Clinical care and conversational contingencies: The role of patients' self-diagnosis in medical encounters

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Abstract

Patients' understanding of the origins and consequences of their medical problems (self-diagnosis) has historically been viewed by social scientists as either an asymmetry in role relations (physicians are high status and have access to technical understanding; patients are of variable status and do not really understand what is wrong with them), or as an effect of cognition (health beliefs) on health care processes and outcomes. Recent efforts to understand the medical encounter as a speech event have yielded important insights about how physicians and patients communicate with one another. The role of patient self-diagnosis in the encounter remains under-researched, however. Using a case example, in which an unstated difference in perspectives between a patient and provider regarding her diagnosis was followed by the patient's suicide, three social psychological theories of physician–patient communication are reviewed to see how they deepen understanding of the case. Based on interactional evidence from the third approach, micro-interactional analysis, two key observations are offered. The first comes from evidence based on the initial data gathering segment of the encounter. Here, in an experimental manipulation involving standardized patients being interviewed by second-year medical students, it is shown that eliciting patients' self-diagnosis (attribution) systematically leads to more complete and accurate diagnoses. The second observation is that physicians' delivery of diagnostic 'information' at the conclusion of the visit is contingent upon the patient's initial statement of concerns, including attribution whether stated or unstated, and the range of questions and topics pursued by the clinician between the statement of the problem and the delivery of diagnosis. A lack of agreement or alignment between the problem statement and the proposed solution can result in outright or unstated rejection of the diagnostic news, as detailed analysis of two cases reveals. From the evidence provided, the article concludes that interaction analysis is a useful tool for understanding the importance of patient self-diagnosis

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in the medical encounter. It also provides the best insight to date on the costs and consequences of not addressing self-diagnosis issues at the beginning and the end of the encounter.

Keywords: physician–patient communication; microinteractional analysis; lay diagnosis; adherence with medical recommendations; communication and care outcomes.

1. Introduction

Case Description: Mrs. T.

> 'I have good news', the doctor said. 'All of your test results are normal. There is nothing wrong with you. You can go home now.'

The patient, a 69-year-old retired psychiatric social worker said little but thanked the doctor as he was leaving. She had been hospitalized for 17 days with a chief complaint of numbness and tingling in her extremities over a three-month period. The medical team was frustrated and perplexed by their inability to find positive signs and symptoms of disease. They felt satisfied they had ruled out any 'organic' causes for the symptoms and that they were 'all in the patient's head'.

The patient's husband, a college professor, was reassuring. 'This is great news', he said. 'I knew your fears about this being cancer were unwarranted. Let's go home.' Again, the patient said little and accompanied her husband home. A few hours after returning home the patient's husband decided to run a few errands. After making sure she was comfortable he left and returned approximately an hour later to find his wife dead on their kitchen floor, the doors and windows having been taped and the unlighted oven turned on. No note accompanied this obvious suicide, leaving family members, friends, and the medical professionals involved in her care to ponder circumstances so intolerable as to cause a 69-year-old, who not three hours earlier had received 'good' news about her health, to take her own life. While the 'ultimate' answer to this question will never be known, the circumstances are to a greater or lesser extent familiar. A patient experiencing symptoms they fear are a sign of a dreaded disease is found to be free of disease and is therefore judged to be healthy. Any symptoms the patient may be experiencing are treated as a psychological or psychosomatic residual and of little direct interest in a traditional medical evaluation.

My initial point of departure for this article is the case description in which a patient's suicide can be traced back to a powerful but unstated difference in perspective between professional and lay diagnosis. With this case as a background, I selectively review three social psychological theories of action and ask how each contributes, or fails to contribute to our understanding of what happened. The second section focuses on the empirical question of whether there are encounter-specific locations where patient

beliefs, diagnoses, etc. come into play and potentially exert an influence on the course, direction, and outcomes of care. On the basis of the interactional evidence I make some recommendations for practicing clinicians on how to optimize the incorporation of the patient's perspective into the diagnostic and treatment process, thereby lessening the chances of unstated differences in diagnosis leading to breakdowns in communication and truly unfortunate outcomes.

2. The patient in theories of social action

2.1 *Sociological theory*

Parsons (1951) is credited with first theorizing about the social relation between doctor and patient. In essence, Parsons's view of the social world of doctors and patients took the perspective of the professional. Disease, the sick role, and less dramatic forms of disequilibrium like the failure to follow 'doctors' orders' were viewed as 'forms of deviance'. Doctors were seen as technical experts with high decision-making status. Patients were seen as dependent and unable to discern the causes of their problems. A quote from The Social System (Parsons 1951) is instructive:

> The patient has a need for technical services because he doesn't—nor do his lay associates 'know' what the matter is or what to do about it. … The physician is the technical expert who by special training and experience and by an institutionally validated status is qualified to help the patient.

The trouble with Parsons's formulation, as pointed out by a number of critics, such as Szasz and Hollander (1956), and Freidson (l96l), was that it reduced the patient's role to one of passivity and dependency, and the definition of the situation to being totally under the control of the physician (professional dominance). Common sense and experience make clear that patients in a medical encounter bring their own thoughts, feelings, experiences, and sense-making practices (diagnoses) to bear on whatever ails them. For Parsons, the details of just how lay and professional diagnoses come into play in medical interactions was de-emphasized in favor of the more abstract concept of how social roles, norms and institutions exert effects on a particular type of social relation.

Applying Parsons's model to the case of Mrs. T. reveals its limited view of the patient. It makes no sense to characterize Mrs. T.'s relationship with her physician as one of 'not knowing' what the matter was or what to do about it. It seems altogether likely that Mrs. T. had a very clear idea that something was wrong, she was after all, experiencing symptoms even if the test results were negative. Whether the symptoms were organic or functional are of less interest here than the social psychological fact that

patients who experience symptoms often, and probably always, have ideas about their cause. One is reminded here of W. I. Thomas's famous dictum that if men believe a situation to be real, it is real in its consequences. In Parsons's scheme, patients' views of themselves and the effect of pre-existing competing ideas about causality is an epiphenomenon of little sociological interest and consequence. Clearly for patients like Mrs. T., and in trying to understand other dimensions of implicit or explicit conflict in the doctor–patient relationship, Parsons's model fails.

2.2 *Cognitive theory*

In the mid 1970s, theorists (Becker 1974; Becker and Maiman 1975; Rosenstock 1974) began to focus on patient perceptions of health and health care as a mediating factor in understanding health behavior. As it relates to lay or self-diagnosis, the health belief model focused attention on the influence perceptions of health and illness, susceptibility, severity, and costs and benefits had on outcomes such as adherence with medical recommendations. In a related development Arthur Kleinman (1980), an anthropologist and physician, coined the term 'patient explanatory model' to characterize patients' thinking about the causes and consequences of disease and illness. Kleinman's conceptualization, informed as it was by an anthropological preoccupation with understanding the world view and experiences of patients, was broader and more inclusive than the health belief model. A recent ethnography by Fadiman (1997) focusing on cross-cultural differences in explanatory models (in this case a Hmong family and western medical practice) makes clear the potential gulf that exists between different explanatory models and the potentially fatal consequences failure to uncover and address these differences can have over the long term.

The concepts of health beliefs and explanatory models as cognitive structures clearly showed that patients' views of themselves and their health status affected subsequent behavior such as following medical recommendations. However, the theory's greatest strength was also its weakness. Knowing the probability of a given behavior does not offer guidance to understanding the particulars of individual situations. In other words, while cognitive models may be informative in a general way in understanding that differences in outlook might have existed between Mrs. T. and her physician, and that these differences might have significant consequences for Mrs. T.'s subsequent behavior, they do not help in understanding how these differences might actually play out between Mrs. T. and her physician, or how a general understanding of health beliefs might be helpful in understanding their last encounter. From the

perspective of cognitive theory, the medical encounter itself was still a 'black box', albeit of considerably more interest than in Parsons's scheme.

2.3. *Social interaction theory*

In the late 1970s a new view of the doctor–patient relationship began to emerge. In a classic paper in the journal *Science*, Engel (1977) called attention to the medical interview as itself a site of health and illness; not merely a point of information transfer. In Engel's view, a medical model must 'take into account the patient, the social context in which he lives, and the complimentary system devised by society to deal with the disruptive effects of illness …'. In a later statement, Engel (1988) went on to claim that the interview is 'the most powerful, sensitive and versatile instrument available to the physician'. The average American physician conducts somewhere between 120,000 and 160,000 interviews in a practice lifetime (Lipkin et al. 1995), making the interview the most frequently used diagnostic and treatment modality.

In a parallel development, researchers such as Korsch and colleagues (l968), Starfield and colleagues (1979), and Roter (1977) had begun looking at physician–patient interaction using a quantitative coding scheme originally developed by Bales (1950) for observing behavior in the classroom. These investigators produced a body of scholarship about the medical encounter with specific applications to medical practice. Research on gaps in communication between physicians and patients, the effects of physician–patient agreement and the effects of patient question asking on outcomes of care all showed that elements of social interaction were an important determinant of health care outcomes.

While this work produced exciting new research directions, it did so methodologically by aggregating codes like 'question asking' across encounters. In addition, such strategies assigned equal weight to all instances of a coded behavior. In essence, the questions *Are you thinking about killing yourself?* and *Is your throat still sore?* would be treated as having equal weight and importance in the encounter. This problem in coded interaction research has led some like Stiles (1989) to differentiate between statistical significance, the relationship of variables in the aggregate, and clinical significance, the relationship of specific questions or practices in individual cases.

A final concern about using aggregated data to examine clinical interaction is the role of low frequency events such as suicide or medical malpractice. These are difficult to study statistically since the number of cases needed to achieve significance is so large as to preclude their study prospectively. Within smaller sampling frames low-frequency events tend to 'wash out' in the face of other more frequently occurring phenomena.

Again, since my goal in this article is to try to understand a single case in which unstated differences in diagnosis led to a patient's demise, social interaction theory based on coding and measures of central tendency are of limited use.

The last line of interaction theory that I will consider grew out of a sociological concern with problems of meaning and intersubjectivity. Garfinkel (1967), who was a student and critic of Parsons, posed as the fundamental question for sociological investigation the problem of social order. Rather than assuming the existence of prescripted roles and relationships as background conditions for social action, Garfinkel suggested that social reality was actually constructed on a moment-by-moment basis in and through language. Garfinkel's singular contribution to the study of social interaction was to treat it as a social accomplishment and to explore the tacit assumptions and rules members of a society use to make sense of their own and others' actions. Although he himself was not a clinician, and did not study physician–patient interaction, his methodological insistence on the primacy of single case analysis and his resistance to aggregating results was quite consistent with a fundamental feature of clinical medicine; that it is practiced one case at a time and that a physician's relationship with each patient is unique.

In the tradition of viewing social interaction as a collaborative achievement, sociologists such as Sacks (1992), Sacks, Schegloff, and Jefferson (1974), and Schegloff, Jefferson, and Sacks (1977) set the stage for studying doctor–patient communication and institutional discourse in general, by outlining the systematics of turn taking and repair in casual conversation. The methods employed by these investigators were based on detailed transcription of recorded conversations and close-order observation of the temporal and sequential relationships between paired exchanges.

Two of the most important observations (with implications for patient explanations or diagnoses) to emerge from the study of casual conversation are the relative lack of constraints on turn and speaker types, and the contingent nature of conversational activity that can occur between utterance pairs.

The essence of the first observation is that in casual conversation it does not matter, in principle, who initiates and who responds to sequence initiating utterances. By contrast, institutional discourse such as that which takes place between doctors and patients is marked by a striking asymmetry of speaker types and turn types. Both Frankel (1990) and West (1983), among others, found that physicians overwhelmingly (91 to 99 percent of the time) ask, and patients answer questions. The asymmetry noted for doctor–patient communication is consistent to a greater or

lesser extent with all forms of professional client interaction from education to the law. In at least two contexts (medicine and aviation) the power to control sequence initial utterances like questions constitutes a type of interactional deference and conversational control which can have significant consequences in terms of the completeness of information on hand for decision making.

For example, Frankel (1990) showed that patients orient to the physician's role as questioner by appending new information to their responses to prior physician-initiated questions. In response to the question, 'Does your stomach bother you when you eat spicy foods?' patients who have new information they wish to bring to the floor will typically respond 'No, but my ankle has really been bothering me lately'. Likewise, Frankel (2000) and Goguen and Linde (1982) have observed in the cockpit that copilots and flight engineers will use indirect language to communicate up the chain of command and that captains routinely use commands or imperatives to communicate down the chain. The problem that this poses in the cockpit is that subordinates often have crucial information at their disposal about an emerging error or condition that does not get successfully transmitted.

Although they seem very different on first blush, there is evidence that patients act in ways that are quite similar to subordinate crew members in the cockpit. An early study by Beckman and Frankel (1984) showed that patients were interrupted in stating their medical concerns, on average, after 18 seconds, and most frequently after their first stated concern. A follow-up study by Marvel and colleagues (1999) showed that 15 years later the average time to interruption had increased to 23 seconds. A key finding from Beckman and Frankel's study was that, once interrupted, patients virtually never raised additional concerns at the beginning of the visit. In 53 interrupted visits only one patient (i.e., two percent of cases) added additional concerns at the beginning of the encounter. In a follow-up study, Beckman, Frankel, and Darnley (1985) showed that there was a statistically significant relationship between interrupted visits and so-called 'hidden agendas' or hidden concerns expressed at the very end of the visit. We concluded from that study that physician interruption at the beginning of visits inhibited patients from supplying additional, and in some cases critical information for decision making. A final piece of evidence in this chain of reasoning comes from a study of elderly diabetic patients by Rost and Frankel (1993). In that study patients were asked to list the concerns they hoped to discuss with their physician and their relative importance from their perspective. We found that, on average, the third concern was most important from the patients' perspective. However, 85 percent of the patients studied never got beyond stating

and discussing their first concern, additional evidence that patients often have more which is of high priority on their minds than they have an opportunity to discuss with their physicians.

Information about additional concerns is not all that is lost when interruption occurs. The narrative thread of patient experience and their reasoning about the causes and consequences of problems is lost as well. It appears structurally that the initial agenda-setting and data-gathering portion of the medical interview has a significant effect on the completeness, priority, and perspective of the information physicians have available with which to solve problems and make decisions. It stands to reason that this juncture represents an important gateway to diagnostic accuracy on the one hand, and patient satisfaction on the other. Too little information, one might suppose, would lead to premature hypothesis testing and conclusions on the physician's part. Likewise, focusing on problems that are of less importance to the exclusion of those that are more important might well lead to patient dissatisfaction.

3. Self-diagnosis and its importance in the medical interview

As part of the Physical Diagnosis course for second year medical students at Wayne State University a standardized patient (SP) scenario was developed to teach students the importance of obtaining the patient's view of their problem(s) as a key to making accurate diagnoses. A small group format (six to eight students) was used with each student having an opportunity to interview one of two actors trained to portray up to eight different roles. Details of the program have been described elsewhere (Frankel and Beckman 1993).

To illustrate the importance of inquiring about patient self-diagnosis (also referred to as patient attribution), we designed a scenario involving a respiratory therapist who visits a primary care clinic with a persistent, nonproductive cough of three weeks duration. The standardized patient was coached to provide information about his symptoms only, unless specifically requested to share his thinking about what their cause might be. If queried the patient was trained to state that he had come into contact with a patient infected with HIV and was worried that his symptoms might mean that he had contracted AIDS. (This program was operating in the mid- to late 1980s when awareness of professionals about the spread of AIDS was not well developed.)

For the first four years the program ran, teaching about patient attribution was done retrospectively, after one student in each small group had interviewed the respiratory therapist standardized patient. Prototypical for the student interviews from this time period is the

following dialogue. In fact, upwards of 60 percent of the standardized patient respiratory therapist interviews took this form.

(1) Segment 1: Symptom-focused data gathering

Dr: Hi.
Pt: Howdy.
Dr: I'm Sandy Slade. I'm a second-year medical student now. And your name?
Pt: John Regis.
Dr: Hello, John Regis. Brought a problem in here today?
Pt: Yeah.
Dr: You want to talk about it?

Presenting concern [1]

Pt: Well, actually I feel a little foolish because I don't think it's that much of a problem. I've been having trouble with my throat, an irritation in my throat that's been making me cough on and off for about three weeks now.
Dr: Um Hum. And?
Pt: Like I said, it's hardly worth troubling about and normally I wouldn't bother anyone about it except that it has been going on for three weeks. Even though it has been a little better the last few days, I'm obviously not over it. And, I guess I want to find out what it is and if there's anything I can do about it.

Solicitation of additional concerns [2]

Dr: Is there something else, any more problems?
Pt: No, otherwise I'm fine.
Dr: O.K. Anything else associated with …

Associated symptoms [3]

Pt: No that's … that's another more perplexing thing. There's no related symptoms, no fever, no congestion. It's always a dry cough.

Quality [4]

Dr: O.K. Let's go back. So you've had this cough, this dry cough for three weeks.
Pt: Uh huh.
Dr: Is it … can you tell me when you cough, or something more about the cough?
Pt: There doesn't seem to be a whole lot of reason or rhyme as to when it might be worse or better, except for the last few days because I've been taking some over the counter cough medicine and that has reduced the coughing considerably. When I do have it, my friends who smoke say it sounds just like a smoker's cough, and from when I describe the feeling in my throat, they say it sounds like a smoker's cough, except I haven't smoked in 19 years.

	Dr:	O.K. long time.
	Pt:	Yes.
	Dr:	It has changed in the last couple of days because you took the cough medicine.
	Pt:	Yes.
Duration [5]	Dr:	O.K. … Let's see, when you cough, does the cough last, does it have a duration? Does it have a spell …
	Pt:	No, no. As I said, it's more of an irritation in the throat than ((clears throat)) than anything else. So, it's not like a sustained cough you have when you have congestion in your chest or head that you're trying to clear out. It's more like what I just did, a clearing of the throat because the throat is always a little scratchy.
Severity [6]	Dr:	And does it stay about the same from when you get up in the morning to when you go to sleep?
	Pt:	Pretty much … for some nights, it has been a little more annoying than others. It kind of bothers my sleep a little, it bothered my wife's sleep a little. But that is just because I'm trying to get to sleep, I don't think it's any worse at night than during the day.
Alleviations and precipitators [7]	Dr:	O.K. So, we've got the fact that it's been three weeks, it's been about the same for the three weeks, hasn't got any better?
	Pt:	No … except for the …
	Dr:	The cough medicine. Did you discontinue the cough medicine and then it came back worse or …
	Pt:	No. I'm still taking it.
	Dr:	O.K.
	Pt:	I took some this morning.
	Dr:	Is it progressively getting better, or staying about the same level // or better?
	Pt:	Yeah, I'd say that.
Close [8]	Dr:	Well, with the information that I have I'm going to go consult some people who have more knowledge than I do, and then I'll get right back to you. O.K.?
	Pt:	O.K.
	Dr.	It was very nice talking to you.
	Pt:	O.K.

On the left hand side of the transcript, offset by brackets, is a functional description of the student's clinical performance. After eliciting the patient's initial concern in segment 1 the student solicits for additional

concerns which the standardized patient responds to by stating that there are none. In segment 2 the student solicits for associated symptoms which the patient also responds to by stating that there are none. Having established that there is a single symptom the patient is concerned about the student then begins to assess its dimensions of quality, duration, severity, alleviators, and precipitators. In terms of her clinical performance the student has touched on five of the seven dimensions that define 'complete' symptom exploration according to the text used in the Physical Diagnosis course. More importantly is the student's conclusion that this is a patient with a single, relatively minor problem. Asked after the interview what she would have done with the patient, assuming that there were no underlying problems, the student stated that she 'would treat the patient symptomatically for two weeks and reevaluate at that point,' a typical response. Close to two out of every three students who interviewed this standardized patient reached a similar conclusion.

Segment 2 is a transcript of the same standardized patient interviewed by a student in another small group.

(2) Segment 2: Data gathering incorporating patient attribution.

Dr: Hello
Pt: How do you do?
Dr: My name is Roberta King and I'm a second year medical student, and you are?
Pt: Paul Snyder
Dr: What kind of problems have you been having that have brought you here today?
Pt: Actually, I feel a little silly, cause it's really not a whole lot that's bothering me. I have this irritation in my throat. It has been making me cough, sometimes a great deal, and sometimes just an irritation. You know, normally I wouldn't think it serious enough to bother anyone with, but its been going on for three weeks, and so I guess I should see someone about it.

Presenting concern [1]

Dr: So, why do you feel silly about that?
Pt: Well, I don't think I'm sick. Aside from the irritation, there doesn't seem to be anything wrong with me, anything that would give me a sore throat.
Dr: Are there some things that that will bother you, like irritate your throat …
Pt: Well, if I had a cold, or the flu, or bronchitis or something, um but I don't. I don't have any chills, any fever, any upset stomach; I don't have any congestion. When

Precipitators [2]

I do cough, I never bring anything up with it. Apparently, there's nothing wrong with me, except my throat feels funny.

Dr: Have you noticed any changes in the weather maybe that makes your throat feel worse or …

Pt: No. The only thing that has made a difference in the last few days … I've been taking this cough medicine, this drugstore cough medicine. It's … I'm not coughing as much, but the irritation is still here.

Quality [3]

Dr: It makes it feel a little better … but you still feel … like it's just … is it sore still?

Pt: Scratchy.

Dr: Scratchy?

Pt: Yeah.

Associated symptoms [4]

Dr: Have you had any other problems that might be associated with this problem?

Pt: Nope, never before.

Dr: So what do you think it might be?

Pt: Well … it might be something I picked up at work.

Dr: Why do you say that?

Pt: I work in a hospital so I'm always around sick people and I'm a respiratory therapist so I'm always around people with problems with their throat … and there's a new wrinkle to the whole thing that I guess has me more worried than I should be.

Dr: Go on.

Patient attribution [5]

Pt: Well … about three months ago, aah … we had a death in the facility, which is not unusual. I work in the Veterans Hospital in Allen Park. You know, we have people die there all the time.

Dr: Uh-huh.

Pt: This particular fellow was a guy I'd been in the service with; he was in our drug-rehab program. And one of the complications of his drug habit was that he'd contracted AIDS. And he's the first AIDS patient, you know, that I'd had to work with. And besides seeing him professionally, I'd visit his room because he was an old service buddy of mine. And anyway, about, I don't know, eight weeks after he'd died I developed this throat condition.

Dr: Sounds to me like you are concerned that you might be able to contract AIDS …

Pt: Yeah …
Dr: … through casual contact?
Pt: Yeah I am, you know, I feel a little foolish about it because I'm a health professional, and I keep telling myself that I should know better than that but …
Dr: Well, that's understandable. It's understandable.
Pt: Do you think there is a possibility?

Reflection and integration [6]

Dr: No. From the information that has been gathered to date, there's been no cases reported of casual contact, people contracting it from casual contact. If that would be your fear, then it sounds to me you can rest a little easier that you should not be able to contract AIDS by that method. Is there anything else that might be bothering you?
Pt: No. That's the big thing, you know, of course that was what they were saying, you know, at work too, but they kind of have a vested interest. I wanted to get a little more objective viewpoint, I guess.

Close [7]

Dr: Is there anything else you'd like to tell me about? Any other concerns that you have?
Pt: No that's it.
Dr: Thank you very much.
Pt: You're welcome.
Dr: Nice to meet you.
Pt: You too.

Like the first interviewer, student number two begins the data gathering portion of the interview by eliciting the standardized patient's presenting concern. Before moving to evaluate the concern the student explores the patient's assertion about feeling silly and discovers that he doesn't think that there is anything that would have given him a sore throat. The student then touches on three of the seven dimensions of the patient's symptom, a slightly worse objective performance than the first student. After asking the standardized patient about associated symptoms, the student solicits the patient's attribution. Using a series of continuers, 'Why do you say that?', 'Go on', 'uh-huh', the student learns that the standardized patient had, in the course of his work as a respiratory therapist, come into contact with an AIDS patient and that eight weeks after the patient's death his symptoms developed.

Reflecting and integrating the new information she had received as a result of asking his attribution, the student continues to explore the nature of the patient's concern. She confirms that it is not simply

a persistent nonproductive cough of three weeks duration that has brought him to seek medical attention, but worry that the cough might be a consequence of having had contact with an AIDS patient. With this information the student is able to address the standardized patient's underlying concern. While this still leaves the explanation for and treatment of the symptom unaddressed, it does demonstrate the importance and power of patient attribution to reveal additional dimensions of patient concerns. It also demonstrates rather dramatically how the 'same' symptom presentation can generate two very different views of clinical reality depending on the questions that are asked. Although it is speculative and based on standardized (role-play) performances it does not seem too far fetched to say that, in terms of medical resource utilization, the first student's approach would likely have led the standardized patient to seek one or more second opinions precisely because his attribution for the symptom was not taken into account.

Given the power of attribution questions to uncover unstated concerns, and the relatively low rates at which the students naturally explore this domain, we decided in the fifth year of the program to randomize this standardized patient role to occur either first or last. Where it occurred first, we hypothesized that the student would solicit attribution at low rates. Where it occurred last and had been discussed in other standardized patient cases we hypothesized that a greater proportion of students would elicit the entire narrative thread from the patient. One hypothesis was confirmed. When presented first in 21 groups, nine (43 percent) of the students elicited attribution. Twelve students, therefore, would have treated the patient symptomatically for his cough without uncovering or exploring his concern about AIDS contact. When presented last in 22 groups, 17 (77 percent) of the students elicited the patient's attribution and explored it as an underlying concern about the symptom. These results were statistically significant at the .05 level. We concluded from this study that this important skill can be taught, learned, and put into practice by second-year medical students who have little or no clinical experience.

Returning to the case of Mrs. T., it is clear that her attribution for her symptoms were either not solicited by her family physician, or if they were, went unheeded when the 'good news' about her laboratory tests was delivered. In either case, patients' perspectives on their symptoms are an important source of clinical information for physicians and a key to understanding the physical, emotional, spiritual, and symbolic meanings symptoms have for them. Patient attribution or self-diagnosis exists as a parallel process to physician hypothesis testing and clinical decision making. Understanding the nature of this parallel process and especially where it is unexpressed or in conflict with clinical reasoning is

especially likely to affect a range of care outcomes, from the seeking of second opinions to suicides.

The second finding about casual conversation that has relevance for patient self-diagnosis in the medical interview is the observation that between a sequence-initial utterance and its response one or several contingent exchanges can routinely occur. Schegloff (1968) dubbed these 'insert sequences' and showed that they actually preserved the rules of adjacency-pair organization rather than violating them. A prototypical insert sequence follows:

(3)

Adjacency pair	A_1	Are you going to the dance on Friday?	
	B_2	Are you?	
	A_2	Yes	Insert sequence
	B_1	Yes	

In this example, A's request for information from B is held off until a contingent request from B to A is fulfilled. Upon the completion of the inserted request B responds to A's initial query, thereby completing the adjacency-pair sequence. Schegloff used this observation to argue that what appeared to be deviant cases of adjacency-pair violation actually conformed to the rules for pairwise organization. Jefferson (1972) observed a similar phenomenon for nonrelated conversational activity operating between adjacent pairs. She characterized these as 'side sequences' and argued that the contingent nature of adjacency-pair types like questions and answers could operate across unrelated conversational activities. A prototypical side sequence from a recent study of airline cockpit crew communication follows:

(4)

	P_3	Flight director and course arrow	
	P_2	Trim those out at about 3,000 will you please, John?	
	P_1	Three thousand fuel flow	
Adjacency pair	ATC	Flight 343 Cessna 152 Northeast bound, four thousand five hundred still climbing	Side sequence
	P_1	Roger	
	ATC	Cessna 152 one twenty point nine	
	P_1	One twenty point nine okay, he was working on one twenty four one.	
	P_1	Okay flight director and course arrow set	

In this segment P_3, the flight engineer, initiates the first part of an adjacency pair based on a checklist that he is reviewing with P_1, the captain. Before he can respond to P_3, P_2 (the co-captain) initiates an unrelated sequence initiating request for the captain to adjust the fuel flow. Upon completion of this request, air traffic control (ATC) transmits a second unrelated sequence initiating action which provides the captain with information about another aircraft in his vicinity. After responding to the information from air traffic control the captain returns to fulfill P_3's original checklist request, thereby completing the pair. As compared with insert sequences which are both contingent and related to the pair initiator, side sequences can and do operate contingently across unrelated conversational activities.

The idea of contingent relationships between sequence-initial and sequence-completing actions helps explain local conversational sequencing rules in noninstitutionalized discourse. How such relationships might operate in the medical encounter or other highly constrained problem-solving contexts has not been investigated.

Consider that, functionally, a medical encounter consists initially of a problem statement made by the patient (the presenting concern), a series of inquiries both related and unrelated to the problem (seven dimensions of a symptom), a review of systems/social history, a physical examination, and the delivery of a diagnosis including patient education and treatment planning. To a greater or lesser extent all problem-solving discourse has this structure, beginning with problem identification and ending with a problem solution and recommendations. In terms of contingent relations in this type of discourse, I argue that everything that occurs between the problem identification and the proposed solution is contingent. That is to say that unless otherwise marked, all physician inquiries will be viewed from the patient's perspective as related to the presenting concern(s). Two problems that this poses analytically are (i) accounting in close-order terms for the types and content of contingent or intervening actions between the problem statement and the proposed solution, and (ii) the fact that problem identification and resolution may span multiple visits.

Perhaps the clearest evidence of the contingent nature of the intervening talk and activity between the identification of the problem and its proposed solution(s) comes from looking at cases in which the physician's proposed solution is rejected. Two cases of rejected diagnoses are presented. In each there is a substantial mismatch between the scope of the solution, the intervening discourse and the problem statement. Similar to what Maynard and Frankel (in press) have identified as 'symptom residue', in each of the cases where the proposed solution is

rejected we can see that there is a residue of concerns or information that is unaddressed in the proposed solution.

(5) Rejected diagnosis: First example

Encounter beginning

	Dr:	Now what's the– what's the main problem that bring you in today.
		(0.4)
Problem statement	Pt:	I have a headache
	Dr:	A headache
	Pt:	Uh-huh
	Dr:	And evidently you've had this for a long time is that right?
	Pt:	Yes
	Dr:	Mm-hmm. How long have you had it for?
		(0.8)
	Pt:	Around um two years
	Dr:	Two years
	Pt:	Yeah almost every day
Past medical history	Dr:	Almost every day?
	Pt:	Mn-hmn
	Dr:	And um (0.6) is that since you've been in the United States you've had this?
	Pt:	Yeah
	Dr:	You never had this when you lived in Jordan?
	Pt:	Um yeah I have it before I came here around around six months
	Dr:	Mm-Hmm
		…
	Dr:	Is there anything that seems to bring it on?
		(1.4)
	Pt:	Sadness and–
	Dr:	Sadness
	Pt:	And studying too much sometimes // or
Precipitators	Dr:	And what too much?
	Dr:	Studying too much?
	Pt:	Right
	Dr:	Two years ago did this come on all of a sudden or had you had these before two years ago.
	Pt:	No, I didn't have it

Dr: You didn't have it?
Pt: No but I had a problem uh at the beginning of this headache uh that uh *hhh um when I got my result at school it wasn't eh as good as I wanted // so I became sad too much.
Dr: Uh-huh
Dr: I see
Pt: From that day until now I have the headache
Dr: I see
…
Dr: How's your appetite been
(0.3)
Pt: Hmm
Dr: How's your appetite– are you eating okay?
(0.4)
Pt: Yeah
Dr: Mm-hmm
Associated symptoms
Dr: You're not losing weight (0.5) weight's the same
Pt: I think I lost uh– five pounds // um si– about two months from two months uh til now I lost // ten or five pounds
Dr: Mm-Hmm
Dr: Mm-Hmm
Dr: Have you been trying to lose weight
Pt: No
Dr: No
…
Dr: Do ya have anything in your life that's upsetting you
(0.8)
Dr: Other than getting uh– getting um (1.2) // something about other than school occasionally um making you uh (0.8) feel tense.
Pt: You mean something–
Associated symptoms/ Hypothesis testing
Pt: You mean something make me thinking too much?
Dr: Yeah do you– are you having any family problems or any // financial problems
Pt: No, I don't have–
Dr: Financial problems
Pt: No, I don't have that problems ( ) I mean but uh because they're all overseas.
Dr: I see
Pt: I'm thinking of them all the time

Dr: Uh-huh
Dr: What– where do you (0.6) live right now?
Pt: In Melvindale
Social history
Dr: Mm-Hmm who do you live with?
Pt: Um–
Dr: You live alone
((Additional history taking and physical exam follow))

Diagnostic news delivery and patient response

Dr: I don't think there's anything serious underlying disease that's causing your headaches (0.3) okay.
Pt: Mmm-hmm
Dr: Do you understand that?
Pt: Yeah
Dr: I think that your headaches are (1.2) related to tension and stress (0.8) that when you get upset– when you fell anxious this (0.6) many times causes headaches (0.3) do you understand what I'm saying=
Symptom residue
Pt: =Yeah
Pt: Sometimes I feel the headache without aaa–//feeling any sad or any s//tress
Dr: Wh–
Dr: I see
Pt: Like now now I feel it start// a headache
Dr: Mm-Hmm
Dr: I see
Pt: From here// and from near // my eyes
Dr: Mm-hmm
Dr: Mm-hmm
Dr: Mm-hmm

In this example the patient's problem statement takes the form of a declarative assertion, 'I have a headache'. Functionally, the physician's first response is to assess the duration of the problem, based in part on information he already has available from a screening questionnaire the patient has filled out prior to the visit. The physician establishes that the patient has had headaches on a daily basis for two years and attempts to make a temporal link between the onset of the headaches and the patient's move to the United States to go to college. The patient states that the headaches predated his move to the US by six months.

Next, the physician inquires about what precipitates the patient's headaches. The patient responds by saying that feelings of sadness and

studying too much bring on his headaches. The physician then attempts to clarify whether the problem is a new onset or a continuation of a past medical problem. The patient says that they are new and goes on to clarify his previous response, stating that he has had headaches from the time he received poor grades in school and became sad until the current visit.

In the next segment the physician establishes an associated symptom, namely that the patient has unintentionally lost weight. In asking these questions it is probable that the physician is engaging in early hypothesis testing about depression being the cause of the headaches and the headaches themselves being of the tension variety. None of this is stated, however.

From the information on mood and appetite that he has assembled the physician goes on to inquire about other associated symptoms. His questioning strategy is interesting and reveals something about what he is thinking about and hearing from the patient. After asking in an open-ended way if there is anything upsetting the patient and encountering a substantial pause (0.8) seconds, he goes on to qualify the question by adding the phrase 'other than school occasionally um making you uh (0.8) feel tense'. This is hardly what the patient has stated and reflects the physician's minimalization of the patient's view.

From a clinical perspective the physician has been engaging in a mix of symptom evaluation and hypothesis testing, attempting to rule out organic causes for the headache and to rule in psychogenic causes such as stress. From an interactional or narrative perspective (Mishler 1984, Cicourel 1983), the information elicited could be summarized as follows:

> Six months before coming to the United States to study I began having headaches. I have now been here for around two years and have had headaches almost every day. Recently, my grade report from school was disappointing and from that point onward I have had a headache. Additionally, I have lost five to ten pounds in the past two months but not because I was trying to lose weight. I associate my headaches with sadness, studying too much, and missing my family who are all overseas.

Given the narrative or interactional thread that the physician's questioning has produced, and their contingent nature, it is clear that the physician's diagnostic news summary represents an extremely limited view of the dialogue. He begins by stating that he has ruled out serious underlying disease as a cause for the patient's headaches. The rule-out format stands in stark contrast to the dialogue and the patient's focus which has been exclusively on psychogenic factors (sadness, studying too much, and home sickness). Following an understanding check, the physician describes what he has ruled in, namely, that these are tension headaches. It is interesting to note that the physician's delivery of information is

marked by several long silences, perhaps indicating a desire to give the patient an opportunity to react to his conclusion. From a clinical perspective this is a good news delivery; good news in that there is no disease causing the headaches. From an interactional perspective the physician has reduced the patient's story to a description of what the headaches are not. Having minimized the patient's report of problems with studying and grades to 'school occasionally, um making you uh (0.8) feel tense', it seems likely that the impact of the rule-in diagnosis of tension headaches is minimal.

Evidence for this assertion comes from the patient's next response which is to reject the diagnosis by stating that the headaches sometimes occur without sadness or stress. The patient then goes on to state that he currently has a headache which he doesn't associate with stress or sadness, at least the stress or sadness that he described in response to the physician's questioning. In summary, it seems likely that the rejection is a product of the physician's failure to respond to the problem as initially stated by the patient and the contingent dialogue (all of which focused on psychological and social issues) that occurred prior to the delivery of diagnosis. In essence, the patient's self-diagnosis was lost to the format in which the physician presented the results of his inquiry.

(6) Rejected diagnosis: Second example

Encounter beginning

Dr: What brings you here today.
(0.6)

Problem statement

Pt: um, spasms in my neck (0.4) and shoulders (0.6) um I– I've had them for a long time // I used to come here in 1970—I guess it was maybe 1988 and I saw Dr. Williams when I came to PT at the clinic (0.3) and it's something that I've– y'know– I guess learned to live with for years but now it's gotten so bad that (0.4) it's giving me headaches makes me nauseous vomiting // um last week I just massaged here and it felt like lumps of the muscles just rigid *hh um two weeks ago I was so tense in here that it was—the throat felt like I was choking to death the thro– like my throat muscles were actually involved in this stuff *hhh um and it's just painful my head– and now it's gotten to the point that it makes my head hurt again *hhh.

Dr: Mm-Hmm

Dr: Mm-Hmm

…

Dr: Ever experience just shoulder pain alone?
(0.6)
Pt: When I wasn't particularly // sensitive in the muscles.
Dr: A– acute like.
Pt: In these joints // yes.
Dr: Acute onset of shoulder pain =
Pt: = Yes.
Dr: Like excruciating that you couldn't lift your arm?
[[
Pt: And I felt
Pt: Right I've seen cold do it you know I can (0.3) I can sit in the draft and let– or let myself get chilled and hours later I can feel particularly this one start to stiffen up– I've had problems with this one but this one has been the more severe that I can not do simple things I literally almost couldn't dress myself two weeks ago when I called here.
Dr: Oh–

Onset

…

Dr: What kind of things were you hospitalized for in the past.
Pt: Okay.
(0.6)
Pt: Before this (0.4) bleeding colon.
…
Pt: Before that (0.4) 1970 um 1971, 1972 // viral meningitis by then they called it recurring because in 1969 I had had what they told me was viral meningitis and I would never get it again.
Dr: Mmm-Hmm
…
Pt: Before that h I had an ectopic pregnancy and I– left ovary removed.
…
Pt: I know the dates are getting screwy now because I've got to put a hospitalization in hherree that doesn't fit the scheme of things // but it was um *hh infectious hepatitis.
Dr: Well, what was that for?
Dr: Mmm
…

Past medical history

Pt: And– oh– and the nephritis we can't forget that // that's my most recent one so.
Dr: That's the one that I just referred to ( ).
Dr: Yeah, October.
Pt: Right.
…

Family history

Dr: You said your father passed away whe– he was fifty– (0.4)
Pt: Oh, he was about thirty // I would say thirty-three I really– I don't know how old my father'd be if he were alive but he (0.3) died when I was– I'm almost forty– so it's– he's been dead thirty-five years.
Dr: Okay.
Dr: Okay and your mother's in good health now.
(0.6)
Pt: Yeah, she's (mostly) in good health.
…
Pt: I have um– no broth– my brothers were both killed in a car accident in 1979 (1.6) and my one sister died (0.8) in a sickle crisis in 1980.
Dr: Okay.
…
Dr: (to the) children you have two children // that aren't in real good health.
Pt: ( )
Pt: Yes (0.5) um I have a twenty-year-old daughter who's an uncontrolled epileptic (0.4) she has been diagnosed epileptic since 1977 but they've never been able to control her seizures (0.4) um and I have a nine-year-old (0.5) who has epilepsy and rheumatoid arthritis.
…

((Additional history taking and physical exam))

Delivery of diagnosis

Dr: All right first of all // as far as your physical exam goes (0.8) a fairly normal physical exam I r– (1.0) I found only one abnormality (0.4) and that was the tenderness that you're experiencing (0.4) over some of your spineous processes of your upper vertebrae.
Pt: ((clears throat))
(1.2)

Dr: Uh your (smo–) muscle strength and (0.3) nerve exam all within normal limits.
(0.4)
Pt: Okay.
Dr: So that's good.
(1.0)
Dr: Uh, the other thing– I've managed to review laboratory results that they obtained from the Emergency Room and again everything seems to be within normal limits.
…
Dr: I want to get an X ray (0.6) of your cervical spine.
Pt: Okay.
(0.4)
Dr: If you didn't have the tenderness I wouldn't even bother with the X ray (0.4) but the tenderness is significant.
(1.2)
Pt: Okay.
Dr: Uh, there's probably a few more blood tests we can get (0.3) as well.
(1.0)
Pt: Okay.
Pt: m–
[[
Dr: And we'll wait to see what those tests show and we'll take it from there.

Symptom residue

Pt: Okay what will // (we do) with the pain in the meantime?
Dr: We have several options.
Pt: What do I do for my head and my nausea and my numbness.
Dr: (Yeah)
Pt: I mean if there– (tape cut off)

This example begins with a much more extensive problem description than the previous one, example (5). The patient, a 39-year-old African American woman who directs a county social work agency, describes an exacerbation of a long-term problem, neck spasms. They have recently progressed to the point where she is experiencing headaches and nausea. She also describes an episode two weeks previously in which her

muscles were so tense that she felt as though she was choking to death, and reiterates how her muscle tension leads to headaches.

In his assessment, the physician first attempts to isolate the symptom as acute shoulder pain. In her response, the patient describes cold and drafty conditions as one precipitating factor. She goes on to describe a particularly severe episode two weeks earlier in which she was almost unable to dress herself. The physician next moves on to past medical history. Here, he is provided with a long list of medical conditions that the patient has experienced including: bleeding colon, viral meningitis which recurred despite the fact that she was told that this would not happen, an ectopic pregnancy, infectious hepatitis, and nephritis. While the delivery of this information lacks overt emotion, there is obvious irony in the length of the list, her inability to place problems and dates and the fact that she experienced the same problem twice.

Moving on from her past medical history, the physician begins to explore the patient's family history. Her father, who died when she was about five years old; her mother, she reports, is still alive and in mostly good health. The patient also discloses the fact that she had three siblings all of whom died within a year of one another (two brothers in an automobile accident, and her sister in a sickle-cell crisis). Rounding out the family history, the physician inquires about the patient's own children whom he notes are not in the best of health. The patient confirms this by describing a twenty-year-old daughter with uncontrolled epilepsy and a nine-year-old with epilepsy and rheumatoid arthritis. Again, while not commenting directly on the additional burden her children must place on her daily life, it is clear that they are a source of stress.

The narrative thread of this encounter describes a 39-year-old woman with a long history of neck and muscle spasms that have recently gotten worse and are now causing headaches and pain, which in one case produced a feeling of choking to death. In addition to her current concern, she has had a series of serious medical problems spanning nearly 20 years. Along with her medical problems she has also experienced a rather stunning series of losses beginning with her father when she was five and including two brothers and a sister who died within a year of one another, when the patient was in her twenties. Her children have their own serious medical conditions as well. Her eldest child was born around the same time that she had a recurrence of viral meningitis. Two years before her brothers were killed, her daughter was diagnosed with severe epilepsy which still remains uncontrolled. This was about the same time her younger daughter was born. As it turned out, that daughter was diagnosed with epilepsy and rheumatoid arthritis.

It is against the narrative background that the physician begins to deliver his diagnosis. As in the first example, he begins by stating what he has ruled out. The physical examination findings are normal, with the exception of one abnormality, some tenderness in the upper spine. Muscle strength and neurological signs are all within normal limits. It is interesting to note that throughout his delivery there are a number of long pauses, indicating possible opportunities for the patient to respond. Finally, after the patient's minimal response of 'okay', the physician provides a self-assessment of the news thus far 'so that's good'. After a pause of one second, the physician continues.

The next element of the news delivery focuses on a review of the records from an emergency room visit to which the current visit is a follow-up. Like the current visit, the emergency room records indicate that 'everything seems to be within normal limits'. The physician now shifts from the past to the future in terms of designing a plan. He asserts that he wants to get an X ray but hedges about its value by stating, 'if you didn't have the tenderness I wouldn't even bother with the X ray'. After a 1.2-second pause and minimal acknowledgement by the patient, the physician continues with his plan to order blood tests. This statement is also hedged both in terms of being nonspecific and in the use of the word 'probably'. Following a 1.0-second pause and another minimal response by the patient, the physician concludes his plan by saying that he will wait and see what the tests show and continue on from there. It is at this point that the patient rejects the plan and states what it is lacking, an approach to dealing with the very things she described at the beginning of the encounter, i.e. head pain, nausea, and numbness. It is the residue of unaddressed symptoms and experience that is the basis for the patient's claim.

In comparison with the initial problem statement and additional narrative history elicited by the physician's history taking, the plan seems quite ill-fitted. As in the first case, the physician's use of a rule-out format focuses not on the patient's symptoms or suffering but rather on the absence of any hypothesis or objective data that positively identifies them as a syndrome or disease. From a clinical point of view this may indeed be good news, as the physician points out. But it also leaves a residue of patient experience unacknowledged and potentially discounted. In essence, the physician's diagnosis and plan can be heard as stating, 'Despite what you've told me about your illness experience, there is nothing wrong with you except some tenderness. I will order an X ray but wouldn't even bother if the tenderness wasn't present.'

The delivery of a diagnosis and plan represents a critical juncture in the medical encounter, especially as we have seen, where there is conflict or disagreement about the nature of the problem and the proposed

solution. While Starfield and her colleagues (1979) have shown that greater levels of agreement lead to better health outcomes and adherence, there has been less focus on how the diagnosis and plan relate to the patient's statement of the problem and the contingent nature of the information elicited en route to a proposed solution.

The two cases that have been presented shed some light on what happens when diagnostic news is ill fitted to the patient's problem statement and narrative thread. It is clear that both physicians were attempting to frame their diagnostic conclusions in terms of good news—no underlying disease in the first case, normal test results in the second. It also seems clear, and unfortunate, that in using a clinical frame that involved ruling out certain disease-based possibilities first, the patient's symptoms and experiences were minimized (in the first case) and rejected outright (in the second case). The lack of fit between the problem statement 'What is this?', its assessment involving contingent questioning and development of a narrative thread, and a conclusion that begins by stating 'What this is not' created a powerful tension in both cases that led to rejection of the diagnosis in one and the plan in the other.

Returning to the case of Mrs. T. who had been hospitalized for 17 days for an assessment of her symptoms, numbness and tingling in her extremities, one can't help but wonder if the 'good news' that all her test results were normal and that whatever she was experiencing 'was all in her head', had the effect of so completely rejecting her illness, experience and hypotheses that she simply gave up advocating for herself and took matters into her own hands at the first opportunity.

We will never know the answer to this question, unfortunately. Using her case as a point of departure is still helpful in several respects. First, it serves as a constant reminder that the patient's perspective, especially as it relates to attribution and the impact of diagnostic news (good, bad, and no news) is important to assess in all patients. Secondly, Mrs. T.'s case reminds us that each doctor–patient relationship is unique and deserves to be understood in its own terms. Wonderful advances have been made in understanding the physician–patient relationship by applying various theoretical frameworks. For this case and others like it, it appears that interaction theory provides a useful heuristic for understanding the overall structure and local dynamics of medical encounters. Finally, Mrs. T.'s case reminds us of the awesome responsibility physicians take on in caring for the hearts, minds, and bodies of their patients. For those of us who teach the art and science of the most frequently employed procedure in medicine—the medical interview—we do well to remember that we share in that responsibility, taking pride where we succeed and being diminished where suffering and a lost life could have been prevented.

References

Bales, R. F. (1950). *Interaction Process Analysis: A Method for the Study of Small Groups*. Reading, MA, Addison-Wesley.

Becker, M. H. (1974). *The Health Belief Model and Personal Health Behavior*, Thorofare, NJ: Health Education Monographs.

Becker, M. H. and Maiman L. A. (1975). Sociobehavioral determinants of compliance with health and medical care recommendations [Review]. *Medical Care* 13 (1): 10–24.

Beckman, H. B. and Frankel R. M. (1984). The effect of physician behavior on the collection of data. *Annals of Internal Medicine* 101: 692–696.

Beckman, H. B., Frankel, R. M. and Darnley, J. (1985). Soliciting the patient's complete agenda: A relationship to the distribution of concerns. *Clinical Research* 33: 714A.

Cicouel, A. (1983). Hearing is not believing: Language and the structure of belief in medical communication. In *The Social Organization of Doctor–Patient Communication*, S. Fisher and A. Todd (eds.), 221–239. Washington, DC: Center for Applied Linguistics.

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science* 196: 129–136.

—(1988). How much longer must medicine's science be bounded by a seventeenth-century world view? In *The Task of Medicine: Dialogue at Wickenburg*, K. L. White (ed.), 113–136. Menlo Park, CA: The Henry Kaiser Family Foundation.

Fadiman, A. (1997). *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures*, New Orleans: The Noonday Press.

Frankel, R. M. (1990). Talking in interviews: A dispreference for patient-initiated questions in physician–patient encounters. In *Interaction Competence: Studies in Ethnomethodology and Conversation Analysis*, G. Psathas (ed.), 231–262. Lanham, MD: University Press of America.

—(2000). Captain I was trying to tell you you made a mistake five minutes ago: Deference and demeanor at 30,000 feet. In *Language in Action: New Studies of Language in Society*, J. Peyton and P. Griffin (eds.), 289–299. Cresskill, NJ: Hampton Press.

Frankel, R. M. and Beckman, H. B. (1993). Teaching communication skills to medical students and house officers: An integrated approach. In *Sociomedical Perspectives on Patient Care*, J. Clair and R. AlIman (eds.), 211–222. Lexington, Kentucky: University Press of Kentucky.

Freidson E. (1961). *Patients' Views of Medical Practice: A Study of Subscribers To a Pre-Paid Medical Plan in the Bronx*. New York: Russell Sage.

Garfinkel, H. (1967). *Studies in Ethnomethodology*. Englewood Cliffs, NJ: Prentice Hall.

Goguen, J. and Linde, C. (1982). *Linguistic Methodology for the Study of Aviation Accidents*. Palo Alto, CA: Structural Semantics.

Jefferson, G. (1972). Side sequences, In *Studies in Social Interaction*, D. Sudnow (ed.), 294–338. New York: The Free Press.

Kleinman, A. (1980). *Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry*. Berkeley, CA: University of California Press.

Korsch, B. M., Gozzi, E. K. and Francis, V. (1968). Gaps in doctor–patient communication: 1. Doctor–patient interaction and patient satisfaction. *Pediatrics* 42 (5): 855–870.

Lipkin, M. J., Frankel, R. M., Beckman, H. B., Charon, R. and Fein, O. (1995). Performing the interview. In *The Medical Interview*. M. J. Lipkin, S. M. Putnam and A. Lazare (eds.), 65–82. New York: Springer-Verlag.

Maynard, D. W. and Frankel, R. M. (in press). On the edge of rationality: Bad news, good news and uncertainty in primary care encounters. In *Practicing Medicine: Talk and Action in Primary Care Encounters*, J. Heritage and D. W. Maynard (eds.). New York: Cambridge University Press.

Marvel, M. K., Epstein, R. M., Flowers, K. and Beckman, H. B. (1999). Soliciting the patient's agenda: Have we improved? *Journal of the American Medical Association* 281 (3): 283–287.

Mishler, E. G. (1984). *The Discourse of Medicine: Dialectics of Medical Interviews*. Norwood, NJ: Ablex.

Parsons, T. (1951). *The Social System*. New York: Free Press.

Rosenstock, I. L. (1974). Historical origins of the health belief model: Origins and correlates in psychological theory. *Health Education Monographs* 2: 336–353.

Rost, K. and Frankel, R. M. (1993). The introduction of the older patient's problems in the medical visit. *Journal of Health and Aging* 5 (2): 387–401.

Roter, D. L. (1977). Patient participation in the patient–provider interaction: the effects of patient question asking on the quality of interaction, satisfaction and compliance. *Health Education Monographs* 5 (4): 281–315.

Sacks, H. (1992). *Lectures on Conversation*, vols. I and II. Cambridge, MA: Blackwell.

Sacks, H., Schegloff, E. A. and Jefferson, G. (1974). A simplest systematics for the organization of turn taking in conversation. *Language* 50: 696–735.

Schegloff, E. A., Jefferson, G. and Sacks, H. (1977). The preference for self-correction in the organization of conversation. *Language* 53(2): 361–382.

Schegloff E. A. (1968). Sequencing in conversational openings, *American Anthropologist* 70: 1075–1095.

Starfield, B., Steinwachs, D., Morris, I., Bause, S., Siebert, S. and Westin, C. (1979). Patient–doctor agreement about problems needing follow-up visit. *Journal of the American Medical Association* 242 (4): 344–346.

Stiles, W. B. (1989). Evaluating medical interview process components. Null correlations with outcomes may be misleading. *Medical Care* 27: 212–220.

Szasz, T. S. and Hollender, M. H. (1956). The basic models of the doctor–patient relationship. *Archives of Internal Medicine* 97: 585–592.

West, C. (1983). 'Ask me no questions …': An analysis of queries and replies in physician–patient dialogs. In *The Social Organization of Doctor–Patient Communication*, S. Fisher and A. Todd (eds.), 75–106. Washington, DC: Center for Applied Linguistics.

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