comprehend the interpretation (p. 44). Thus, a deaf-hearing interpreting team has strong potential to reduce communication-related health inequities that deaf patients experience. In the future, agencies will need to be held accountable, perhaps through an external certification process, for their role in providing skilled interpreters in healthcare settings. Further, agencies that send interpreters to healthcare assignments must assume responsibility in ensuring that interpreters have adequate ASL comprehension skills and are prepared to work with sociolinguistic varieties among deaf patients. It is beyond the scope of this paper to provide a specific plan for how an agency certification process might be developed, but we point to this concept as a potential way of increasing accountability at the system level.

Further, it has been shown that patients prefer consistency of interpreters and value the knowledge and skill professional interpreters bring to the encounter, but they prefer those from their informal networks because their personal character and critically, their trustworthiness (Edwards, Temple, & Alexander, 2005). Agencies and hospital interpreting service departments can engage more with deaf patients to provide a consistent, trusted pool of interpreters who can improve access. We offer these solutions as a means to address issues of poor communication identified by Bischoff et al. (2003) and others that may also arise between the provider and deaf patient.

Healthcare Providers

To strengthen the provider-patient trust relationship, providers can assume more responsibility for their communication with deaf patients, rather than placing full responsibility on interpreters. An effective approach that providers may improve communication and patient understanding is to use suggested toolkit materials for developing patient health literacy and to incorporate 'teach back' methods (Badaczewski et al., 2017). The teach-back method, intended to improve health literacy, is a communication technique used by healthcare providers to confirm whether patients understand what has been explained. If patients do understand, they can "teach-back" the information accurately to the healthcare provider. Teach-back has been associated with higher patient-centered communication and is promoted as a critical communication strategy by the American Academy of Pediatrics, the American Medical Association Foundation, and the Joint Commission (Badaczewski et al., 2017). Teach-back shifts the responsibility of overseeing deaf patients' understanding of health information from the interpreter by creating a shared opportunity for both the interpreter and the provider.

Training is needed in situations when a patient and provider do not share the same language. Provider training that improves patient experiences could include communication techniques (e.g., teach-back to validate the patient's symptoms or concerns), greater understanding of interpreters as cultural mediators, engaging the patient in shared decision making about their own health plans, and allowing sufficient time to address patients' concerns and to discuss plans. Trust-building approaches with deaf patients include looking at and talking directly with the patient (rather than talking to interpreters or family members), watch for signals that the interpreter is fully understanding the deaf patient's narratives, and use teach-back to ensure that the provider and patient narratives are in alignment.

Providers can also refer to the Joint Commission's publication titled "Roadmap for Hospitals," which addresses hospitals' responsibility to patients in order to make decisions about their own healthcare.[2] The document offers checklists and recommendations for meeting the requirements of the Joint Commission's 2010 revised patient-centered communication standards (Wilson-Stronks, Cordero, & Carr, 2010). The United States Department of Justice (DOJ) provides information and resources to healthcare organizations about deafness, ASL, the limitations of video remote interpreting (VRI) and the importance of hiring qualified signed language interpreters in their "Barrier-Free Health Care Initiative" (Department of Justice, 2013). In addition, the National Association of the Deaf has created a position statement and guidelines for healthcare providers about communication and related support for working with deaf patients (National Association of the Deaf, 2018). Providers should be aware of medical facilities' increased reliance on video remote interpreting service provision, which has been met with varied degrees of patient acceptance. Recently, a study of 555 respondents found that deaf patients' self-reported interference (i.e., VRI interpreter's interference with disclosure of health information) increased patient dissatisfaction with the quality of VRI technology service by three-fold (Kushalnagar, Paludneviciene, & Kushalnagar, 2019).

Deaf Patients

Deaf patients can also contribute to the development of trust relationships by specifically requesting interpreters with strong ASL comprehension skills or those with skill in varied sign language dialects, such as a certified deaf interpreter. By providing specific interpreters' names, patients might get what they prefer–interpreters with whom they have personal trust relationships and who are proactive on their behalf (Edwards et al., 2005). Unfortunately, no standard protocols are in place for deaf individuals to make specific requests for interpreters (Collins, 2019). When meeting an interpreter for the first time, deaf patients may wish to ask for a few moments to establish rapport and discuss their communication preferences. If a deaf patient finds that an interpreter does not understand his/her signing, the patient might elect to privately notify their doctors and possibly reschedule the appointment with a more qualified interpreter. However, this step creates an inequitable situation for deaf patients who are already concerned about their health issues, and unable to communicate their concerns at the scheduled appointment. This barrier can have a negative impact on the timeliness of preventive care and treatment. In such cases, deaf

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[2] New standards address patient communication (2011). *Healthcare Benchmarks and Quality Improvement.* Retrieved from http://search-proquest-com.ezproxy.lib.monash.edu.au/docview/ 872448737?accountid=12528

patients can seek assistance from the hospital interpreting services (if available), interpreter agency, the patient ombuds office, or the Americans with Disabilities coordinator.

Interpreters

Finally, interpreters can contribute to trust-building and improved patient-centered communication by advancing their skills in ASL comprehension prior to accepting healthcare assignments and being adequately trained in the 13 competencies identified for specialization in healthcare interpreting (Swabey & Craft Faber, 2012). Further, interpreters can become familiar with the stepwise progression of the overall skills needed for interpreting in healthcare settings by reviewing the Healthcare Interpreting Career.[3] In addition, interpreters can check in with the deaf patient during the interaction, which is especially critical given the findings about deaf patients' trust in interpreters' ASL comprehension. Finally, if further training is needed to develop ASL competency, interpreters must engage in such training until they acquire the necessary linguistic fluency.

Effective interaction management by interpreters can also facilitate patient autonomy. In recognition that interpreters are more than invisible conduits, they must assume some responsibility as a participant in the discourse (Roy, 2000; Wadensjö, 2013). In this way, interpreters can support relational aspects of the communication between the participants in the interaction (Major, 2013). Thus, interpreters must demonstrate understanding that an individual's capability for autonomy is socially and situationally shaped (Entwistle, Carter, Cribb, & McCaffery, 2010) and maintain necessary competencies to facilitate patient autonomy.

Further, the trust relationships between an interpreter and a deaf patient as well as between a deaf patient and provider can be strengthened by interpreters' actions at the onset of the encounter. Witter-Merithew and Johnson (2005) note that competent practitioners possess the interpersonal skills to foster effective communication and collaboration with all parties. Many healthcare providers are unfamiliar with how to work with interpreters in the treatment and care of deaf patients (van den Bogaerde & de Lange, 2014), a situation that may be helped by a brief introduction about how triadic communication works. If the deaf patient prefers that the interpreter provide that explanation to the healthcare provider, the interpreter can be prepared with a pre-planned explanation such as the following example:

> It's nice to meet you. I'll be interpreting for you today. Allow me to give you a couple of pointers about how to work with an interpreter. One thing that would be helpful is for you to check with the patient about his/her symptoms and your suggested treatment from time to time. It also would be best to talk directly to and look at the patient during the consultation. At times I may need to request clarification from you or the patient to make sure I'm conveying your messages clearly. You may wish to use teach-back method to ensure that the message is translated and relayed appropriately. Basically, this is your shared meeting and I'm here to make communication easier. Do you have any questions?

By making the interpreted process more transparent at the onset, interpreters can suggest strategies to strengthen their trust relationship, which in turn may improve trust and

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[3] See https://healthcareinterpreting. org/lattice/

communication between the provider and patient. Interpreters must honestly assess their linguistic skills, especially in relation to their comprehension of deaf patients' signed language, be honest when they miss information, and be ready to employ a range of strategies (e.g., ask for clarification, repeat what was expressed, request more information, secure a team interpreter) in order to ensure the deaf patient is fully understood. Deaf individuals can assess the quality of their interpreted interactions because of their varied lived experiences communicating through interpreters (Forestal, 2005; Haug et al., 2017). With improved strategies, interpreters can facilitate the interaction and offer more control and agency to the patient, rather than assuming full responsibility of the interaction.

These strategies further support transparency in communication, foster trust between the patient and interpreter, and facilitate the connection between the deaf patient and the healthcare provider. Facilitating interactions is a vital part of interpreters' work in healthcare settings (Major, 2013, 2014). We maintain the belief that strong receptive skills are required to perform well in healthcare settings. Interpreters hold a privileged, powerful position in deaf people's healthcare; therefore, it is reasonable to expect that the interpreters possess the requisite receptive skills needed to comprehend and accurately translate deaf patients' narratives from a signed language into a spoken language. If the interpreter is unable to understand a deaf patient's health narrative in sign language, the interpreter must exercise actions to repair the communication breakdown (e.g., request clarifications, inform the patient and physician of the communication breakdown, request an interpreter replacement, and consult with a certified deaf interpreter).

Interpreters can be more transparent with both the deaf patient and the healthcare provider regarding their processes, for example, why they are seeking clarification from the interactants, as well as recognizing the time constraints inherent in healthcare interactions. Such transparency can assist both the deaf patient and the provider to better understand the nature of interpreter- mediated communication and, thus, enable trust and patient-centered communication

If the deaf patient feels that the interpreter is not able to comprehend their signed health narrative and this communication breakdown interferes with the deaf patient's disclosure of medical information with the provider, then the deaf patient should be given an option of bringing in a certified deaf interpreter to provide additional support. Physicians are also in a position to request this service so to ensure a holistic, patient-centered care approach for deaf patients.

Early in the paper, we cited research studies that point to deaf patients' feelings of dissatisfaction with their healthcare encounters (Emond et al., 2015) and concerns that they are receiving insufficient information and fear of miscommunication (Steinberg, 2016). Other studies indicate that deaf patients often feel a lack of personal agency and empowerment (Street et al., 2009). In this paper, we address the specific issue of deaf patients' perception of interpreters' presence in interfering with disclosure of medical information and how this relates to their assessment of providers' patient-centered communication behaviors. We offer concrete suggestions that can support providers' therapeutic alliances, interpreters' development, and agencies' responsibility with the aim of improving patient-centered communication between practitioners and their deaf patients.

CONCLUSION

This large-scale, cross-sectional study shows a significant relationship between deaf patients' perceived interference of interpreters' presence with disclosing health information to providers and their ratings of providers' patient-centered communication behaviors. The study findings also suggest that when interpreters' receptive communication skills are perceived to be inadequate by the deaf patient, it can impact deaf patients' relationship with their providers' patient-centered care approach. In this paper, we discuss how the complexities of triadic communication and communication (expressive and receptive) between deaf patients and interpreters in healthcare settings can potentially impact the deaf patients' care.

Research has shown the patient-provider trust relationships and effective communication results in positive health outcomes for patients. The inability of non-signing healthcare providers to directly engage in patient-centered communication with their deaf patients may be ameliorated by the presence of signed language interpreters, but the impact of triadic communication warrants further examination. For some deaf patients, the development of trust in healthcare situations presents a challenge in triadic communication (patient-provider-interpreter). The data shows that some deaf patients are unwilling to disclose personal health information, which may be linked to a distrust of interpreters' ability to convey their message. We argue in this paper that each member of the triad needs to become more aware and proactive in taking steps to enhance patient-centered care for deaf individuals. With the support of larger systems to monitor and control quality interpretations, we believe that interpreters, healthcare providers, and Deaf patients can build and maintain healthy, trustful relationships in the healthcare setting.

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