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'Some' versus 'Any' Medical Issues: Encouraging Patients to Reveal Their Unmet Concerns

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In this chapter we reconsider the design, implementation and dissemination of an NIH-funded study of unmet patient concerns that we conducted in 2005–6 and published in 2007 (Heritage et al., 2007). The study took an aspect of preference organisation that has, to our knowledge, never been systematically studied, and applied it to a well-known problem in primary-care visits: the fact that patients frequently do not voice the full range of their concerns. We review the decisions we made about the design and implementation of the study and about the interpretation of its results. We also contrast this study with 'regular' CA studies and conclude with an appeal for eclecticism in the application of CA to real-world problems. We begin with some comments on the distinction between conversation-analytic studies and their applied counterparts.

What is applied CA?

The fundamental assumption of conversation analysis is that social action and interaction are methodically produced by and for one another (Garfinkel, 1967; Sacks, 1992; Schegloff, 2007). Conversation analysis, as we understand it, is the study of the practices through which persons engage in this process of methodical production and recognition (Heritage and Atkinson, 1984; Heritage, 2010a). Although ordinary conversation constitutes a more general and fundamental layer of interactional practices than 'institutional' domains of interaction, such as primary care visits (Drew and Heritage, 1992; Heritage and Clayman, 2010), we regard studies of interaction in institutional contexts as just as conversation analytic as any other. A finding about how patients address the different formats that physicians use to open medical consultations (Robinson, 2006) is just as much a CA finding as one about how telephone calls are opened (Schegloff, 1968, 1986),

or about cell-phone openings (Arminen and Leinonen, 2006; Hutchby and Barnett, 2005; Schegloff, 2002). In short, a CA finding is not 'applied' because it arises from a study of an institutional context.

Applied CA, as we understand it, uses CA for purposes other than the investigation of practices of talk in interaction (see also Antaki's account in Chapter 1 of this volume). These purposes generally involve the causes and consequences of actions (Robinson, 2007; Stivers et al., 2003) and practical interventions in fields of action. Applied CA studies often begin with a problem defined in non-CA terms. For example, what are the causes of inappropriate antibiotics prescribing (Stivers et al., 2003), and what interactional changes might reduce such prescribing (Mangione-Smith et al., 2006; Heritage et al., 2010)? How do the openings of interactions influence non-interactional outcomes (Boyd, 1998; Robinson and Heritage, 2006)? How do economic trends influence the type and tenor of questions asked of an American president by the White House Press Corps (Clayman et al., 2007)? These are evidently not 'CA questions' but they are all questions for which CA has provided the basic conceptual ingredients for compelling answers.

Applied CA, as the very name suggests, does not end with arriving at findings, but also implies using them in concert with professionals or other practitioners to solve practical problems, and this ordinarily means dissemination of some kind. Dissemination and use can vary enormously. Many of us have participated in 'ground up' approaches that use 'hands on' data sessions to prompt reflection among professionals, or have used these as part of a more systematic training process that might also include reports of systematic findings and role-play training in larger groups convened as professional education courses. At the other end of the spectrum are 'top down' approaches in which CA results trigger organisational change (as in Drew's work for the British 999 emergency service), or form part of a curriculum change in medical textbooks (such as the Calgary-Cambridge guide to communication skills for medical patients [Silverman, Kurtz and Draper, 2005]), or prompt other kinds of changes in skills training (Drew et al., 2010), and work organisation (Vinkhuyzen and Whalen, 2007; Whalen and Bobrow 2010).

Our study was very much in this latter group. In previous conversation-analytic research, we had already described the structure and dynamics of problem presentation (Heritage and Robinson, 2006a, b; Robinson, 2006, Robinson and Heritage, 2005), including how physicians and patients manage its transition to the next medical activity of information gathering (Robinson and Stivers, 2001). We then identified a healthcare problem – patients' unmet concerns (see below) – and an institutionalised solution (i.e., one provided by medical textbooks on interviewing) that is virtually

never implemented by physicians in 'natural' practice – soliciting patients' unmet concerns immediately after the problem presentation phase of the visit. We then developed a study to 'intervene' in physicians' natural practice by having them solicit unmet concerns immediately after patients present their problems, and designed the intervention questions using CA findings focused on preference organisation in question design (Sacks, 1987). In sum, we identified a communicative practice in primary care that we had good reasons to think could be improved. We developed a study to show that this is indeed the case, and provided evidence of how it could be improved. And we have hopes that primary-care textbook writers and curriculum designers will take note of our results.

The problem

According to the National Ambulatory Medical Care Survey (2005), which is based on physician reports, about 40 percent of patients bring more than one discrete concern to their primary care visit (e.g., cold and infected toenail). However, physicians' opening questions (e.g., 'What can I do for you today?') normally elicit a single concern. Recognising this, medical school curricula and textbooks of medical interviewing recommend that, after patients present their initial concern, physicians solicit additional concerns by asking questions such as: 'Is there anything else we need to take care of today?'

The benefits of looking for additional concerns early in the visit are straightforward: patients get the opportunity to voice additional concerns, and physicians learn about them early enough in the visit to manage them effectively within the confines of a visit lasting about 11 minutes in the case of American family physicians (Callahan et al., 2004). In practice, however, physicians rarely ask for additional concerns (Beckman and Frankel, 1982; Marvel et al., 1999) and tend to do so close to the ends of visits (Robinson, 2001) when the additional concerns are less likely to be dealt with in an effective and timely fashion (White, Levinson and Róter, 1994; White et al., 1997). The larger costs of concerns that go unmet are considerable: patients are left to worry (perhaps unnecessarily) about a concern for which they could have received advice and reassurance; conditions for which treatment is necessary go untreated and potentially worsen; and patients and their doctors spend additional time and money on visits scheduled to deal with concerns that might have been dealt with in the initial visit.

We were interested in showing that asking about additional concerns early in the visit is an effective and time-saving strategy for physicians. However, we also believed that the question recommended by medical textbooks – 'Is there anything else we need to take care of today?' – might be ineffective as

a means of eliciting additional concerns. Our reasons stemmed from fundamental CA research on the design of questions and answers.

The CA background

It is a well-known feature of polar ('yes/no') questions that they are almost unavoidably built for, tilted towards or prefer either a 'yes' or 'no' response. In fact, it is very difficult to pose a question in English that does not prefer a 'yes' or a 'no'. In a classic paper first presented in 1973, Sacks (1987) made several fundamental observations about these questions and their responses. The first was that responses that are aligned to the preference of the question, and that affirm its primary proposition, are more frequent than disaligned responses, and also occur earlier than disaligned responses. This finding subsequently received strong empirical support from a recent ten-language study of polar questions (Stivers et al., 2009). A second observation was that questioners can and do exploit the emerging delays associated with disaligned responses to redesign their questions to enable answerers to produce aligning responses. For example, in Extract 1, A understands the emerging silence as indicative of a 'No' answer and redesigns the question – reversing its polarity (line 3) – to permit the 'No' to happen as an aligning response.

Extract 1 (Sacks, 1987, p. 64)

- 01 A: They have a good cook there?
 02 (pause)
 03 A: -> Nothing special?
 04 B: No, everybody takes their turns

And in the following case, also discussed by Sacks (1987), Nancy has called to ask her friend Emma to go shopping, but there is an obstacle: Emma has just had a toenail surgically removed and is apparently in some pain.

Extract 2 (NB:II:IV, pp. 23–35)

- 01 Nan: [hh-hh-hh w'1 ↑
 02 wz gunnuh call ↓en a:sk you'f you (.) Buh wz playing ↑golf
 03 th's aft'↑ngon 'f you wandih go over tuh ↑↑Ro:bins'ns with
 04 me. I've got to uh .hhh I have goT.hh t[o g e]t.h .hhh
 05 Emm: [Aah ha]
 06 Nan: a couple of things tuh wear Emma I (.) jus'don't have enough
 07 clothes tuh: (.) t'go duh work in.
 08 Emm: Mm m[:.
 09 Nan: -> [.t.hhh at a*:ll. .hhhh Ken yih wa↑:LK?hh
 10 (0.3)

- 11 Nan: -> °W'd be too ha:rd for yu [h?°]
 12 Emm: [.t] °Oh::::: darling I don'kno:w°
 13 uh it's bleeding a lid'l 'e dis took the bandage o:ff

Perhaps registering the lack of uptake to her suggestion at line 8, Nancy investigates with a question: *Ken yih wa↑:LK?hh* (line 9). This question entertains Emma's inability to walk as a possibility, but it is framed to prefer the 'yes' response that would advance her proposal to go shopping. After the delay in response at line 10, she redesigns her inquiry so as to invite a 'yes' response targeted at Emma's inability to walk (line 11), and this attracts an immediate affirmative response. Polar questions, then, take up a stance towards the state of affairs they inquire into and invite aligning responses that affirm that stance (Bolinger, 1978; Pomerantz, 1988a; Heritage and Raymond, frth). As Sacks (1987) showed, questioners will reverse the polarity of their questions, thus enabling aligning responses to emerge.

Sacks's final observation was that, in addition to basic temporal delay, responses that turn out to be disaligned tend to be built to be as aligning as possible. For example, in the following case, the recipient (who lives in California), affirms what he can from the question, rather than responding in the negative.

Extract 3 (Sacks, 1987, p. 62)

- 01 A: That where you live? Florida?
 02 B: That's where I was born.

And in Extract 4, the recipient initially aligns with the polarity of the question and then disaligns in a series of incremental moves,

Extract 4 (Sacks, 1987, p. 62)

- 01 A: How about friends. Have you friends?
 02 B: I have friends. So called friends. I had friends.
 03 Let me put it that way.

In sum, polar questions are ordinarily designed so as to permit recipient affirmation of the state of affairs they describe, and recipients will work to find ways of avoiding disaffirming responses and to build them with as many elements of affirmation as possible.

Returning to the textbook 'anything else' question with which we started, we can note that questions containing the word 'any' have negative polarity (Bolinger, 1957; Borkin, 1971; Horn, 1978): they are designed for, and tilted towards, 'no' as the grammatically preferred response (Schegloff, 2007). This is because the word 'any' is negatively polarised: it ordinarily occurs in declarative

sentences that are negatively framed (e.g., 'I haven't got any samples'), and is normally judged to be inappropriate in positively framed declarative sentences (e.g., 'I've got any samples.'). The negative polarity of 'any' is easily observable in primary-care well visits involving 'systems review'. Here physicians review a wide variety of possible conditions with the optimised presumption that the patient is not experiencing any of them. This presumption is encoded in the design of their questions (Boyd and Heritage, 2006).

Extract 5 (Torn Roto Cuff: 3)

01 DOC: -> An' do you have any other medical problems?
 02 PAT: Uh: no.
 03 (7.0)
 04 DOC: No heart disease,
 05 PAT: #Hah: .# ((cough))
 06 PAT: No.
 07 (1.3)
 08 DOC: -> Any lung disease as far as you know:.
 09 PAT: No.
 10 (.)
 11 PAT: Not that I know of.
 12 (.)
 13 DOC: -> Any diabetes,
 14 PAT: No.
 15 DOC: -> Have you ever had (uh) surgery?
 16 (0.5)
 17 PAT: I've had four surgeries on my left knee:.

In this sequence, every one of the physician's questions is built to favour a 'no' response, and this is matched in the patient's responses which are prompt, brief and type-conforming (Raymond, 2003) when they are aligned to the preference for a 'no' answer, but not (as in line 17) when the response is disaligned.

The possibility that we were prepared to entertain was that disaligned responses – that is, the raising of additional medical concerns – to questions like 'Is there anything else we need to take care of today?' (which are tilted toward preferring a 'No'-concern answer) might not merely be delayed, but actually suppressed altogether, thus negating the question's purpose in eliciting additional concerns.

Designing the study: the necessity of multiple methods

At the core of our study is a conversation-analytic observation about question polarity and preference. Yet, it was obvious that we could not pursue the study's aims using standard conversation-analytic methods involving the collection,

and straight sequential analysis, of naturally occurring data. There were several reasons for this. First, we knew from our earlier corpora of naturally occurring, primary-care openings that doctors rarely (perhaps less than 1 per cent of the time) perform the follow-up question (e.g., 'Is there anything else we need to take care of today?') at the recommended time (i.e., after problem presentation vs. at the closing of the visit). This meant that we would have to train our doctors about when and how they would ask the follow up question, thus intervening in the very production of the data we were planning to collect. Second, we would have to build in a comparison to the standard 'any' follow-up question if we were to demonstrate its deficiencies. This meant we would have to develop a field experiment and train different physicians to ask different questions to see if there were different outcomes. Third, in order to ground the claim that patients' concerns were (possibly) unmet during visits, it was necessary to obtain a measure of the range of concerns that patients had as they came into the visit. We could only know this by surveying patients, in the waiting room before the visit, about what they wanted to talk to the doctor about. Finally, because our research question was fundamentally distributional (i.e., would different question designs result in different patient outcomes?), we needed to use statistical methods. These methods would allow us to 'control for' a range of variables that are exogenous to interaction yet may independently influence whether patients concerns will all be addressed. These variables eventually included age, sex, education, income, practice setting, severity of presenting concern and so on. Statistical modelling also allowed us to adjust for the fact that differences between individual physicians might also influence our outcome.

In our study, then, a CA finding about preference and negative polarity would be the central explanatory variable of interest, but it would require a field experiment, coupled with survey data and statistical modelling to determine its significance.

The experimental questions

As we thought about the question comparisons we might work with, several alternatives presented themselves. First, there was the textbook recommendation that we operationalised as:

- (i) Are there *any* other concerns you'd like to address during this visit?

And we came up with several plausible alternatives including:

- (ii) Are there other concerns you'd like to address during this visit?
 (Question (i) without the word 'any')

- (iii) Are there *some* other concerns you'd like to address during this visit?
Question (i) with the word 'some' substituting for 'any'
- (iv) *What* other concerns would you like to address during this visit? (Builds in the assumption that the patient definitely has additional concerns)

In the end, we quickly dismissed question (iv). While we felt it would be successful in eliciting additional concerns, we were worried about the patients (perhaps 50–60 per cent) who did not have such concerns. In particular, the question seemed too presuming, and patients who did not have additional concerns might feel that they had 'come up short'; that their presenting concern was not sufficient to justify the medical visit and that their decision to make the visit was effectively delegitimated (Heritage and Robinson, 2006a). In addition, such a presuming question might seem to convey that the physician has negative health expectations about the patients to whom it was addressed. Moreover, we also entertained the notion that the primary care physicians in the study would feel that the question was 'too strong' and would decline to use it. For all these reasons, we dropped question (iv) as a possible study question.

This left questions (i)–(iii). We would ideally have liked to include all three questions in the study. However, three questions would increase the size and cost of the study by a factor of 50 per cent over a two-question study. Since our study might strike National Institutes of Health reviewers as strange and unlikely to yield a positive result, we thought it would be more likely to be funded if we kept costs down, and that meant a two-question study.

If the 'any' version of our question is negatively polarised, the 'some' version (question (iii)) is positively polarised. This is because 'some' ordinarily occurs in positively framed declarative sentences (e.g., 'I've got some samples'), and is normally judged to be inappropriate in negatively framed ones (e.g., 'I haven't got some samples'). We reasoned that the question, 'Are there some other concerns you'd like to address during this visit?' would provide positive incentives for aligning responses conveying additional concerns, counterbalancing the negative incentives for these responses in the 'any' version of the question. At the same time, we had reservations about the question. It takes up a less optimised position about the patient's health status (Boyd and Heritage, 2006), and intuitively felt less 'natural' as a question to ask. We were worried that it might be difficult to teach physicians this form of the question, because they were already habituated to its 'any' counterpart. By contrast, question (ii) – containing neither 'some' nor 'any' – invites additional concerns, but without the additional incentives that those words supply. Question (ii), we reasoned, might garner more positive responses than the 'any' version of the question, but surely less than the

'some' version. Since we were looking to maximise the expression of additional concerns, we decided on the 'some' version of the question.

Secondary study goals

While the primary focus of our study was getting patients' multiple concerns on to the conversational floor of the medical visit, at least two other countervailing practical dilemmas emerged. One of these was the possibility of, as Michael Wilkes (a practising physician and co-author) put it, 'opening Pandora's box'. By this he meant that asking for additional concerns – regardless of the question's polarity – would provide patients with an interactional slot in which they would raise a whole range of medical concerns that they did not otherwise plan to deal with before the visit. We saw this as a serious problem. Physicians are not going to ask for additional concerns if they fear this kind of reaction. In order to test for a Pandora's Box effect, we measured 'unanticipated' concerns, or those that patients raised in response to intervention questions that were not included in patients' self-generated, pre-visit list of concerns. As part of this process, we also decided to measure whether the pre-visit survey itself would cause more concerns to be brought up during the visit.

The second practical dilemma was the possibility that any intervention question, even if it generated 'anticipated' biomedical concerns, would increase visit length, minimally through its very production, and maximally through its generation of additional concerns. We believed that, if physicians were able to identify additional concerns early – that is, shortly after problem presentation, rather than after diagnosis and treatment – they would be able to efficiently manage visit time. By and large, the doctors who agreed to be studied accepted this argument ... in principle. However, it was important for us to know by the end that our intervention would not significantly extend visit times, and we included this as a secondary goal of the study.

Designing the study parameters

As we began to think about the nuts and bolts of the study, we started by considering its geographical location. We knew that studies that were more broad-based geographically had more credibility, and we were worried that the study's natural home, Los Angeles, might be considered an atypical location. At the same time, we would be unlikely to have the resources to go to multiple sites. However one of us (JR) had good contacts in Pennsylvania and, usefully, outside of its major metropolitan areas, giving us some of the geographic dispersion we needed, a non-metropolitan contrast with Los Angeles,

and a somewhat different, more relaxed culture of doctor-patient interaction than the more pressured and hectic context of Los Angeles.

Deciding how many patients to include in the study was much more difficult. We knew we needed equal numbers of patients to be exposed to the 'some' and 'any' forms of the experimental intervention, and we knew we needed control cases to compare these with. But we also knew that the National Ambulatory Medical Care Survey showed that, according to physicians, only 40 per cent of patients would show up with multiple concerns. Even allowing that this was conservative (the unmet concerns that we were interested in would not have come up and so would not have registered with the physicians who participated in the survey) and we could estimate a larger population with multiple concerns, this still meant that around 50 per cent of our sample would arrive at the doctor's office with only one concern which, presumably, would emerge in response to physicians' opening questions. These patients would not factor into our central investigation at all. In short, our overall sample of patients would have to be around double the number we needed to work with who had multiple concerns. A power analysis performed by our statistician to determine how many cases of multiple concerns we would need to see if our questions would have a measurable impact was an important deciding factor in deciding how many patients we would have to recruit.

Third, we had to decide how many physicians to include in the study. We reasoned that the more physicians we had, the less idiosyncratic our results would be. But each physician would have to have a reasonable number of trials, and so the number of physicians we could enrol would be limited by the number of patients we could handle given the funding we could hope to attract.

In the end, we settled for the following configuration. There would be two study areas: Los Angeles and Pennsylvania. Within each area, we would recruit ten physicians, and we would collect data on 11 patients for each physician. For each physician, the first four patients would be 'control' patients, for whom there would be no intervention; physicians would proceed with visits as they would normally. After the fourth patient, we would intervene, and train physicians to ask either the 'some' or the 'any' question after the main problem presentation was over with, for the next seven of their patients. As a result we would end up with a roughly even distribution of controls, 'some' cases, and 'any' cases (Table 2.1).

Finally, in 20 of the control cases, we planned not to administer a pre-visit survey; comparing these cases with survey-present control cases would allow us to determine if the very administration of the pre-visit survey was a factor in patients' topicalisation of additional concerns. This removed 20 cases from our control comparison.

Table 2.1 Projected distribution of cases in the study

Control Cases	20 doctors × 4 patients	80 cases
'Any' Cases	10 doctors × 7 patients	70 cases
'Some' Cases	10 doctors × 7 patients	70 cases

This meant that, if our projections were correct, we would end up comparing about half the cases (the ones with multiple concerns) in something like a 30 control ($80 - 20 = 60$; $60/2 = 30$) to 35 'any' ($70/2 = 35$), to 35 'some' ($70/2 = 35$) comparison.

Implementing the study

Implementing the study required a means of training the physicians. We decided to use a training video that could be put on a CD or DVD that could be played on physicians' office computers. Part of our thinking was that the intervention should be 'scaleable' – that is, the intervention could ultimately be implemented on a widespread basis at low cost, for example; by being placed on the internet. Accordingly, we made a five-minute video training tape. The video included: (1) information about the problem of patients leaving visits with unmet concerns; (2) a discussion of the importance of soliciting the full range of patients concerns early in visits; (3) information about the importance of specific words in questions; (4) instruction about the intervention (i.e., the 'some' or 'any' question; based on Heath's (1986) findings about body behaviour and reciprocity, we instructed physicians to 'gaze directly at the patient [and to] avoid looking at the patient's record' while asking the intervention question; (5) two vignettes, involving standardised physicians and patients, that modelled the intervention behaviour (i.e., physicians were shown using the desired question, in the desired format, at the desired moment for two patients, one of whom raised additional concerns, and one of whom declined to do so); and (6) a brief reinforcement of the intervention (the video also told physicians that they would be reminded of the particular question wording by a Post-it note that would be placed in patients' charts).

The tape needed to be presented with some authority, and we were lucky to have the video moderated by Dr Michael Wilkes, who was Assistant Dean for Medical Education at UCLA at the time, and was (and is) a broadcaster on medical affairs on National Public Radio in the United States. This training video was withheld from the participating physicians until they had completed their four 'control' cases.

In all cases, research assistants verified that physicians had watched the video prior to their first 'intervention' visit; research assistants had

to confirm physicians' intervention condition (i.e., 'some' or 'any') prior to placing appropriate Post-it notes in patients' charts. Perhaps the most common physician question about the intervention involved the precise placement of the experimental question, with physicians confirming that it should be asked before information gathering. Only one physician explicitly expressed scepticism about the intervention, saying that he would 'try it', but if it 'caused problems' he would withdraw from the study. By 'cause problems' he was referring to both Pandora's Box and visit length. In the end, though, no physician withdrew from the study.

In general the doctors had few problems with the 'any' intervention. Most of them completed their quota of seven cases without difficulty, though one or two occasionally forgot to ask the question. In those instances, we simply recruited an additional patient to complete the intervention quota. When it came to the 'some' intervention, there was more difficulty. In addition to cases of forgetfulness, one or two of our study physicians tended to substitute the word 'any' for 'some', reinforcing our pre-study anxieties that the 'some' intervention might be harder to implement. In these cases, we also recruited new study patients until each doctor's quota was complete.

The patients were asked to complete two surveys. The pre-visit survey asked patients to give their 'primary reason' for the visit, and then to list 'other concerns' they wanted to talk about (Figure 2.1).

In general, patients had little difficulty in separating a primary concern from others, though some listed their multiple concerns as equal in significance. Some also listed what looked like multiple symptoms of a common condition (e.g., headache, sore throat, runny nose), and we were forced to examine the interaction to see if they were treating these as part of the same concern, or as issues to be dealt with separately. In practice, we had no problem in making this determination. The survey also contained a four-item health-status scale, and asked for a range of demographic information, including age, ethnicity, gender, education, income and medical insurance type.

The post-visit survey assessed patients' satisfaction with visits, using a well validated instrument (Wolf et al., 1978) for this purpose.

Analysing the results

Some of the results of the study emerged from simple tabulations of outcomes. As it turned out, 49 per cent of our patients listed more than one concern on the pre-visit survey but, as Table 2.2 shows, geography made a difference. More Los Angeles patients came in with multiple concerns by comparison with their Pennsylvania counterparts. Significantly, however, the Los Angeles patients left with less unmet concerns than the Pennsylvanians.

MC-14-07 MC-Pre2, p. 1

We would like to get some information about your perceptions and your health. We are interested in your *honest* opinions, whether they are positive or negative. All of your answers are *totally confidential* - they will not be seen by the doctor or the medical staff. *Please answer all of the questions.* Thank you very much - we really appreciate your help!

Please CIRCLE the SINGLE, most appropriate answer.

1. Do you agree or disagree with the following statement: "Most people receive medical care that could be better."

1 Strongly Agree 2 Agree 3 Not Sure 4 Disagree 5 Strongly Disagree

2. Please list and describe your *primary* reason for visiting the doctor today?

Three concerns:

1. Back pain ← lower back pain

2. Fatigue

3. Constipation ← FATIGUE, CONSTIPATION

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Figure 2.1 First page of patient pre-visit survey

About 50 per cent of the concerns that remained unmet in the control cases were potential acute care conditions (e.g., chest pain, heartburn, neck/shoulder/back pain, skin conditions, etc.), 40 per cent were questions about ongoing conditions (e.g., angina, uterine fibroids, blood pressure, weight loss, etc.), and 10 per cent were questions about medications.

Our examination of the control cases confirmed that examples of our physicians following the textbook recommendation of soliciting additional concerns before the ends of visits were very rare indeed (2/80 or 2.5 per cent). However, when it came to raising unanticipated concerns (not listed in the survey), something that patients did 27 per cent of the time, neither the 'some' nor the 'any'

Table 2.2 Patient multiple concerns by geographic area

	Patients with two or more concerns (complete sample)	Patients who left with unmet concerns (control cases with 2+ concerns only)
Pennsylvania	40%	44%
Los Angeles	58%	32%
Total	49%	37%

intervention significantly altered patients' dispositions to introduce such concerns, thus allaying the 'Pandora's Box' worry. Finally, comparison of the first control cases (who did not complete the survey) with the remainder (who did) revealed that the survey did not 'prime' patients to introduce more concerns.

Turning to the primary focus of the study, we quickly saw that the polarity of our intervention question had a remarkable effect on patients' responses. Focusing just on the cases where patients had two or more concerns, and therefore on patients who could have responded affirmatively to the intervention question, we found that, while 53 per cent responded affirmatively to the 'any' version of the question, a full 90 per cent responded affirmatively to the 'some' version. At this elementary level, our conversation analytic hypothesis was supported to a degree that was well beyond our expectations.

But simply comparing percentages does not adequately answer our research question. We needed to be able to isolate the relative influence of the intervention questions themselves, recognising that a range of other variables (e.g., age, sex, education) might have had some influence, and recognising that unmet concerns may have emerged later in visits for a variety of reasons. Other things may have happened during the course of the visit: patients may volunteer their concerns at a later point; physicians may find other ways of introducing and focusing on those additional concerns. We could hardly suggest that physicians change their behaviour without determining the 'bottom line' efficacy of our intervention.

This final analytic hurdle required us to compare both our 'any' and 'some' intervention cases with the control cases to determine the efficacy of both interventions. We also needed to factor in our demographic variables (age, gender, education, etc.) to see what impact they might have and to correct our results for differences between individual doctors. These variables are listed in Table 2.3.

As it turned out, not one of the demographic covariates had any statistically significant influence on whether the patient left the doctor's office with unmet concerns.

Table 2.3 Model building for unmet concerns

We screened bivariate for eight potential covariates, in addition to the SOME/ANY intervention, for inclusion in our model

1. Number of pre-visit concerns expressed (2 versus 3-4).
2. Patient age in decades.
3. Patient gender
4. An indicator that the patient was non-Hispanic white.
5. An ordinal measure of educational attainment.
6. Household income.
7. Physician gender.
8. Location: Los Angeles vs. Pennsylvania

Covariates were retained in multivariate models if they passed a significance threshold of $p < 0.20$.

In the end, although the 'any' intervention did tend to reduce the number of unmet concerns compared to the control cases, when the reduction was compared with the control cases in a regression analysis, it was not statistically significant: the recommended textbook intervention turned out to be statistically ineffectual. The 'some' intervention (relative to 'control' cases), by contrast, was significantly effective, reducing the odds of a patient leaving the medical visit with an unmet concern by a factor of nearly seven. At the same time, there was a countervailing influence. While the 'some' intervention successfully elicited nearly all the concerns of those patients who had listed two concerns, it did not readily solve the problems of those who had listed three or more. These latter patients were highly likely to leave the visit with unmet concerns.

Finally there was the question about visit time. Surely addressing all those additional concerns would expand visit time? Our result was genuinely surprising. While the 'any' intervention visits were on average 55 seconds longer (a result that was not statistically significant), the 'some' intervention visits were on average one hundredth of a second shorter! Here, it would appear, the 'some' question was getting additional concerns out early in the visit, which allowed for effective time management such that additional concerns could be dealt with within the confines of normal visit length.

Estimating the effectiveness of the intervention

Assuming that our sample was representative of the population of doctor-patient interactions, what was the general effectiveness of our five-minute, video-based intervention? We estimated its effectiveness while, first, allowing for the influence of covariates. In this calculation, it emerged that the

'some' intervention eliminated more than three-quarters of unmet concerns, reducing the rate at which patients left the doctor's office with concerns outstanding from 37 per cent to 8 per cent. However, we also had to factor in the fact that our doctors were able to follow the training correctly only 75 per cent of the time. When this is taken into account, the final tally suggests that our five-minute training tape alone could eliminate more than half the cases of unmet concerns, reducing the rate from 37 per cent to 15 per cent.

Disseminating the study

Our study was a relatively small-scale and inexpensive investigation that emerged with a result that was unexpectedly clear and definite. To use a boxing metaphor, it punched above its weight. It provided solid, evidence-based findings that showed that a small change in physician behaviour could yield a large change in patient outcomes. The paper was first presented at the European Association for Communication in Healthcare (EACH) Annual Meetings in 2006 and attracted a good deal of interest from the healthcare professionals and trainers there – one audience member even raised her hand and asked 'Why didn't we know about this before?' The following year, the paper was published in the *Journal of General Internal Medicine*. It has been cited to a moderate degree and attracted a brief mention in the *Wall Street Journal* and in the newsletter of the funding body – the *Agency for Healthcare Research and Quality*.

It is not difficult to persuade practising clinicians that the word 'any' has negative polarity and will tend to exert a chilling effect on patient response. Many will pick up on even a throwaway reference to it in training devoted to some entirely different medical goal. It was not difficult either to persuade the doctors participating in our study that the intervention could be valuable to them. In fact, most physicians spontaneously volunteered that they planned to use it in their future interactions with patients, and one even requested additional Post-it notes to remind him to keep up the intervention question. Yet, even a small change in behaviour – perhaps *especially* a small change in behaviour – can require a wrenching period of self-conscious struggle with habit: the habit of not asking the question, or of asking it in the 'any' form.

In this case, habit is supported by the underlying pragmatics of the question. A bare majority of patients come to physicians' offices with a single concern. If patients do not mention more than one concern in response to the question 'What can I do for you today?', is it appropriate for the physician to follow-up with a question that is tilted towards the possibility that they in fact have more? And is it desirable to ask a question that, no matter how subtly, hints that patients may have more health concerns

than they initially disclose? Of course it is desirable in the clinic. But in the world of everyday life that informs the underlying pragmatics of these question designs, this kind of presumption is often not desirable. And it is the pragmatics of the everyday world that imperceptibly seep into medical questioning and contribute to the patients' concerns remaining unmet. In the end, then, habits and pragmatics conspire to hold negative polarity as the putatively dominant modality of our question (Heritage, 2011). It is a formidable combination, and one that will only be overcome if the results of our study and others like it are included within medical textbooks and the communication training curriculum for medical students. This training curriculum has taken an increasingly clear shape in recent years, due in part to the ascendancy of the Calgary-Cambridge model of communication skills training on both sides of the Atlantic (Silverman, Kurtz and Draper, 2005). It is in this arena that the real process of dissemination will take place.

Concluding comments

We conclude this chapter with a plea for eclecticism in applied conversation-analytic studies. It is clear that our study is based in conversation-analytic findings of a relatively fundamental kind. But it is also clear that we could not have arrived at our conclusions without the use of patient surveys, an intervention in the form of a field experiment and statistical analysis of our findings. None of these techniques are typically used in the field of conversation analysis because they are ineffective as resources in the primary goal of conversation analysis: identifying and delineating fundamental practices involved in the production and recognition of actions and sequences of actions (but see Robinson, 2007).

However, in the applied domain where the effort is to determine the efficacy of interactional practices in shaping some outcome, these kinds of methods are most definitely necessary. In this, and a number of other studies we have participated in, conversation analysis supplies details of turn design and, just as important, a refined sense of the context in which these turn designs are implemented. Its supplementation by surveys, statistical analysis and, where appropriate, experimental intervention essentially serve to demonstrate how powerful the world of interactional practice can be, and how valuable our field can be in uncovering it. We subtitled our study 'the difference one word can make'. Indeed it can, and we can only hope that our study will have made a difference too.