Patients' Beliefs and Preferences Regarding Doctors' Medication Recommendations

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BACKGROUND: An estimated 20–50% of patients do not take medications as recommended. Accepting a doctor's recommendation is the first step in medication adherence, yet little is known about patients' beliefs and preferences about how medications are prescribed.

OBJECTIVE: To explore patients' beliefs and preferences about medication prescribing to understand factors that might affect medication adherence.

METHODS: Fifty members from 2 health plans in Massachusetts participated in in-depth telephone interviews. Participants listened to an audio-vignette of a doctor prescribing a medication to a patient and were asked a series of questions related to the vignette. Responses were reviewed in an iterative process to identify themes related to participants' beliefs and preferences about medication prescribing.

RESULTS: Participants' beliefs and preferences about medication prescribing encompassed 3 major areas: patient–doctor relationships, outside influences, and professional expertise. Important findings included participants' concerns about the pharmaceutical industry's influence on doctors' prescribing practices and beliefs that there is a clear “best” medication for most health problems.

CONCLUSIONS: Patients' beliefs and preferences about medication prescribing may affect medication adherence. Additional empiric studies that explore whether doctors' relationships with pharmaceutical representatives impact medication adherence by affecting trust are indicated. In addition, it would be worthwhile to explore whether discussions between patients and doctors regarding equipoise (no clear scientific evidence for 1 treatment choice over another) affect medication adherence.

KEY WORDS: medication adherence; qualitative; patient preferences; communication; medication prescribing; pharmaceutical detailing; shared decision making.

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INTRODUCTION

Approximately 20–50% of patients do not take medications as prescribed.¹ Medication nonadherence can lead to disease progression, adverse drug events, additional prescriptions, unnecessary hospitalizations, and increased health care costs.^{2–4} Patients may not take medications out of fear of drug interactions, perceived lack of effectiveness, adverse effects, misunderstanding regarding necessity, or concerns about costs.⁵ Patients who report better general communication with their doctor, better instructions on how to take a medication, and who receive more medication information are more likely to take medications as prescribed.^{6–8} The Agency for Healthcare Research and Quality has recommended counseling techniques to improve medication adherence and reduce medical errors,⁹ but doctors' medication-counseling habits have been shown to be suboptimal.¹⁰

The first conversation between a doctor and a patient about a new medication is not only an opportunity for the doctor to communicate information about the medication but also a chance to explore patient values that may influence whether a patient is receptive to a medication. A patient's existing beliefs and preferences about medication prescribing may affect satisfaction with communication about a medication, potentially influencing medication adherence. For example, if a patient believes a prescribing decision is driven by motives other than optimizing his or her individual health, there may be a higher risk for nonadherence. To better understand how patients view the prescribing process, we explored patients' beliefs and preferences through in-depth interviews.

METHODS

Study Design and Sample

The study was conducted using in-depth telephone interviews with patients recruited from 2 New England health plans as part of a broader study exploring patient responses to cluster randomized trials. We chose qualitative interviews because of the dearth of existing information on patients' views and to allow in-depth exploration of beliefs and preferences. The Institutional Review Boards of the participating sites approved the study.

Recruitment

We randomly sampled adult patients at participating health plans and sent 1,000 invitation letters to recruit 50 patients.

The letters described the study's purpose and offered a \$20 incentive. Interested patients called and scheduled an interview time; no follow-up contact was made with patients who did not respond. Once an interview was scheduled, we sent a confirmation letter and obtained informed consent.

Audio-vignette Development and Conduct of Interviews

We designed an audio-vignette to give study participants a common point of reference when answering the interview questions.^{11,12} The vignette was piloted with a convenience sample of colleagues to be sure the information presented in the vignette was clear. In the 3-minute vignette, actors portrayed a doctor and patient discussing a new prescription for either depression or hypertension (Appendix). Two vignette versions were used so that comments were not restricted to a single condition; version was assigned at random just before the interview.

A trained interviewer (Meterko) conducted interviews via telephone. The interviewer introduced herself, reiterated the purpose of the interview, confirmed consent to participate, and then played the vignette. After the vignette, the interviewer posed open-ended questions using an interview script as a guide (Appendix). The interviewer followed the script verbatim deviating as needed to clarify participant comments. Interviews lasted approximately 30 minutes, and demographic information was collected at the end of interviews. We audio-taped and professionally transcribed all interviews.

Analysis

The study goals and interview questions provided an initial organizing framework for results. One investigator (Goff) read a set of 5 transcripts, generating a primary list of codes. A second investigator (Mazor) read 3 additional transcripts and recommended modifications to the primary code list. After the primary code list was developed, all transcripts were reviewed iteratively, and the code list was revised as new concepts were discovered. The research team met to review the code list and to adjudicate any variation in transcript coding. This process continued until the 4 members of the research team agreed that the code list captured all major issues raised by participants. The individual codes were then grouped into themes. Microsoft Word and the Statistical Package for Social Sciences were used for coding and organizing results. Theoretical saturation was reached, meaning no new concepts emerged in the last 20 transcripts reviewed.

Two research team members (Meterko and Dodd) coded a subset of transcripts (N=12) to assess inter-rater reliability. Two-hundred and forty-three out of 300 codes identified in these transcripts matched, yielding 81% agreement.

RESULTS

We included all 50 participants in the analysis. Participant demographic information showed the following: 56% female, 52% aged 50–70, 96% Caucasian, and 68% held at least a college degree. Responses for both beliefs and preferences regarding medication prescribing encompassed 3 major areas:

(1) patient–doctor relationships, (2) outside influences, (3) professional expertise. Each major area contained related themes and subthemes (Table 1), which are described in detail. Representative quotes are provided to illustrate key components of the findings.

Patient–Doctor Relationships

Participants discussed patient–doctor relationships in response to both “belief” and “preference” questions. Trust emerged as a key theme related to patient–doctor relationships. Participants felt that when 1 person holds more information (the doctor) than the other (the patient), trust was necessary for accepting a medication recommendation. Some participants felt trust existed because of respect for the doctor's position, whereas others described trust evolving over time with a particular doctor and relating to that doctor's honesty.

Familiarity with the patient was discussed independent of trust in response to both prescribing “belief” and “preference” questions. Participants wanted to feel that their doctor was familiar not only with their medical problems but also their health beliefs and home and work circumstances. They hoped that this familiarity would inform the doctor's recommendation.

Well I had to change doctors a year ago because I changed to Plan X, and I was not happy about that because I was with a doctor that I did trust; I was with him for 25 years. He knew how I felt about going on medications, which is I only do it as a last resort and he knew that I expected knowledgeable answers from him and that if he didn't have the answers that was okay, but I expected him to say I really and truly don't know that but I will find out... He was very honest and I really respected that about him. I am with a new doctor who I don't trust yet and I haven't decided whether or not I like her...as a person I like her.... my other doctor knew my fears [of being on a machine for asthma]... I haven't been with her long enough and so she doesn't know what my fears are.

Table 1. Major areas, Themes, and Subthemes Pertaining to Patients' Beliefs and Preferences Regarding How Doctors Decide to Recommend a Medication

Major areas	Themes	Subthemes
Patient–doctor relationship	Trust	Communication
	Familiarity with patient	Honesty
Outside influences	Shared decision making	
	Pharmaceutical detailing	Positive view
	Cost	Negative view
		Favorable view
Professional expertise		Unfavorable view
	Medication knowledge	Drug equivalency
		HMO Regulations
	Lifelong learning	Transparency
		Effectiveness
		Side effects
		Colleagues
		Medical journals

Patients desired shared decision making in the context of medication prescribing. Specifically, participants stated that they wanted to know their medication options and understand the risks and benefits of each option.

Well doctors should consider the patient as a whole of course and they should respect patient's wishes. If they say he or she doesn't like to take a medication for some [amount of] time, if she does not want to be on some kind of medication right now, then they should give them some time. Doctors shouldn't force the medication on the patient. That's what I feel.

Communication was a key subtheme in discussions related to patient-doctor relationships. Participants felt that good communication contributed to their comfort with a doctor's medication recommendation, and lack of communication was felt to reduce confidence in medication recommendations.

They [the doctors] count on my opinion. They look at it and say okay is this working or not? How do you feel about it? So that was the dialogue that I have had with my doctors. It makes sense, so that [dialogue] is what I would be looking for.

Outside Influences

Participants believed that outside influences played a role in doctors' medication recommendations and generally preferred that these outside influences play as small a role as possible. Some participants viewed the effect of pharmaceutical detailing on prescribing in a positive manner, citing free samples and easy access to information for doctors. Others viewed pharmaceutical detailing as having a negative influence on a doctor's decision making regarding medication prescribing. These participants expressed concerns about possible financial or social gain for the doctors and a potentially biased view point of the pharmaceutical representatives.

[My doctor decides on a medication] by how good looking the drug sales girl is that sells it to him. That's what I think. Yeah, he's a single doctor and I get that feeling from him. I don't think it's... I hope he doesn't sacrifice his professionalism for that. But one never knows.

Participants also discussed outside influences related to cost. Participants varied on preferences for how medication costs should influence a doctor's recommendation about a medication. Some expressed a favorable view, feeling they would be grateful for the opportunity to save money, whereas others expressed an unfavorable view, feeling that the best medication for the situation should be offered regardless of cost. Participants generally believed that the doctor had the knowledge to recommend 1 medication that was the "best" for a given situation.

Participants believed Health Maintenance Organization (HMO) regulations and formularies might play a role in how doctor's decided what medication to recommend. Preferences for this influence varied, with some participants accepting it and others preferring such regulations not influence prescribing decisions.

I think that people wouldn't like to think that their doctors were basing it [medication recommendation] on what is cheaper but I think with HMOs that tends to happen a lot more often now.

Transparency regarding medication costs was preferred by participants. Participants preferred to know all the medication options as well as the cost of each medication so that they could participate in making informed decisions. Some participants felt their own doctor did share this information, whereas others did not.

I think that he should probably make it known to the person that this is the cost factor between the number of drugs that would work for you and you decide...

Professional Expertise/Experience

Participants believed and preferred that professional expertise and experience contribute to a doctor's medication recommendation. Knowledge about a specific medication was believed and preferred to be a factor in making a medication recommendation. Participants expected doctors to be aware of medication effectiveness and side effects and to use this knowledge when making medication recommendations. Participants' belief that doctors know which medication is the best for a given situation arose in discussions pertaining to professional expertise as well as in the discussions of cost.

I think that they hopefully would have enough information to tell them what is the most effective drug. If one is just as effective as another, then I would think they would know the side effects even though something might be therapeutically effective maybe one might have more troublesome or uncomfortable side effects and they would then prescribe the one that is equally effective but with less side effects.

Participants believed that doctors stayed familiar with current medication information through lifelong learning strategies such as journal reading and conferring with colleagues.

Well I assume my doctor's advice would be based on reading and research that she had done and contact with other doctors in her field about those treatments or about those medications.

DISCUSSION/CONCLUSIONS

In this study, we used in-depth patient interviews to explore patients' beliefs and preferences regarding how doctors prescribe a new medication. Our results suggest there may be modifiable entities influencing medication adherence that have not been previously described in detail. These entities include participant's concerns about doctors' relationships with pharmaceutical representatives and beliefs about "best" medications, which are discussed in detail.

Some participants expressed concerns that medication recommendations are influenced by doctors' relationships with the pharmaceutical industry, specifically by the presence of pharmaceutical representatives in the doctor's office. Prior studies suggest patients may not be fully aware that pharmaceutical companies give gifts to doctors.^{13,14} When patients were given examples of different types of gifts, patients felt small gifts or gifts that benefit patients were generally acceptable but gifts directly benefiting doctors were less acceptable.¹⁵ Doctors' relationships with pharmaceutical representatives appear to influence prescribing practices^{16,17}, and concerns exist related to gift-giving ethics.^{18,19} Recent lay publications have also raised ethical questions about some doctors' relationships with the pharmaceutical industry.^{20–22} Participants in our study described trust as important in accepting a doctor's recommendation for a medication. Participants' concerns that doctors' medication recommendations are being influenced by pharmaceutical representatives rather than being based solely on patient needs may indicate a threat to patients' trust in doctors. This finding implies a need to empirically evaluate the impact doctors' relationships with pharmaceutical companies have on trust and medication adherence. To maintain patient trust, it may be advisable for doctors to disclose their practice's policies regarding interactions with pharmaceutical representatives. This information could be provided in written details about the practice, e.g., "The doctors in this practice do not accept gifts from pharmaceutical representatives." Providing this disclosure would be consistent with disclosures of financial relationships between doctors and pharmaceutical companies required in peer-reviewed publications and for many speaking engagements.

Participants believed that doctors have the information needed to determine which medication is safest and most effective for a patient in a specific clinical situation, revealing that participants were not aware of the lack of medication equivalency studies. Addressing equipoise (no clear scientific evidence for 1 treatment choice over another) is an important aspect of shared decision making.^{23,24} A familiar example of such a discussion might be about generic medication use. Patients may be more likely to accept a new medication recommendation if they actively participate in the decision process. However, conversations about differences between similar medications, such as "out of pocket" costs, rarely happen, although they are desired by patients.²⁵ Further evaluation of how and when such discussions take place in practice, the adequacy of medical school curricula to develop the skills for such discussions, and the actual effect such practices have on adherence are necessary.

This study was conducted in the context of 2 managed care health plans, and thus findings may not be generalizable to patients who belong to other types of plans or who are uninsured. Further, most participants were Caucasian, so we do not know whether members of racial or ethnic minorities would have responded similarly. Prior work in medication adherence shows that adherence rates may be lower for certain ethnic minorities.^{26–29} Differences in health beliefs and use of alternative therapies may explain some differences found in adherence rates for special populations.^{30–32} Replicating this study in special populations could yield novel and clinically useful results. The vignette also may have primed participants to respond to questions differently than they would have without the vignette.

Although unlikely to invalidate results, it may be useful for future studies to explore responses with and without vignettes.

Accepting a doctor's recommendation is a necessary first step in the complex process of taking a medication as prescribed. This study's findings suggest a need to rigorously evaluate how doctors' relationships with pharmaceutical representatives impact patient trust and medication adherence in a diverse population. Studies evaluating correlations between a patient's beliefs and attitudes about pharmaceutical representatives and the patient's actual medication adherence could provide additional data in this area. In addition, it is important to evaluate how patients' understanding of equipoise impacts medication adherence. Assessing whether medication equipoise discussions impact adherence and, if so, whether medical school curricula prepare students to discuss medication equipoise with patients would inform future recommendations for medical education curricula and for practitioners.

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APPENDIX

Audio-vignette and Telephone Interview Content

The original study was designed to explore what aspects of cluster randomized trials (CRT) patients would find acceptable or unacceptable. During pilot testing, patient beliefs and preferences for doctors' prescribing practices emerged as an area of potential interest. The following concepts were included in the audio-vignette to provide reference points for questions on beliefs and preferences regarding medication prescribing in the interview:

- Both drugs included in the study have been on the market for "quite a while," are safe, effective, and widely used.
- No direct comparative data exists—"we don't know whether one is more effective than the others."
- Doctors were free to prescribe a drug not in the study if the drug was not appropriate for a particular patient.
- The CRT is not a drug company-sponsored study.
- As part of the study, a regular \$40 copayment was reduced to \$10.

The script for the telephone interview and the text for the audio-vignette describing a blood pressure and an antidepressant medication are provided below.

Interview script

Hello. This is Vanessa Meterko, calling from the Meyers Primary Care Institute. May I speak with [] please?

Is this still a good time for me to interview you? We'll probably need about 20 to 30 minutes.

Great. Thank you for agreeing to talk with me. Did you receive the informed consent form that I sent in the mail? It explained your rights as a participant in this research study. Have you had a chance to look at that form? Did you have any questions about it? OK, and have you sent a signed copy back to me here? (If not, please do that as soon as you can, it's very important.)

Let me make sure that you understand that participating means that I will be taping our conversation so that we can have an accurate record for the study. (The tapes will be transcribed and the transcripts de-identified—your name and any identifying information will be removed from the transcript and the tape will be destroyed.) Of course, you're free to decline to answer any questions. You may also decide to stop participating at any time. Would you please confirm that you are willing to participate?

Great. I'd like to start by playing a short tape for you. I'd like you to imagine yourself in the situation of the patient on the tape. After you listen to it, I'm going to ask some questions about how you would feel if you were the patient.

VIGNETTE PLAYS

Vignette Describing a Blood Pressure Medication

Dr: I'm afraid your blood pressure is still high.

Pt: But I've been getting more exercise. I've been walking every day.

Dr: That's terrific. Exercise is important. But so far it hasn't brought your blood pressure down. I think it's time for you to start on medication.

Pt: Do you really think I need to?

Dr: I do. High blood pressure is very serious. High blood pressure means your heart has to work harder to pump blood, which means your heart is more prone to problems. Ultimately, you could have a heart attack or a stroke.

Pt: From high blood pressure?

Dr: Yes. That's why I'm recommending medication. I'm going to give you a prescription for a medication called BPDown.

Pt: Are there any other options?

Dr: There are other medications we could try. But right now we don't know that any of the other options are any better. Our clinic is participating in a research study to find out which of the medications is most effective. As part of the study, all of our patients who start on this medication during the study will not have to pay any co-payment for BPdown for 2 years. So you'll be getting this medication for free.

Pt: Wait a minute. Are you saying you're giving me this medication as part of a study?

Dr: Yes and no. We are involved in a study. But it's not a typical clinical trial. For one thing, we already know that all the medications being studied are effective. They've all been tested in standard clinical trials, they're all safe, and they're all widely used to treat high blood pressure. What we don't know is whether one of them works better than the others. So all of us here are going to recommend BPdown as the first medication to try for our patients who need blood pressure medication. Of course, if there's some reason that BPdown is not appropriate for a particular patient, we'll use an alternative. Several other clinics around the country are also in this study; at some

clinics doctors will recommend BPdown; at other clinics they'll recommend something different.

Pt: Are the drug companies behind this? Is that what this is about?

Dr: No, this is not a drug company study. Drug companies don't usually do this type of study, because they don't want to find out that their drug is LESS effective than the competition's. But the government—specifically the Agency for Healthcare Research and Quality which is sponsoring this study—does want to find out which drugs work best. They also want to know if two drugs work equally well—that's especially important if one of them costs a lot less.

Pt: Ok. Let me make sure I understand. You think I need to start on medication for my blood pressure. You're recommending BPdown, because that's what you're supposed to do as part of this study.

Dr: Right—AND because I think it's an appropriate choice for you. I don't think there's some other drug that would be better—in terms of effectiveness or side effects. There may be another drug that is as good, but I don't think there's one that's better.

Pt: Ok. And there's no co-payment for this BPdown for 2 years.

Dr: Right.

Pt: Ok. I guess I'll try it.

Dr: Great.

Medication-prescribing Questions are in *Italics* If you had been the patient in this situation, what would have been going through your mind?

Is there anything (else) that you would be concerned about?

Is there anything (else) you would be pleased about?

Would you have any (other) questions for the doctor?

Is there any other information that you would want?

Would you have any reservations about accepting the doctor's recommendation?

*In this example, the doctor was clear that the clinic was participating in a study, and that she was recommending [Bpdown/Yulift] because of the study. How would you feel if the doctor recommended [Bpdown/Yulift], but *didn't mention* that the clinic was participating in a study?

[*key question – follow up as needed]

You might have noticed that the doctor didn't explicitly ask the patient if he wanted to be part of the study. Do you think the doctor should have asked the patient straight out if he was willing to be part of the study?

In clinical trials, researchers must fully inform every participant of the risks and benefits of the study, stress the voluntary nature of participation, and get the person's written consent to participate. Do you think the doctor should have done this in the situation you heard?

In the example the doctor mentioned a reduced co-payment. Would it make a difference to you if there were no financial benefit to you – that is, if the medication cost the usual price?

Some people think that offering a financial incentive in a study – like a reduced co-payment – may be coercive, that is, it could make people feel pressured to participate. What do you think about this?

In the case you heard, the drug [Bpdown/Yulift] had been on the market for a while, and was widely used. What if the drug in

the study were newer; for instance, it had only been on the market for a year? Would you feel any differently about the study?

How would you feel if you were already on blood pressure medication/an antidepressant, and the doctor recommended that you switch medications as part of the study?

In the case you heard, all of the doctors in the practice would recommend [Bpdown/Yulift]. What if, instead, *some* doctors in the practice were going to recommend [Bpdown/Yulift], whereas *others*, in the same practice, were going to recommend a different drug? If different doctors in the same group were recommending different drugs for the same condition, would that make a difference to you?

People taking [high blood pressure/antidepressant] medication often take it for months or years. So, in the case you heard, the patient might continue to need treatment after the study is over. In contrast, some medications, like antibiotics, are used for shorter periods – days or weeks. If the study were comparing two short term drugs, rather than two long-term drugs, would that make a difference to you?

What if the decision to join the study and to offer the reduced co-payment was made by the health insurance plan? Doctors would know that the cost of [Bpdown/Yulift] was lower, but they wouldn't necessarily know it was lowered as part of a study. The insurance company wouldn't put any special rules or guidelines in place – they'd simply change the patients' co-payment. Just changing the co-payment would probably affect how much doctors prescribed it. What would you think about this? Would you feel any differently about the study?

Considering the dialogue you heard, and all we've talked about, what, if any, recommendations would you have to help to make this sort of study acceptable?

Now, a couple of questions about what you think about how doctors usually practice.

How do you think your doctor decides what specific medication you should start on, if he/she thinks you need to start a medication and there are several alternatives available? What do you think he/she considers?

[If they mention evidence or research, say "what if the evidence is not clear?"]

Do you think that he/she considers how much the medication will cost you? For instance, what your co-payment would be?

How do you think doctors should decide which medication to prescribe when there is more than one drug that is widely used for a given condition?

Background information

Thanks so much for being so patient and thinking through all these questions. We're just about done. I have only a few very quick questions left.

Could you please tell me what the highest grade you completed was?

Would you mind telling me how old you are? [lt 30; 31 to 40; 41–50; 51–60; over 60]

Finally, would you mind telling me how you prefer to identify yourself in terms of race and ethnicity?

Are you or have you ever been involved in a research study (besides this one)? What [is] was your role?

Thank you again for your help—I truly do appreciate your being willing to talk with me. (Remind interviewee to send in informed consent if they haven't done so yet so you can send them their "thank you".)

End of Health Plan Member Interview Guide