# Misunderstandings in prescribing decisions in general practice: qualitative study

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**Notes**

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website *extra*

*A table showing the categories of misunderstandings for each patient appears on the BMJ's website*

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## Abstract

**Objectives** To identify and describe misunderstandings between patients and doctors associated with prescribing decisions in general practice.
**Design** Qualitative study.
**Setting** 20 general practices in the West Midlands and south east England.
**Participants** 20 general practitioners and 35 consulting patients.
**Main outcome measures** Misunderstandings between patients and doctors that have potential or actual adverse consequences for taking medicine.
**Results** 14 categories of misunderstanding were identified relating to patient information unknown to the doctor, doctor information unknown to the patient, conflicting information, disagreement about attribution of side effects, failure of communication about doctor's decision, and relationship factors. All the misunderstandings were associated with lack of patients' participation in the consultation in terms of the voicing of expectations and preferences or the voicing of responses to doctors' decisions and actions. They were all associated with potential or actual adverse outcomes such as non-adherence to treatment. Many were based on inaccurate guesses and assumptions. In particular doctors seemed unaware of the relevance of patients' ideas about medicines for successful prescribing.
**Conclusions** Patients' participation in the consultation and the adverse consequences of lack of participation are important. The authors are developing an educational intervention that builds on these findings.

## Introduction

The importance of patients' involvement in health care is now being recognised by the medical profession.[1] For patients to be involved their priorities must be identified and addressed. Most of the research about patients' preferences and expectations has been carried out at the population level using methods such as questionnaire surveys and focus groups.[2-4] A consistent finding over the years has been patients' preferences for doctors who listen and encourage them to discuss all their problems. As patients' expectations are often context specific what is needed is research within the consultation to determine whether or not patients' preferences are being articulated and listened to.

Given that prescriptions are written in most general practice consultations, that doctor-patient communication about prescribing can be associated with discomfort for both parties,[5 6] and the continuing problem of non-adherence to treatment,[7] patients' priorities for prescribing are clearly an important focus.[8] We conducted a qualitative study of prescribing decisions and patients' expectations in primary care. We aimed to identify misunderstandings between patients and doctors that have potential or actual adverse consequences for taking medicines.

## Methods

Our paper is based on a Department of Health funded study, entitled "improving doctor-patient communication about drugs." We aimed to conduct a detailed exploration of patients' expectations before consulting a general practitioner and to relate these expectations to the behaviour of both patients and doctors in the consultation and to subsequent use of medicines. Our study was conducted in 20 practices in the West Midlands and south east England. Ethical approval was obtained from 11 local research ethics committees. The methods have been reported in detail elsewhere.[9]

### Sampling

Twenty general practitioners were purposively selected from a group of 101 (16%) who responded positively to a letter outlining the research. The letter was sent to 645 general practitioners in 11 health authorities across the midlands and south east England. The sample was chosen to represent a diversity of doctors' gender, practice size, location (urban, rural, suburban), and fundholding status.

Patients over the age of 18, or the parents of patients under 18, were recruited from the participating practices in one of two ways. In 13 practices 44 patients were recruited by receptionists when booking appointments. Willing patients were then contacted by the researcher. The main criterion for recruitment was that patients should be consulting with a new problem (about which they had not consulted in the past six months) for which a prescribing decision was likely or possible. Few patients met this criterion, and so patients who wanted to discuss a previously prescribed

medicine were also recruited. As this method produced insufficient patients with acute problems, 18 patients attending emergency surgeries were recruited from the final seven practices. Patients who had appointments were interviewed at home one or two days before the consultation, whereas emergency patients were interviewed in the practice before seeing the doctor.

### Data collection

The data for each patient were drawn from five sources: the audiotaped consultation, semistructured interviews with patients before and after the consultation, semistructured interviews with general practitioners after the consultation, and the interviewer's notes. In the preconsultation interview patients were asked about their experiences of illness, their expectations of the consultation, and their relationship with the doctor. In the postconsultation interview a week later patients were asked about what had happened in the consultation and about any medicines they had been prescribed. General practitioners were interviewed in their surgeries and asked about what had happened in each consultation and about their relationship with each patient. Both patients and doctors were asked if they were satisfied with the consultation.

### Analysis

The interviews and consultations were audiotaped and transcribed, the latter using transcription conventions that recorded details such as pauses and interruptions, which are not shown in the boxes. The analysis was carried out by all five authors who represent four disciplines (general practice, pharmacy, psychology, and sociology).[10] Two authors (CAB and FAS) carried out a preliminary analysis of patients' expectations using the software package NUDIST, with the remaining three authors acting as second coders for 10% of the patients. Given the volume of data, a subsample of 35 patients was chosen for detailed analysis from the 62 complete cases. These patients were chosen to include both emergency and appointment surgeries (at least one case for each doctor) and a range of patient characteristics and medical problems. These 35 patients ranged in age from 3 months to 80 years, and 21 were female. Twenty three patients were exempt from prescription charges. As the preliminary analysis suggested widespread misunderstanding, the detailed analysis focused on this issue. Misunderstandings were identified for each of the 35 patients, which had potential or actual adverse consequences for taking medicines. These adverse consequences consisted of patients saying that they had not had their prescriptions dispensed or that they had not taken their medicines. They also included cases where the patient's actual or intended medicine taking did not agree with the prescription. The coding of misunderstandings was carried out independently by two authors (FAS and N Britten) and was based on the doctor and patient interviews as well as the consultations. Disagreements between coders were resolved by discussion. As we aim to find ways of improving doctor-patient communication, our analysis focused on negative rather than positive outcomes.

A meeting was held in each area to present a summary of the preliminary findings to the participating doctors within that area. Summaries were also sent to all the participating patients.

## Results

**Summary**

The preliminary analysis examined patients' expectations in relation to prescriptions. Overall, 26 of the 35 patients received prescriptions. Five patients received unwanted prescriptions, three did not receive a prescription they wanted, three did not obtain another wanted action such as a referral, 14 did not receive desired information or reassurance, four did not have their prescriptions dispensed, and seven did not take their medicine as intended by the doctor. Only eight of those whose expectations were not met expressed dissatisfaction with the consultation.

**Box 1: Categories of misunderstanding in relation to prescribing**

**Patient information unknown to doctor**

Patient does not mention relevant facts about medical history, for example, previous side effects, wrongly assuming that doctor is aware of them

Doctor unaware of patient's views of medicines or anxieties about symptoms or treatment, for example, the overuse of penicillin and subsequent "immunity" to antibiotics

Doctor has inaccurate perception of what patient wants, for example, assumes that patient wants prescription when they do not and vice versa

Doctor unaware of patient's use of alternative or over the counter drugs either through lack of inquiry or active concealment, for example, patient does not report use of E45 cream (Crookes Healthcare, Nottingham) for a rash

Doctor unaware that patient has changed the dosage or that patient is confused about dosage, for example, doctor unaware that patient regularly reduces dose

**Doctor information unknown to patient**

Patient does not understand drug action, for example, patient thinks a steroid inhaler prevents bronchitis

Patient unaware of correct dose, for example, doctor tells patient to reduce the dose of laxatives but patient seems unaware of this

Patient wants information and doctor does not realise this or thinks that patient does not need to know or will not understand, for example, the patient wants information about the risks and benefits of proposed nasal surgery but instead receives two prescriptions for a cold

**Conflicting information given**

Patient confused by conflicting advice from doctor and other sources of information, for example, general practitioner and hospital doctor give different advice about dosage

**Disagreement about attribution of side effects**

There are misunderstandings or disagreements about the causes of side effects, for example, the doctor does not accept the patient's reports of side effects as the computer erroneously indicates that the drug was prescribed only two days previously

**Failure of communication about doctor's decision**

Patient does not understand, remember, or accept diagnosis, for example, patient thinks she has angina because she has been prescribed Adalat but doctor tells patient that she has intermittent claudication

Patient does not understand treatment decision, for example, patient does not understand how doctor can prescribe in the absence of a diagnosis

**Relationship factors**

Patient assumes that prescription was necessary merely because it was written in cases where doctor did not think the prescription to be strictly necessary, for example, patient believes renewal of repeat prescription implies doctor's endorsement but doctor does not want to challenge partner who prescribed the drug originally

Doctor prescribes and patient takes medicine, both just for the sake of the relationship, for example, patient takes medicine thought unnecessary by the doctor for fear that further treatment will be withheld

**Box 2: Doctor unaware of patients' views of medicines or of patients' anxieties about symptoms or treatment**

**Patient 21**
Mr C is a 31 year old married man. He has suspected fibromyalgia syndrome, which causes pain in his joints. He takes a range of drugs including painkillers and amitriptyline. He is consulting to discuss his painkillers among other things

**Doctor 7**
Dr D is a male partner in a five partner rural practice

**Summary of misunderstanding**
Mr C has an appointment to see a rheumatologist in a few weeks' time. He intends to stop taking all his drugs a few days before seeing the consultant, but does not tell Dr D. Mr C is worried about taking too many painkillers. Dr D is unaware of this and thinks that he likes taking medicines

**Preconsultation interview with patient**
Interviewer: Right, okay. And do you think you will change any of your medication or ask to change it or …?
Patient: Mmm, not at the moment, he won't change it 'cause erm he don't want to up them up too much or I might get used to them and I might feel more pains and that. I'm trying to keep the painkillers down. I'd rather go with the pain a bit than be bumped … too much pain and then get addicted to painkillers what's going to.… Once the painkillers, you're equal to the painkillers your pains are going to be there all the time anyway. So, he's trying to keep the painkillers under control

**Postconsultation interview with patient**
Patient: So what I'll do is—I wanna come off the painkillers for about—I've gotta see him on the 21st, so I'll probably come off them for about four, three or four, days so I can get my pains in my joints, so when I go to the s- see the er arthritis specialist then he could s- suss out what my joints are like
Interviewer: Right, yeah. Mmm
Patient: It's if—er without the painkillers—if I've got too many painkillers he can't assess what's in my—what my pains are like
Interviewer: Mmm. Did the doctor tell you to do that or were you just doing it yourself?
Patient: No, I'll do it—I'm gonna do it myself

**Postconsultation interview with doctor**
Doctor: I think he loves taking medicines actually. For a young man, 10 years younger than me, he's had more medicines than I've had hot dinners. So I can only suppose that he—he likes having them. Something which proves he's ill

### Categories of misunderstanding

The detailed analysis showed that misunderstandings occurred in 28 of the 35 consultations. Box 1 shows the categories of misunderstanding, with examples from the data. Misunderstandings arose *(a)* through lack of exchange of relevant information in both directions, *(b)* as a result of conflicting information or attributions, *(c)* when the patient failed to understand the doctor's diagnostic or treatment decision, and *(d)* from actions taken to preserve the doctor-patient relationship. In some cases there were several related misunderstandings that had potential or actual adverse consequences for taking medicine (see table on website). These misunderstandings occurred in both appointment and emergency surgeries and in long and short consultations.

Patients' participation in the consultation can take the form of the voicing of expectations and preferences and of the voicing of responses to doctors' actions and decisions. All the categories of misunderstanding we identified result from a lack of participation in these terms. Boxes 2 to 5 provide brief case histories to illustrate the data. For clarity, only one category of misunderstanding is shown even if the case involved several misunderstandings.

### Assumptions and guesses

Detailed analysis of behaviour in the consultation showed that most patients had agenda items that were not voiced.[11] Many of the misunderstandings were based on inaccurate assumptions and guesses by both parties. Doctors either thought that they already knew

**Box 3: Misunderstandings or disagreements about the causes of side effects**

**Patient 40**
Mrs X is a 67 year old retired cleaner. She has had rheumatoid arthritis for seven months and has difficulty walking and getting about. She takes a range of drugs including painkillers and has gold injections at the hospital. She is also worried that she is losing her hair

**Doctor 14**
Dr A is a female doctor in a single handed rural practice

**Summary of misunderstanding**
The patient is uncertain about the cause of her hair loss. In the consultation she asks whether the hair loss is due to the drugs, and the doctor replies with a question about steroid injections. In the postconsultation interview the patient attributes the hair loss to her gold injections and decides to discontinue them

**Consultation**
Patient: And there's another thing. I'm losing my hair. Erm is it the medication or is it erm arthritis or what? Could it be? I don't know … Mm. I mean I know I've never had a good head of hair but …
Doctor: You've just had steroid injections haven't you. You haven't been taking steroids by mouth have you?
Patient: No
Doctor: No. I doubt if it's the injections. Er … how many have you had?
Patient: Erm I've had … I've had four I think
Doctor: Four altogether
Patient: Mm. Do you think it's them then?
Doctor: It's … it's possible but … erm … on the other hand it may be again just one of those things …
Patient: Mm
Doctor: … that people do tend to get thinner hair as they get older

**Postconsultation interview with patient**
Patient: Well I did mention about losing my hair and she thought it was the injections that I've been having. So I won't be having any more of those
Interviewer: What were the injections? I don't think we talked about those
Patient: Well I used to have one every time I went to the hospital … I think they're called gold injections
Interviewer: Is that for the arthritis?
Patient: Yes
Interviewer: So how often have you had that before?
Patient: I've had four altogether
Interviewer: And she thinks that's what's causing your hair to fall out?
Patient: She thinks that's what it is. She's not sure, but that's what she thinks.
Interviewer: Right. And were they helping at all—the injections?
Patient: Cor, they're marvellous. They last a month and you don't get any pain at all
Interviewer: So it's a bit of a shame not to be able to have any more then?
Patient: Mmm … I'm not having any more, I'd rather keep me hair!

**Box 4: Patient confused by conflicting advice from doctor and other sources of information**

**Patient 45**
Mrs Y is a 56 year old widow whose husband recently died of heart failure. She has made an appointment with the doctor because she has a list of symptoms which she thinks are "grievement trying to come out"

**Doctor 12**
Dr B is female doctor in a single handed rural practice

**Summary of misunderstanding**
The patient tells the doctor she had been taking her late husband's temazepam. The doctor prescribes some more. On cashing the prescription she receives conflicting advice

**Consultation**
Doctor: I don't think there's any harm done in u … you know using them occasionally. The problem with temazepam is that you may well get
Patient: I don't wanna get addicted
Doctor: Sort of … sort of stuck on them and not be able to …
Patient: Yeah. Yeah
Doctor: … stop using them

**Postconsultation interview with the patient**
Patient: Yes, she's [doctor] given me a few more sleeping tablets … but when I went down the chemist to get them, he [pharmacist] said take them … she never told me this, take them three nights on the trot, and then leave them off for a week, which I have done, so tonight I start taking them again, but I won't unless I have to

the patients' preferences and therefore did not need to inquire about them or thought that such knowledge was unimportant. In particular doctors seemed unaware of the relevance of patients' ideas for successful prescribing and of the fairly widespread aversion to taking medicines. Patients did not often articulate this aversion, and doctors then assumed that patients wanted prescriptions when they did not. Prescriptions written in these circumstances often served to confirm to the patient the necessity of drug treatment. Even when patients managed to voice their concerns or beliefs these were often not explored by the doctor. Specifically, nine of the 21 patients wanting a prescription did not say so in the consultation. Eight of the 10 patients who did not want a prescription made no mention of this. None of the five patients who received unwanted prescriptions told the doctor that they did not want them. More generally, detailed analysis showed that these consultations could not be characterised as shared decision making.[9]

## Discussion

We have examined patients' perspectives and preferences at the level of individual consultations and identified ways in which lack of participation leads to misunderstandings that have actual or potential adverse consequences for taking medicines. We have not presented other kinds of misunderstanding in this paper. The identification of these misunderstandings is based on interview data from both parties as well as consultation data. Models of shared decision making emphasise the need for an exchange of information, and the findings show the consequences of the failure to exchange information.[12,13] Both parties to the consultation have relevant information to exchange and it was not possible to make judgments about which party contributed most to each misunderstanding. The findings show specific ways in which patients' expectations are not elicited or expressed and underline the importance of researching patients' priorities at the consultation level. The fact that general practitioners sometimes write inappropriate prescriptions to preserve relationships with their patients is well established,[14] and these results confirm the

**Box 5: Patient wants information and doctor does not realise this or thinks that patient does not need to know or will not understand**

**Patient 8**
Mrs Z is a 44 year old woman. She is going to the doctor about a coating in her mouth and throat which she has had for about three months. She developed it while on holiday and was treated with antibiotics. The symptoms have continued and she has tried a number of over the counter treatments. The pharmacist has now advised her to see the doctor. While at the surgery she plans to pick up a repeat prescription for some steroid inhalers (Becotide, Allen and Hanburys, Middlesex)

**Doctor 2**
Dr C is a male partner in a suburban two partner practice

**Summary of misunderstanding**
The patient is anxious to know the cause of her oral thrush. In the consultation the doctor does not take her concerns seriously and attributes the thrush to the antibiotics originally prescribed to treat it. After the consultation the patient discovers that it could have been caused by her steroid inhaler. As a result she reduces the use of her inhaler and does not use the prescribed throat lozenges. She assumes the doctor knew she was taking Becotide because she picked up a repeat prescription when she went for her appointment

**Consultation**
Doctor: Let's have a look. Oh there is a bit there. Yeah it is thrush I think
Patient: Oh no. I don't know how I've got … You don't know how I've got that?
Doctor: hh No. It's very common. Lots of people get it
Patient: Is it?
Doctor: Yeah
Patient: Oh
Doctor: Antibiotics can cause it. If you're run down. Erm …
Patient: They gave me antibiotics for it cos it was on holiday and they gave me some antibiotics and that seemed to do the trick but soon as I stopped taking it it just kept …
Doctor: Yeah. They would have caused it
Patient: Coming back

**Postconsultation interview with patient**
Patient: And off we went to the chemist. But the interesting part about this was, we were sitting in the chemist waiting for the prescription to be made up and [daughter] noticed on the counter there were lots of like these little helpful books, *Living with Asthma*, living with this, living with that
Interviewer: Oh yes
Patient: And she picked up "asthma" and went to the back of the book, and it had a section of thrush, page 26, and when I read it I couldn't believe it. It said if you are taking a steroid inhaler (which I am) after a period of time, this will cause thrush. It could also lead to osteoporosis and cataracts
Interviewer: Mmm
Patient: I thought what! So when I said to him what is causing it, he had already given me a repeat prescription for two more steroid inhalers and said oh I don't know it could be too many … Anyway I have stopped … I have sucked three of those things …
Interviewer: Mmm mmm
Patient: And immediately stopped that steroid inhaler, and just having one puff in the morning now. And touch wood, everything seems to be all right. But when I go back to have my blood pressure done, I am going to mention that

## What is already known on this topic

It is well established that patients prefer doctors who listen and encourage them to discuss all their problems, but also that patients are often passive in consultations

## What this study adds

This qualitative study, having captured patients' and doctors' perspectives and the actual content of consultations, shows a range of misunderstandings and their actual or potential adverse consequences for taking medicines

These misunderstandings seem to be associated with patients' lack of participation in the consultation and are often based on inaccurate guesses and assumptions on the part of both doctors and patients

An educational intervention is being developed on the basis of these findings

adverse consequences of this. The findings also confirm the conclusion reached by others that asking patients about satisfaction is an insufficient way of assessing the outcome of consultations.

The participating doctors were a selected sample of general practitioners willing to participate in the research and who may have had a particular interest in communication. If these doctors have misunderstandings with their patients it is likely that less interested doctors would also experience these problems. The doctors were chosen to represent a range of locations and types of practice, and misunderstandings occurred across the whole sample.

Clinicians may be tempted to think that they know their patients well enough not to have to verify their own assumptions. Our data suggest that many assumptions made by doctors, although reasonable in themselves, are not correct in particular circumstances, and that doctors need to check their assumptions in each consultation. It has already been established that doctors' perceptions of patients' expectations are a major influence on prescribing decisions.[15 16] Although we have focused on misunderstandings, we also identified examples of good practice. In particular, one doctor asked patients directly what they thought about taking medicines. In this way misunderstandings were avoided, and in one case this doctor gave the patient a deferred prescription, which was an acceptable outcome for the patient.[17] It is clearly difficult to avoid all misunderstandings within the time constraints of most general practice consultations, although some doctors in our study consultations did succeed in doing so.

The question remains as to whose responsibility it is to improve communication in the consultation. Arguments can be made in favour of changing either doctors' or patients' behaviour, and changes on both sides are likely to be necessary. However, given the power imbalance in many consultations the onus would seem to be on doctors to elicit patients' ideas and expectations thereby showing that this information is a valuable and necessary contribution to the consultation. In addition to listening, doctors also need to ask the right questions. We are currently developing an educational intervention that builds on these findings.

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Contributors: N Barber, CPB, and N Britten initiated and designed the study. CAB and FAS helped to refine the initial design and collected the data. All five authors constructed the original coding frame. CAB and FAS carried out the coding. FAS and N Britten analysed the results for this paper. N Britten wrote the paper, guided by the comments of the other authors. N Britten will act as guarantor for the paper.

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*Endpiece*

## Before birth

I am not yet born; rehearse me
In the parts I must play and the cues I must take
when
old men lecture me, bureaucrats hector me,
mountains
frown at me, lovers laugh at me, the white
waves call me to folly and the desert calls
me to doom and the beggar refuses
my gift and my children curse me.

From "Prayer before birth" in *Selected Poems* by Louis MacNiece. London: Faber and Faber Limited,1988.

assessment of comparability. It is inevitable that interpretative difficulties caused by lack of control over allocation may only be offset by a weight of evidence from several studies showing consistent results. Studies in our review have shown that service evaluations using automated databases, such as prescribing data, can provide both large samples and long term evaluation.

## Conclusion

Referral to an on-site mental health professional may reduce referrals and prescribing by general practitioners, but there is no evidence that such changes are enduring or particularly broad in scope.

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## Corrections

*Misunderstandings in prescribing decisions in general practice: qualitative study*

We apologise for an electronic glitch that affected the references in this paper by Nicky Britten and colleagues (19 February, pp 484-8). Unfortunately, at a late stage in the editorial process the reference numbers in the text disappeared, and this went unnoticed. We have reinstated the numbers in our website version; readers may access the corrected article at www.bmj.com/cgi/content/full/320/7233/484.

*Cross sectional study of reporting of epileptic seizures to general practitioners*

An authors' error occurred in this paper by Dalrymple and Appleby (8 January, pp 94-7). In table 2, line 1 (number with driving licence) the numbers for patients with no seizures in the past year should be general practitioner 50, anonymous 41.

*Endpiece*

## Why 19th century institutions are governed by representative bodies

It [the Victorian age] had no doubt that Representative Institutions, if they were safeguarded from corruption and if they were dominated by men with a high sense of the common good, afforded the only sure guarantee of public improvement or even stability. They were preservative, they were educative; they reconciled rulers and ruled, the cohesion of society with the rights and aspirations of its members; and the natural shortcomings of all representative bodies, vacillation, short views, slowness in action, were a price worth paying for their inestimable advantages. If indeed, upon those were induced faction and deliberate obstruction, then the future took a greyer colour.

G M Young, *Portrait of an Age: Victorian England*. Oxford: Oxford University Press, 1953 (second editon).