Patient Education and Counseling 97 (2014) 38–46

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Communication Study

Conveying information in the interpreter-mediated medical visit: The case of epistemic brokering

Chase Wesley Raymond *

Department of Sociology & Department of Spanish and Portuguese, University of California, Los Angeles, USA

ARTICLE INFO

Article history:
Received 29 July 2013
Received in revised form 22 May 2014
Accepted 25 May 2014

Keywords:
Knowledge
Information delivery
Translation/interpreting
Conversation analysis
Genetic counseling
Pediatrics

ABSTRACT

Objective: This study introduces the concept of epistemic brokering in interpreter-mediated medical visits and illustrates how it can be used to effectively convey information between providers and patients/parents.
Methods: Conversation analysis is used to analyze 24 pediatric genetics consultations (=17.75 h) involving 16 Spanish-speaking families, their various English-speaking healthcare providers, and four on-staff bilingual interpreters.
Results: Interpreters-as-epistemic-brokers can aid in the transfer of information between clinicians and patients/parents (i) by (re)designing content to be appropriately fitted to a specific recipient's understanding, and (ii) by monitoring the ongoing medical visit for moments in which one or more interactants may be in a relatively unknowledgeable position and taking steps to secure common ground.
Conclusion: It is posited that epistemically brokering interaction can serve to promote the development of positive relationships with potentially hard-to-reach patients/parents. Although seemingly minor, these moments in interaction contribute to these individuals' overall experience with and understanding of the institution of medicine. Future research is needed to identify the particular strategies associated with effective epistemic brokering.
Practice implications: Interpreters and clinicians should be aware of the role that discursive practices play in conveying information in the medical visit, and reconceptualize interpreters as collaborators in this process.

1. Introduction

1.1. Background

Patients' needs for medical care are generally invariant to their ability to speak a particular language. Thus, as communities worldwide become more culturally and linguistically diverse, so do the patients with whom healthcare professionals interact. The increasing frequency of physician interaction with language-discordant patients should come as no surprise given the number of individuals across the globe whose language proficiency diverges from the official standard(s) of their country of residence. For example:

- In 2011, nearly 8% of people living in the United Kingdom (4.2 million individuals) classified a language other than English as their "main language", with over 4% of the residents of London either not speaking English well, or not speaking it at all [1].
- Similarly, 8.1% of the population of the United States spoke English less than "very well" in 2000 (almost double the figure from 1980), equating to over 21 million residents nationwide [2].
- In 2003, over a quarter of the immigrants to France who did not speak French natively reported having difficulties expressing themselves in the country's official language [3].

Bearing in mind that low levels of competence in a country's official language are often correlated with other racial/ethnic [4–8], socioeconomic [5,9,10], and educational [5,7,10,11] factors which have been shown to be negatively associated with patient participation in the medical visit, these underrepresented individuals are especially challenging to reach: patients who do not share a language with their healthcare providers communicate less information to them (being asked fewer questions as well as asking fewer questions themselves), receive lower levels of reassurance/encouragement from physicians, and adhere less frequently to treatment recommendations – sometimes even avoiding seeking medical attention altogether [12–15]. An obvious concern for

* Corresponding author at: UCLA Department of Sociology, 264 Haines Hall, 375 Portola Plaza, Los Angeles, CA 90095-1551, USA. Tel.: +1 714 514 6610.
E-mail address: craymond@ucla.edu

http://dx.doi.org/10.1016/j.pec.2014.05.020
0738-3991/

healthcare providers, then, is how to facilitate effective means of communication with these linguistically (and culturally) varied members of society.

One common method of bridging this gap is through the use of language-interpreting services. Patient satisfaction in interpreter-mediated visits can even match that of patients interacting with language-concordant physicians [16], compared to those needing but not receiving translation who report being much less satisfied with their relationship with their healthcare provider [17,18]. But the mere *presence* of an interpreter does not automatically guarantee a successful exchange; this depends on the discursive strategies that the interpreter utilizes in the interaction.

1.2. The role of knowledge: 'patient's side' and 'doctor's side'

Dissatisfaction in medical visits of all sorts – both translated and monolingual – is often the result of inherent asymmetries of knowledge that exist between medical personnel and patients [19,20]. Doctors possess scientific knowledge about how diseases operate, are certified to diagnose and treat sickness, and hold the cultural authority that this certification has earned them [21]. Patients, on the other hand, while typically lacking in scientific understanding of disease, have primary access to their own personal, biographical experience of *living with* the illness (or, in the case of parents in pediatric visits, having a child who is living with the illness), including symptoms and their evolution over time, failed attempts get well, and so on [22,23]. A communicative dilemma thus arises on each end of physician–patient interaction: How does each participant best convey information from his/her 'side' of the interactional divide? Is it preferable to 'oversuppose and undertell' (potentially failing to achieve understanding from the interlocutor), or is it better to 'undersuppose and overtell' (potentially coming across as patronizing) [19]?

When doctors and patients do not share the same linguistic, social, and cultural backgrounds, these intrinsic knowledge-based divergences are further intensified. This may account for the discrepancy between many patients' preference to use a friend or family member as an interpreter, as opposed to physicians' preference for medically trained, on-staff interpreters [24,25]: Patients often report a desire for personal/cultural familiarity with the individual doing the translation – that is, assured common ground with respect to their 'patient's side' knowledge. Physicians, on the other hand, seek to ensure accurate transmission of their own 'doctor's side' knowledge, something which cannot be guaranteed with untrained friend/family interpreters. Nonetheless, interpreters trained in 'doctor's side' knowledge can fail to comprehend and adequately convey the patient's point of view – mistranslating cultural metaphors, siding with clinical expectations over patients' comments, and even undermining patients' credibility – thereby explaining many patients' hesitation to engage with these individuals [26,27].

In order to satisfy the social and interactional needs of both parties in the medical visit and encourage the active cooperation and participation of these potentially hard-to-reach patients, interpreters must be sufficiently medically competent to assure clinicians that medical information will be conveyed accurately, but they must also be able to assure patients that knowledge from their 'side' will be conveyed with the same accuracy, care, and import, and that their status as co-participants in the visit will be valued and maintained.

1.3. The interpreter as a 'broker'

The interactional moves identified in this study go beyond 'translation' into what has been termed 'brokering' in prior literature [24,28–30]. Previous research has examined two forms of brokering. Practices used for *language* brokering center around the transmission of specific linguistic terms from doctor to patient, or patient to doctor, when equivalent concepts do not exist in the receiving language (e.g., explaining a diagnosis of appendicitis to a patient whose language does not possess terminology for internal organs). Such practices are intimately connected to those for *culture* brokering in cases in which doctor and patient diverge in their belief systems and worldviews (e.g., mediating between a doctor's recommendation of immediate surgery and a family's insistence on a weeklong healing ritual) [31].

This study introduces the concept of '*epistemic* brokering' as a distinct dimension of interpretation. Epistemic brokering refers to the interactional steps taken by interpreters to ensure that linguistically discordant doctors and patients/parents are *socially* aligned at each step in the ongoing medical visit by facilitating the establishment of common ground [32]. Interpreters are seen to be taking into account not only the basic transfer of informational content between the interactants, but also how that content is being designed for recipients at precise moments within the unfolding interaction. I argue that this form of brokering is one method through which interpreters – on a moment-by-moment basis in the visit – accomplish the variety of roles that previous researchers have found them to perform, including co-diagnostician, gatekeeper, and advocate [33–38]. It is posited that epistemic brokering, as a set of interactional practices, may thus serve to promote patient participation in the visit and facilitate positive provider–patient relationships.

2. Methods

2.1. Conversation analysis (CA)

Conversation analysis as method not only takes into account *what* was said, but also analyzes *how* that informational content was designed at that moment, for that recipient. In this way, speakers not only transfer their own knowledge of the topic under discussion, but simultaneously demonstrate their understanding of who the interlocutor is and what the interlocutor knows or does not know. By these means (amongst others), interactants continuously reaffirm their social relationships on a turn-by-turn basis in talk [39].

CA has been used in a variety of studies analyzing how doctors and patients communicate [40]. The method has been particularly successful in identifying specific interactional strategies which can cause hitches or "dysfunctions" in the progression of the medical visit, often offering alternatives that are communicatively – and therefore also medically – more effective [41–45].

2.2. The data

This investigation draws upon a corpus of audio recordings of pediatric genetics consultations from a three-year ethnographic study which recorded a total of 193 clinical visits involving 75 families and four geneticists [46]. Sixteen of these families were Spanish-speaking, totaling 24 visits (17.75 h) in which Spanish was used as the means of communication. Four on-staff bilingual interpreters are represented in the corpus, along with a variety of English-speaking medical personnel (geneticists, nurses, dieticians), and even social workers, who all come and go at various points during each visit.

Either definitively diagnosed with, or otherwise at significant risk for developing, one or more metabolic genetic disorders that affect their ability to metabolize various amino acids, the infants who are the subjects of these visits require strict diets. Ingestion of too much protein can result in serious brain developmental problems, including mental retardation, microcephaly, irregular

motor function, seizures, attention deficit disorders, and also death. Nonetheless, some protein is required for normal growth. A large portion of these consultations is thus spent discussing the child's precise food intake since the last visit. In addition, the visit includes a physical examination of the child, as well as laboratory testing to longitudinally monitor the child's levels of various acids.

The audio recordings were first transcribed and subsequently analyzed. The excerpts reproduced here are representative of recurrent patterns observed in the dataset and were selected for discussion as illustrative examples to introduce the concept of epistemic brokering.

3. Epistemic brokering in action

3.1. Epistemic brokering of content

When epistemically brokering the *content* of an utterance, interpreters facilitate the transfer of information from one participant to another by designing it in a way that is appropriately fitted to the recipient's understanding. In the present corpus, consistent with previous interview- and focus-group-based analyses [47], this is regularly seen when doctors mobilize particular 'specialist terms' [48], for example during discussions of test results and diagnoses; however, the invocation of any content that is not shared in common between doctor and patient can be epistemically brokered.

In example (1) below, for instance, the content in question is not a specific medical term, but rather an item of food. After verifying that regular, store-bought macaroni and cheese has too much protein for her daughter, Mom asks what alternatives exist so that she might still eat it (e.g., leaving out some of the cheese) (lines 1–3). The interpreter's formulation in lines 4–6 accurately represents the tenor of Mom's question and clearly conveys that Mom does not possess knowledge of any readymade low-protein option. Nonetheless, in response, the dietician instructs her to "Use the low protein (.) macaroni er the low protein cheese" (lines 16–17). Observe how the interpreter reshapes this directive into an overt informing action in lines 22–24 (Table 1).

As the monolingual dietician does not have access to the precise design of Mom's original question, her presentation of the macaroni and cheese options (lines 16–17) *oversupposes* Mom's knowledge of this information, and therefore *undertells* the specifics thereof. While there are no linguistic or cultural

Table 1
Excerpt (1).

1	MOM:		Y:: entonce- (.) para darle yo los macarrones así, *A::nd so- (.) for me to give her macaroni like that,*
2			Con menos pro- (.) Qué es lo que no le tengo que poner.= *With less pro- (.) What is it that I shouldn't put in.=*
3			=El queso:? (0.3) o::: °qué.°= *=The chee:se? (0.3) or::: °what.°=*
4	INT:		=U::h If she wants to giveuh er macaroni an cheese,=
5			=and doesn't want (.) as much protein,
6			What does she- m:like leave out. The chees::e?
7			(0.7)
8	DIET:		tch If you wanna give er macaroni an cheese?
9			(.)
10	INT:		[(Yes)
11	MOM:		[Yeah
12	DIET:		[Is'at what you mean?=
13	MOM:		=Yes °yeh.°
14	DIET:		.h Then you'd have to u::s:e (.)
15			Either jus give a very small amount or: u- u:m:
16		->	Use the low protein (.)
17		->	macaroni er the low protein cheese,
18			(.)
19			And so it doesn't have that much.
20			(0.2)
21			In it.
22	INT:	->	**Hacen: macarone: especial** con menos queso,<o con queso ***They ma:ke special macaroni:*** *with less cheese,<or with cheese*
23		->	que no tiene tanta proteína,= that doesn't have as much protein,=
24		->	**=También hacen otro tipo** de mac[arone con queso, ***=They also make another type*** *of macaroni with cheese,*
25	MOM:	->	[Ah.
26	INT:	->	que tiene menos proteína. *that has less protein.*
27	MOM:	->	S:í . . . *Ye:ah . . .*

divergences at play which would prevent translating this utterance as-is, what medically and socially relevant risks might result?

Most basically, the dietician's use of a directive with the definite article presupposes that Mom already knows what "the" low-protein macaroni and cheese is. This response, however, is epistemically ill-fitted to Mom's question which betrays no knowledge of this option. Indeed, Mom's just-prior turn in lines 2–3 (and the interpreter's translation thereof) revealed Mom's assumption that leaving something out of the recipe would be the most viable option to allow her child to continue to eat macaroni and cheese. In sum, then, the dietician's response is inappropriately designed for this recipient, at this moment. As a result, by oversupposing knowledge in this way, the dietician effectively loses the opportunity to convey this information *as* information.

If the dietician's response were directly and literally translated, it would not only fail to provide medically relevant information to Mom, but could also risk discouraging her participation by portraying her question as inapposite (i.e., that Mom should not have asked a question to which she already possessed the obvious answer), if not altogether overly naïve. The interpreter's reformulation orients to this potential threat to the interaction by converting the presentation of this information into an explicit informing in lines 22 and 24: "Hacen: macarone: especial. . ."/*They ma:ke special macaroni:. . .*. Designing the content in this way no longer holds Mom accountable for already having access to the product in question by actively framing this information as completely new knowledge for her. In addition, given that this macaroni is now cast as "special", its existence legitimately lies outside of Mom's knowledge domain. The new design of these turns thus legitimizes Mom's having authored a question and thereby promotes her active participation in the visit, at the same time as they convey the medically relevant information that she requested. Mom's change-of-state token [49] in line 25 suggests that the existence of low-protein macaroni and cheese was indeed new information for her and that she has understood it, and the interaction progresses onward.

The epistemic brokering of content does not occur solely with 'doctor's side' information. On the contrary, common ground must similarly be established as patients present their problems and concerns from their own personal, experiential [50] point of view. As interpreters demonstrate understanding of and affiliation with patients' expressions of emotion, for example, and then publically reanimate that emotional content accordingly, they simultaneously validate such contributions as newsworthy and relevant for medical personnel.

In (2) below, a mother provides an account for why her daughter has not put on as much weight as expected, namely that the child had gotten sick and was not eating very much. The interpreter first affiliates with Mom's telling, and then conveys the emotional, 'patient's side' perspective to the dietician and nurse so that they too can co-affiliate with Mom (Table 2).

The interpreter in this exchange does not simply take in Mom's talk and translate it for the co-present medical personnel. Rather, she comes in early with acknowledgment tokens (lines 5 and 7) which not only demonstrate having achieved understanding of the events of the story [14], but also serve to affiliate with the emotional stance that Mom is taking toward those events. The interpreter is thereby presenting herself as an active co-participant who shares Mom's concern for the health of her daughter [35,36]. Although seemingly minor, this dyadic moment in interaction

Table 2
Excerpt (2).

1	MOM:		Yeah: porq- (.) Yo pienso que si no se hubiera enfermado
			Yeah: beca- (.) I think that if she had not gotten sick
2			como se enfermó que no q- Porque
			like she did that she wou- Because
3			.hhh estaba tomando solo tres onzas ((sad tone))
			.hhh she was only drinking three ounces
4			al día de le[che, ((sad tone))
			a day of milk,
5	INT:	->	**[m::::[hm. ((sad tone))**
6	MOM:		[O:: comía un poquito y n:o.
			Or:: she would eat a little and n:o.
7	INT:	->	**Mhm. ((sad tone))**
8			.hhh Yeah I think she would've:
9			(.) prolly gained mo:re
10			if she hadn't been sick that [week, Because]=
11	DIET:		[R i : i g h t.]=
12	DIET:		=[Oka:y.
13	INT:	->	**=[She was ma:ybe drinking three ounces of mil:k,**
14		->	**an [.hhhh] Just eating ve::ry li:ttle::, ((sad tone))**
15	DIET:	->	[Oh:::]:. Ye:ah. ((sad tone))
16	NUR:	->	=Oh: That's when they came to the hospital [too.
17	MOM:	->	[Yeah.
18	DIET:	->	[Yeah. Yeah.
19	INT:	->	[Allá es cuando vinieron al hospi[tal también °°verdad°°?
			Then is when you came to the hospital too °°right°°?
20	MOM:	->	[uh hu:h

establishes common ground between patient and interpreter and permits medical personnel to engage with this common ground after the interpreter's translation (lines 13–16).

Although recipients of news cannot claim direct, experiential access to the emotions associated with the news, they can, through their responsive turns, demonstrate an empathic understanding of it and affiliation with its teller [50,51]. Here, the lengthened vowels and slowing speech rate over the course of the interpreter's retelling (lines 8–10/13–14) animate for the dietician and nurse Mom's original emotional stance toward the 'bad news telling' [52]. The dietician and nurse both come in to affiliate during the interpreter's rendition of the story in the same way as would be expected for a first-time telling in ordinary (non-interpreted) talk, thereby highlighting the emotional content that this retelling carries with it.

What is essential in this exchange is that Mom bears witness to this retelling and is therefore able to note the emotion marked through intonation and voice quality, even with only passive knowledge of English (cf. line 17). By publically conveying information from Mom's 'side' of the interaction in this way as opposed to through a format that is sanitized of its empathy, the interpreter signals to Mom that expression of her personal, emotional, experiential knowledge constitutes a valid contribution to the ongoing medical visit. The emotionally intoned retelling simultaneously lays the groundwork for the medical personnel to be able to join in with their own displays of empathy (lines 11–12, 15–18), to which Mom can also bear witness, thereby further validating Mom's informative contribution to the interaction. Affiliative moments such as these can work to establish and maintain a

Table 3
Excerpt (3).

1	DOC:		Yeah and ay- If she wants ta: call us too=
2			=an let us know how he does with the rice cereal.
3	INT:		Y si quiere nos puede llamar para dejarnos saber
			And if you want to call us to let us know
4			qué tal le fue comiendo los cereales de arroz.
			how he did eating the rice cereal.
5	MOM:		£Oh está bie(n)£=
			£Oh Okay£=
6	INT:		=Okay. [Sounds good.] Thank you.
7	MOM:		[£Gracias.£]
			£Thank you.£
8			(0.7)
9	INT:	->	Okay
10		->	**[Algo más señora?**
			Anything else ma'am?
11	DOC:	->	[Gracias.
			Thank you.
12	MOM:	->	No: [(está)
			No: (it's)
13	INT:	->	**[>No?< Bueno. Que pase buen día=**
			>No?< Okay. Have a good day=
14	MOM:		=Igual[mente.
			Same to you.
15	DO?:		[£Okay£
16	MOM:		B[ye
17	INT:		[B[ye
18	DOC:		[Bye. Thank you:.=
19	INT:	->	**=So she can go: right?**
20	DOC:		Yeah.
21			(.)
22	INT:	->	**Ya está libre señora.**
			You're all free ma'am.
23	MOM:	->	£Sí Gra[cias.£
			£Yes Thank you.£
24	DO?:		[hehe £Buenas tardes.£
			hehe £Good afternoon.£

relationship between the interactants, as well as encourage parents'/patients' ongoing co-participation in the medical visit as a whole [11].

3.2. Epistemic brokering of context

Epistemic brokering goes beyond interpreting only the content of talk which is directed from physicians to patients/parents and vice versa. Interpreters also engage in processes of epistemic brokering as they monitor the visit for moments in which patients/parents may be in a relatively unknowledgeable position, subsequently taking steps to remedy the lack of understanding. This includes instances in which what is unknown is *where the participants are* in terms of the visit's overall progression from one phase to the next.

With so many different medical personnel (doctors, dieticians, nurses, technicians) coming into and going out of these lengthy pediatric encounters, a repeated source of ambiguity for these parents is the final closing of the visit. Interpreters can address such moments of potential uncertainty by explicitly bringing them to the interactional surface, as in the following excerpt (3) (Table 3).

After the pause in line 8, the interpreter orients to the potential closing of the visit by initiating a sequence herself in lines 9–10. This functions to demonstrate to Mom that the end of (this portion of) the visit is near, while also providing her with an interactional space in which to bring up any other questions or concerns she may have for the co-present medical personnel before closing [42,53,54]. Mom has no other issues to bring up, so the interpreter then closes in line 13 with "> No?< Bueno. Que pase buen día"/>*No?*< *Okay. Have a good day*.

Despite the series of good-byes in lines 16–18, this may not be the *final* end of the visit, and Mom may be in the same unknowledgeable position as to what (if anything) is next on the institutional agenda. This doctor could be leaving the room only to allow a nurse to come in to schedule the next visit, or to have the patient move upstairs for blood work, etc., as happens throughout these consultations. The interpreter thus verifies with the doctor that Mom is, in fact, free to go, and then conveys this information to Mom. This interpreter-initiated sequence (lines 19–24) ensures that Mom remains a knowledgeable and active co-participant during the interaction – not only with regard to the content of the talk, but also concerning the situated context of the medical visit's overall progression.

Closing routine visits regularly involves healthcare providers discussing follow-up procedures and visits, other tests to be done, and so on. Negotiating these next steps very often takes the form of 'sidelined' exchanges amongst the medical personnel. Although final decisions and courses of action are indeed ultimately presented to the interpreter for translation, interpreters can also offer a form of "online commentary" [43] to patients/parents so that they are not left in an uninformed – or even outright confused – position while these English-only negotiations are taking place in front of them. Take the following example (4) in which a doctor and nurse discuss giving Mom a note to take to her family pediatrician (Table 4).

Interactional research has demonstrated that patients closely monitor and are responsive to clinicians' actions – even when clinicians are not engaging them directly – and thus that

Table 4
Excerpt (4).

1	DOC:		=If the result is abnormal: then we'll see you earlier.
2	INT:		Pero si los resultados son anormales,=
			But if the results are abnormal,=
3			=entonces la vamos a ver antes.=
			=then we'll see you earlier.=
4	MOM:		=O:kay.°s[í.°
			=O:kay.°yes.°
5	DOC:		[Aright?
6	NUR:	->	Maybe we should give them a slip to take t'the
7		->	pediatrician tomorrow.
8			(0.2)
9	DOC:		A slip. (.) What's a sl[ip.
10	NUR:		[I mean a: little note.=
11	NUR:		=Just a follow up [note?
12	DOC:		[A little note? Aright.
13	NUR:		Yeah.
14			(.)
15	DOC:		Sure.
16	NUR:		Unless you're gonna: dictate i:t_
17	DOC:		N[o.
18	NUR:		[Nyo-Dict(hhh)a hah=
19	DOC:		No chance of that.
20			(0.2)
21	INT:	->	**Paula se la va a dar una nota=**
			Paula is going to give you a note=
22			**=para que la diera a [(la pediatra).**
			=so you can give it to (the pediatrician).
23	MOM:	->	[↑O:kay.

patients are only "seemingly uninvolved" in such exchanges [55]. Patients who do not share the language of their clinicians, however, are at least partially excluded from this sort of participation in the visit, as well as from the information such overhearing might provide.

In lines 6–19 of excerpt (4), a monolingual dialogue takes place between doctor and nurse, the outcome of which being the decision to write a note and give it to Mom (at which point its purpose will surely be explained). In lines 21–22, the interpreter takes advantage of a momentary pause in the sidelined talk to explain to Mom what they are doing, orienting to her lack of access to this overheard conversation. The fact that the nurse produces laughter in line 18 may provide additional motivation to broker at this precise moment given that laughter is perceivable regardless of language ability; but note that the active reporting of 'sidelined' exchanges occurs in the corpus without such impetus as well. The summative description of the course of action in which the medical personnel are engaged serves to maintain Mom's informed co-participation in the visit.

As in the above example (3), this is not translation of parent-directed content, but rather of *context* – epistemically brokering Mom's understanding of the progression of the encounter to keep her socially and discursively involved. Indeed, Mom receives this information with an enthusiastically intoned "↑O:kay." in line 23.

4. Discussion and conclusions

4.1. Discussion

Many interpreters are trained to actively strive for a lack of identity – to be 'invisible conduits' through which information passes, unchanged – conceptualizing any deviation between the source language and the recipient language as a threat to neutrality, and therefore as a failure [34,56]. The findings of this study support those of previous research emphasizing the interpreter's role, *not* as an identity-less tool for translation, but rather as an active co-participant in the medical visit [33–36,47]. Moreover, here it is argued that epistemic brokering is one of the specific methods through which interpreters accomplish their interactional role as what Hsieh and Kramer [36] call "smart technology", as opposed to merely passive instruments.

The examples included here demonstrate that the basal transmission of informational content itself is not the only issue navigated by medical interpreters. Rather, because the transfer of knowledge is inextricably linked to the sequence in which it is embedded, the individual who evokes it, and the individual who is meant to receive it, interpreters are also seen to be taking into consideration the discursive framing used to convey the information at hand.

By actively orienting to patients'/parents' potential lack of knowledge on a moment-by-moment basis in the ongoing interaction, and taking steps to discursively resolve those gaps, interpreters-as-epistemic-brokers not only provide medically relevant information to patients/parents, but simultaneously convey to them that they are considered valued co-collaborators in the visit. Similarly, by affiliating with and publically demonstrating comprehension of and care for 'patient's side' knowledge, epistemic brokering practices work to valorize patients' experiences as relevant aspects of the medical encounter, as well as provide opportunities for providers to do the same. The institution of medicine is thus presented as more patient-centered through the active encouragement of patient contributions.

A wide range of previous research on monolingual medical visits has demonstrated that patients' satisfaction is connected to how positively they view their relationship and interaction with their healthcare provider. Positive relationships have been directly linked to better health outcomes due to, e.g., more active participation during the visit, better adherence to treatment recommendations, and increased likelihood to return for follow-up visits [57]. The communicative practices used in conveying information are thus situated at the core of patient-centered care as these interactional moves can affect how patient and provider perceive and relate to one another. The present analysis illustrates that, just as participants in monolingual encounters use the interactional resources at their disposal to minimize the gap between 'patient's side' and 'doctor's side' domains of knowledge and thereby co-construct relationships, interpreters are doing the same as they mediate interaction in bilingual visits. By taking steps to ensure that all interactants are epistemically aligned in the moment-by-moment progression of the medical encounter, interpreters-as-epistemic-brokers may increase healthcare providers' ability to effectively engage with these otherwise potentially hard-to-reach patients [12–15].

4.2. Conclusions

This study has introduced and illustrated a dimension of interpretation termed 'epistemic brokering'. Taken individually, the ground-level moments of epistemic brokering may seem minor, but they are the building blocks that contribute to the patient's overall impression and understanding of the institution of medicine – and of the relationship they have with the institution. Because these interactional moves have the potential to affect the quality and outcomes of medical visits, continued research is needed to identify particular strategies that interpreters can employ to epistemically broker interaction. These strategies, in conjunction with those used by clinicians, may further develop and enhance the overall effectiveness of interpreters' involvement in the medical encounter.

4.3. Practice implications

Interpreters and clinicians should be aware of the important role that discursive practices play in shaping the effective transfer of information and the establishment of common ground between participants in the medical visit. More generally, this analysis supports previous work [35] in suggesting that interpreters and clinicians alike should reconceptualize interpreters as social and interpersonal allies who can work collaboratively with medical personnel and aid in the facilitation of positive relationships with patients.

I confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story.

Acknowledgments

This research was made possible by funding from the Del Amo Foundation. My thanks to John Heritage and five anonymous *PEC* reviewers for feedback on earlier drafts of this manuscript.

Appendix A. Transcription conventions

The printed examples embody an effort to have the spelling of the words roughly indicate how the words were produced. Often this involves a departure from standard orthography. In addition, the following are the symbols that appear most frequently in the

transcripts included here. For a more complete listing, see Jefferson [58].

?,.	**Punctuation** is designed to capture intonation, not grammar: Comma is for slightly upward 'continuing' intonation; question mark for marked upward intonation; and period for falling intonation.
[	**Left-side brackets** indicate where overlapping talk begins.
]	**Right-side brackets** indicate where overlapping talk ends.
(0.8)	**Numbers in parentheses** indicate periods of silence, in tenths of a second. A period inside parentheses is a pause less than two-tenths of a second.
:::	**Colons** indicate a lengthening of the sound just preceding them, proportional to the number of colons.
becau-	**A hyphen** indicates an abrupt cut-off or self-interruption of the sound in progress indicated by the preceding letter(s) (the example here represents a glottal-stopped "because").
He says	**Underlining** indicates stress or emphasis.
£Oh okay£	**British pound signs** indicate talk produced while smiling (i.e., 'smile voice').
↑pea↓chy	**An arrow** symbol indicates a marked pitch rise or fall.
=	**Equal signs** (ordinarily at the end of one line and the start of an ensuing one) indicate a "latched" relationship – no silence at all between them.
()	**Empty parentheses** indicate talk too obscure to transcribe. Words or letters inside such parentheses indicate a best estimate of what is being said.
hhh .hhh	**The letter "h"** is used to indicate hearable aspiration, its length roughly proportional to the number of *h*'s. If preceded by a dot, the aspiration is an in-breath. Aspiration internal to a word (e.g., laughter, sighing) is enclosed in parentheses.
°hello°	Talk appearing within **degree signs** is lower in volume relative to surrounding talk.
((looks))	Words in **double parentheses** indicate transcrip tionist's comments (e.g., for non-vocal behavior).
->	**Arrows** in the margin point to the lines of transcript relevant to the point being made in the text.

References

[1] U.K. Office for National Statistics. Language in England and Wales, 2011; 2013.
[2] Shin HB, Bruno R. Language use and English-speaking ability: 2000, Census 2000 Brief. United States Census Bureau, Economics and Statistics Administration, United States Department of Commerce; 2003.
[3] Institut National de la Statistique et des Études Économiques (INSEE). Éducation et maîtrise de la langue: Langues, parcours scolaires, éducation et famille. Les immigrés en France, édition 2005; 2005;p. 90–103.
[4] Epstein AM, Taylor WC, Seage GR. Effects of patient's socioeconomic status and physicians' training and practice on patient-doctor communication. Am J Med 1985;78:101–6.
[5] Mangione-Smith R, Elliott MN, Stivers T, McDonald LL, Heritage J. Ruling out the need for antibiotics: are we sending the right message? Arch Pediatr Adolesc Med 2006;160:945–52.
[6] Pérez-Stable EJ, Nápoles-Springer A, Miramontes JM. The effects of ethnicity and language on medical outcomes of patients with hypertension or diabetes. Med Care 1997;35:1212–9.
[7] Stivers T, Majid A. Questioning children: interactional evidence of implicit bias in medical interviews. Soc Psychol Q 2007;70:424–41.
[8] van Ryn M. Research on the provider contribution to race/ethnicity disparities in medical care. Med Care 2002;40. I-140–51.
[9] Pendleton DA, Bochner S. The communication of medical information in general practice consultations as a function of patients' social class. Soc Sci Med 1980;14A:669–73.
[10] Waitzkin H. Information-giving in medical care. J Health Soc Behav 1985;26:81–101.
[11] Wasserman RC, Inui TS, Barriatua RO, Carter WB, Lippincott P. Responsiveness to maternal concern in preventive child health visits: an analysis of clinician–parent interactions. J Dev Behav Pediatr 1983;4:171–6.
[12] David RA, Rhee M. The impact of language as a barrier to effective health care in an underserved urban Hispanic community. Mt Sinai J Med 1998;65:393–7.
[13] Derose K, Baker DW. Limited English proficiency and latinos' use of physician services. Med Care Res Rev 2000;57:76–91.
[14] Rivadeneyra R, Elderkin-Thompson V, Silver RC, Waitzkin H. Patient centeredness in medical encounters requiring an interpreter. Am J Med 2000;108:470–4.
[15] Stein J, Fox S. Language preference as an indicator of mammography use among hispanic women. J Natl Cancer Inst 1990;82:1715–6.
[16] Lee LJ, Batal HA, Maseli JH, Kutner JS. Effect of Spanish interpretation method on patient satisfaction in an urban walk-in clinic. J Gen Intern Med 2002;17:641–5.
[17] Baker DW, Hayes R, Fortier JP. Interpreter use and satisfaction with interpersonal aspects of care for spanish-speaking patients. Med Care 1998;36.
[18] Morales LS, Cunningham WE, Brown JA, Liu H, Hays RD. Are latinos less satisfied with communication by health care providers? J Gen Intern Med 1999;14:409–17.
[19] Heritage J. Asymmetries of knowledge in patient-provider encounters: three studies adopting conversation analysis. Patient Educ Couns 2013;92:1–2.
[20] Drew P. Asymmetries of knowledge in conversational interactions. In: Markova I, Foppa K, editors. Asymmetries in dialogue. Hemel Hempstead: Harvester/Wheatsheaf; 1991. p. 29–48.
[21] Starr P. The social transformation of American medicine. New York: Basic Books; 1982.
[22] Kleinman A. Patients and healers in the context of culture: an exploration of the borderland between anthropology medicine and psychiatry. Berkeley and Los Angeles: University of California Press; 1980.
[23] Kleinman A. The illness narratives: suffering, healing and the human condition. New York: Basic Books; 1988.
[24] Fadiman A. The spirit catches you and you fall down: a hmong child, her american doctors and the collision of two cultures. New York: Farrar, Straus and Giroux; 1997.
[25] Kuo D, Fagan MJ. Satisfaction with methods of Spanish interpretation in an ambulatory clinic. J Gen Intern Med 1999;14:547–50.
[26] Berk-Seligson S. Coerced confessions: the discourse of bilingual police interrogations. New York: Mouton de Gruyter; 2009.
[27] Elderkin-Thompson V, Cohen Silver R, Waitzkin H. When nurses double as interpreters: a study of Spanish-speaking patients in a US primary care setting. Soc Sci Med 2001;52:1343–58.
[28] Haffner L. Translation is not enough, cross-cultural medicine – a decade later. West J Med 1992;255–9 [Special Issue].
[29] Orellana MF. Immigrant youth's contributions to families and society as language and culture brokers. Presented at Fairhaven College, Western Washington University; 4 November 2009.
[30] Tse L. Language brokering among latino adolescents: prevalence, attitudes, and school performance. Hisp J Behav Sci 1995;17:180–93.
[31] Kaufert JM, Koolage WW. Role conflict among 'culture brokers': the experience of native Canadian medical interpreters. Soc Sci Med 1984;18:283–6.
[32] Clark HH. Using language. Cambridge, UK: Cambridge University Press; 1996.
[33] Bolden GB. Toward understanding practices of medical interpreting: interpreters' involvement in history taking. Discourse Stud 2000;2:387–419.
[34] Hsieh E. Bilingual health communication: medical interpreters' construction of a mediator role. In: Brashers D, Goldsmith D, editors. Communicating to manage health and illness. New York: Routledge; 2009. p. 135–60.
[35] Hsieh E, Hong SJ. Not all are desired: providers' views on interpreters' emotional support for patients. Patient Educ Couns 2010;81:192–7.
[36] Hsieh E, Kramer EM. Medical interpreters as tools: dangers and challenges in the utilitarian approach to interpreters' roles and functions. Patient Educ Couns 2012;89:158–62.
[37] Hsieh E. Conflicts in how interpreters manage their roles in provider–patient interactions. Soc Sci Med 2006;62:721–30.
[38] Hsieh E. Medical interpreters as co-diagnosticians: overlapping roles and services between providers and interpreters. Soc Sci Med 2007;64:924–37.
[39] Raymond G, Heritage J. The epistemics of social relations: owning grandchildren. Lang Soc 2006;35:677–705.
[40] Heritage J, Maynard D. Communication in medical care: interactions between primary care physicians and patients. Cambridge: Cambridge University Press; 2006
[41] Heritage J. The interaction order and clinical practice: some observations on dysfunctions and action steps. Patient Educ Couns 2011;84:338–43.
[42] Heritage J, Robinson JD, Elliott M, Beckett M, Wilkes M. Reducing patients' unmet concerns in primary care: the difference one word can make. J Gen Intern Med 2007;22:1429–33.

[43] Heritage J, Stivers T. Online commentary in acute medical visits: a method of shaping patient expectations. Soc Sci Med 1999;49:1501–17.
[44] Stivers T. Prescribing under pressure: parent-physician conversations and antibiotics. New York City: Oxford University Press; 2007.
[45] Stivers T. Physician-child interaction: when children answer physicians' questions in routine medical encounters. Patient Educ Couns 2012;87: 3–9.
[46] Timmermans S, Buchbinder M. Saving babies? The consequences of newborn genetic screening. Chicago: University of Chicago Press; 2013.
[47] Hsieh E. Provider–interpreter collaboration in bilingual health care: competitions of control over interpreter-mediated interactions. Patient Educ Couns 2010;78:154–9.
[48] Kitzinger C, Mandelbaum J. Word selection and social identities in talk-in-interaction. Commun Monogr 2013;80:176–98.
[49] Heritage J. A change-of-state token and aspects of its sequential placement. In: Atkinson JM, Heritage J, editors. Structures of social action. Cambridge: Cambridge University Press; 1984. p. 299–345.
[50] Heritage J. Territories of knowledge, territories of experience: empathic moments in interaction. In: Stivers T, Mondada L, Steensig J, editors. The morality of knowledge in conversation. Cambridge, UK: Cambridge University Press; 2011. p. 159–83.
[51] Heritage J, Lindström A. Knowledge, empathy and emotion in a medical encounter. In: Peräkylä A, Sorjonen M-L, editors. Emotion in interaction. New York: Oxford University Press; 2012. p. 256–73.
[52] Freese J, Maynard DW. Good news, bad news, and affect: practical and temporal 'emotion' work in everyday life. In: Peräkylä A, Sorjonen M-L, editors. Emotion in interaction. New York: Oxford; 2012. p. 92–112.
[53] Robinson JD. Closing medical encounters: two physician practices and their implications for the expression of patients' unstated concerns. Soc Sci Med 2001;53:639–56.
[54] White JC, Rosson C, Christensen J, Hart R, Levinson W. Wrapping things up: a qualitative analysis of the closing moments of the medical visit. Patient Educ Couns 1997;30:155–65.
[55] Heath C. Body movement and speech in medical interaction. Cambridge: Cambridge University Press; 1986.
[56] Dysart-Gale D. Communication models, professionalization, and the work of medical interpreters. Health Commun 2005;17:91–103.
[57] Roter D, Hall J. Doctors talking with patients/patients talking with doctors: improving communication in medical visits. second ed. Westport Conn: Praeger; 2006
[58] Jefferson G. Glossary of transcript symbols with an introduction. In: Lerner GH, editor. Conversation analysis: Studies from the first generation. Amsterdam: John Benjamins; 2004. p. 13–31.