Views of Older Adults on Patient Participation in Medication-related Decision Making

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BACKGROUND: Medication decision making is complex, particularly for older patients with multiple conditions for whom benefits may be uncertain and health priorities may be variable. While patient input would seem important in the face of this uncertainty and variability, little is known about older patients' views of involvement in medication decision making.

OBJECTIVE: To explore the views of older adults regarding participation in medication decision making.

DESIGN: Qualitative study.

PARTICIPANTS: Fifty-one persons at least 65 years old who consumed at least one medication were recruited from 3 senior centers and 4 physicians' offices.

APPROACH: One-on-one interviews were conducted to uncover participants' perceptions of medication-related decision making through semistructured, open-ended questions. Themes were compared according to the constant comparative method of analysis.

RESULTS: The predominant theme that emerged was the variability in perceptions concerning whether it was possible or desirable for patients to participate in prescribing decisions. For some participants, involvement was limited to sharing information. Physician and system factors that were felt to facilitate or impede patient participation included communication skills, the expanding number of medications available, multiple physicians prescribing for the same patient, and a focus on treating numbers. Perceived lack of knowledge, low self-efficacy, and fear were the patient factors mentioned. Both the presence and absence of trust in the prescribing physician were seen as alternatively impeding and enhancing patient participation. Only 1 participant explicitly mentioned patient preference, a cornerstone of shared decision making.

CONCLUSIONS: While evolution to greater patient involvement in medication decision making may be possible, and desirable to some older patients, findings suggest that the transition will be challenging.

 $K\!E\!Y$ WORDS: medication prescribing; patient participation in decision making; older adults.

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M edication decision making is complex, particularly for older patients with multiple coexisting conditions. Sixty percent of adults over the age of 65 years take at least 5 medications; 12% use at least 10. 1.2 These medications may modify diseases, prolong life, and relieve symptoms. Taking more medications, however, is associated with increased costs, decreased adherence, and increased risk of adverse drug effects. 3-6 Recent reports suggest that physicians and patients consider different factors when deciding to prescribe or take medications, further complicating medication decision mak-

ing. $^{7-12}$ While physicians focus on disease-specific outcomes such as stroke prevention or disease-free intervals, patients vary in the relative priority that they place on outcomes such as prolonged survival, prevention of specific diseases, physical and cognitive functioning, and comfort, particularly if they suffer from multiple conditions. $^{9,12-15}$ Moreover, physicians tend to focus primarily on benefits in the medication decision making and communication process while patients also consider time to expected benefit, inconvenience, cost, and adverse effects in deciding whether to start or continue medications. 7,8,10,11

Medication decision making for older patients with multiple conditions is additionally complicated for 2 reasons. First, multiple conditions increase the chance of experiencing adverse or harmful effects of medications. 16 Second, the benefits of many medications, even those of presumably unquestionable benefit, are uncertain in older patients with multiple conditions. In the case of antihypertensive medications, for example, most participants in the trials establishing benefits were less than 80 years old and suffered from fewer co-morbid conditions and took fewer other medications than their agematched cohort. 17-22 It is therefore not clear whether elderly individuals with coexisting conditions will experience the same disease-specific benefits (e.g., stroke prevention in the case of antihypertensive medications) or the same low prevalence of harmful medication effects as the participants with few coexisting conditions included in the trials. 21,22

The uncertain benefits and harms of medications and the variable priorities that older patients assign to different health outcomes define medication prescribing as the kind of treatment decision for which shared decision making may be the appropriate approach.²³ Shared decision making is a model for the way in which the physician and the patient participate in treatment decision making. One of the core assumptions of this model is that the patient brings to the decision information that the physician cannot know without engaging the patient in the decision-making process. In this model, the physician and patient share information with each other. The physician provides information, or acknowledges uncertainty, regarding the harms and benefits of available treatment options and the patient provides information regarding beliefs and preferences; both participate in the decision-making process, although in different aspects.24,25

The extent of desired participation in decision making has been shown to vary among patients with a range of clinical conditions. ^{26–29} It has also been suggested that patients' desire to participate is dependent on the task. ^{30,31} Whereas many patients may not wish to participate in making the final treatment decision, for example, they often wish to be involved

in articulating preferences and in selecting the most desirable outcome. This distinction was recently confirmed in a population-based study demonstrating that, while half of the respondents preferred to leave final treatment decisions to their physician, nearly all wanted to be offered choices and asked their opinion. Although patient participation in clinical decision making is an active area of investigation, little is known about the desires or concerns of older patients when faced with medication decisions.

Any movement toward greater involvement of older patients in medication decision making must address and incorporate their views and perceptions. We explored the perceptions of older adults regarding patient involvement in medication decision making in a qualitative study using indepth, semistructured interviews.

METHODS

Participants and Setting

A broad spectrum of older adults with multiple chronic conditions were recruited from 3 senior centers, and the offices of a primary care practice, a geriatric rheumatologist, a nephrologist, and an ophthalmologist. The inclusion criteria included age 65 years or older, one or more prescription medications, ability to participate in an English language interview, absence of cognitive impairment (defined as a score of at least 17 out of 22 on the telephone version of the Folstein Mini-Mental Status Examination³² that was administered at the time of the interview), and, in the case of participants recruited from physicians' offices, the ability to participate in a telephone interview.

Of the 3 participating senior centers, 1 served a predominantly Caucasian, working-class community; the second a predominantly affluent, highly educated community; and the third, a predominantly African-American community. After the senior centers' staff announced the study, interested center attendees were provided details, and verbal consent was obtained by one of us (V.N.B.). Senior center participants were interviewed at the center.

At the physicians' offices, potentially eligible patients were notified of the study. If the patient agreed, one of us (V.N.B.) explained the study and obtained verbal consent. Consenting patients were then called at home for the interview. The Yale University School of Medicine Human Investigation Committee approved the protocol.

Data Collection

One-on-one interviews were conducted. Participants were asked for demographic and health data including age, race, gender, education, employment status, number of physicians seen in the past year, number and names of prescription medications, and self-reported medical conditions using a chronic disease questionnaire. 33

The interview guide was designed to uncover participants' perceptions of medication-related decision making using open-ended questions. We did not provide a definition or conceptual model of what should constitute shared decision making. Rather, we framed the interview within the context that patients should consider being part of medication decision making without suggesting or mentioning any specific aspects. We also avoided the term shared decision making because participants did not understand the term in pilot interviews.

As is common in qualitative research, the interview guide was iterative, and evolved into its final form over the course of the study. 34,35 The interview questions and probes included, "Each person is different in how they talk to, and interact with, their doctor about medicine. How do you talk to your doctor about medicine"?, "What do you talk about"?, and "When making decisions about what medicine to give a patient, it helps doctors to know the patient's feelings and concerns about the medicine. What things can you think of that might help people be a part of making decisions about their medicine"? "What things keep people from being a part of making decisions about medicine with their doctor"?

The interviews, audiotaped with participants' permission, were transcribed and verified for accuracy. Analysis occurred concurrently with data collection. Themes identified in early interviews became probes for later interviews. ³⁴ The interviews ended when theme saturation was reached, the point when no new information was gained from further interviewing. ³⁶

Analysis

The transcripts were analyzed with multiple close readings by the authors. Themes were compared within and across interviews according to the constant comparative method of analysis. Two of us (V.N.B. and M.E.T.) independently coded all transcripts and then met to assign codes to the text collaboratively. Additional texts were compared with previously coded texts in the transcripts; new codes were assigned if both of us agreed that a new concept was mentioned in a transcript. Codes were later combined and synthesized into broader, recurrent themes. All authors then reviewed the coding scheme; consensus was reached through discussion.

RESULTS

The 51 individuals who participated ranged in age from 65 to 89 years; 40 were Caucasian and 32 were female. Twenty-three participants were recruited from senior centers and 28 from physician practices. Participants visited a mean of almost 3 prescribing physicians and took a mean of 4 ($\pm\,2.1$) medications regularly. Other participant characteristics are displayed in Table 1. No data were available on the numbers, or characteristics, of the potentially eligible persons who did not choose to participate in the interviews.

The primary theme that emerged was the variability in participants' perceptions of the possibility of patients playing any role in medication decision making. The other 2 major themes were that physician attitudes or behaviors and logistical factors could either impede or facilitate patient participation in decision making. The themes and subthemes that emerged from the interviews are listed in Table 2.

Variability in Perceptions of Patients Playing Any Role in Decision Making

The primary theme, because the other factors can only come into play once one believes that patients can and should participate in medication decision making, related to the variable perceptions of patients' roles in decision making. Subthemes expressed by participants included: (1) patients do not want to be part of the decision making; (2) patients cannot be a part of decision making; and (3) patients can and should participate in medication decision making. The aspects of decision mak-

Table 1. Characteristics of Participants $(N=51)^*$

Age, y (mean \pm SD)	77 (\pm 6.6)
Female gender	32 (63)
Race	
Caucasian	40 (78)
African American	10 (20)
Native American	1 (2)
Marital status	
Married	20 (39)
Single or divorced	6 (12)
Widowed	25 (49)
Education, high school or less	18(35)
Retired	45 (88)
Location of recruitment	
Senior center	23 (45)
Physicians' offices	28 (55)
Self-reported chronic conditions	
Hypertension	32 (63)
Cardiovascular disease [†]	23 (46)
Arthritis	18 (35)
Cancer—other than skin	13 (25)
Diabetes mellitus	12 (24)
Number of physicians	
Mean+SD	2.8 ($\pm~1.4$)
Range	1 to 6
Number of prescription medications	
Mean \pm SD	4 ± 2.1
Range	1 to 8

^{*}Number (percentage) unless otherwise noted.

ing, in turn, ranged from knowing more about the effects of medications to promoting medication prescribing actively based on individual patients' health goals and preferences.

Patients Do Not Want to Participate in Decision Making. Several participants felt that not all patients want to participate in medical decisions. Wanting the doctor to tell them what to do, fear and anxiety regarding illnesses, and the fact that participants considered disease and illness overwhelming were reasons cited for patients not wanting to participate in medication decision making.

Patients Cannot Be a Part of Decision Making. Participants who mentioned this theme often referred to feeling powerless and feeling they could not make a difference in decisions. One participant stated, "Well I don't think I could be much of a help. I don't think anybody would take me seriously enough ..." Lack of knowledge about medications was noted by several participants, as exemplified by this quotation, "I don't know anything about them. How can I make a decision"? A commonly mentioned reason for not being able to participate related to the perception that the doctor "knows best" or is "godlike." One individual described this phenomenon, "I have some friends that feel the doctor is still Almighty God, like they did umpteen years ago. The doctor prescribed and the patient took it whether she wanted to or not."

Patients Can and Should Participate in Medication Decision Making. Some participants who felt patients could, and should, participate focused primarily on patients' responsibility to know about their medications and conditions. Reading about medications through the package insert or the Internet, knowing the side effects, knowing costs, and obtaining infor-

mation from medical professionals, including pharmacists and nurses, were examples mentioned of how to learn more about medications.

Importance of Asking Questions. Participants brought up the importance of asking questions, such as the person who said, "... and you know, you should feel free to ask them whatever you want concerning yourself. You know your body, yourself, or your medication. I know I do ... "Communicating concerns to physicians was also mentioned as reflected in this quotation, "But I've asked him a number of times about adjusting these medications and maybe not taking all these items because I felt that a number of them overlapped. But he said I should just continue taking them. ... And uh, the people should not be afraid to ask questions even if it means, like I do, I make a little list when I go in ... "

Concern About Side Effects. Side effects were mentioned by participants more often than were the beneficial effects of medications as the focus of discussions with physicians, as exemplified by 1 interviewee discussing finding an alternative statin after experiencing side effects, "It's sort of a trial and error thing, before you can find out which is the right one . . . It was the way it hit me . . . we had to go back and try something different."

Active Participation in Decision Making. While many participants mentioned asking questions and providing information on side effects as the extent of their involvement, other participants discussed a more active role in medication decision making, "It's taken two or three different medications to get it [hypertension] under control. But now it is under pretty good control. I think it's time to back off on some to see just how little we can get away with."

Only 1 participant alluded to medication decision making based on individual health goals and preferences. He noted, " \dots he [the doctor] went along with it of course, but he said something about dying of high cholesterol and that sort of thing. But I don't think he had thought enough about the, what's the word I'm looking for, \dots well-being \dots "

Irust in the Physician as Both a Barrier and Facilitator to Patient Participation. Trust emerged as a complex subtheme with both presence and absence of trust in the physician acting as a barrier and a facilitator to patient participation. Some participants felt that trust precluded involvement in decision making. One woman noted, "... he [the patient] ought to accept the regime that the doctor lays out for him if he has confidence in the doctor," and another said, "Well I put my hands in my doctor's hands, and if he tells me this is good for me then I believe him." Other participants viewed a patient's lack of trust in the physician as a reason why a person would not share his feelings or concerns, thus impeding a person from taking part in decision making about their medicines. One man reported, "If you don't have faith and trust, you might keep things from the doctor."

Conversely, trusting the physician was viewed by some as a facilitator to decision making as reflected by the following comment: "Well, I think if you have confidence in your doctor... you should feel free to ask him questions about your medication or stuff that's going on about your medication."

Role of Physicians' Attitudes and Behaviors in Patient Participation. Physician attitudes and behaviors were seen as either

[†]Any of myocardial infarction, congestive heart failure, stroke, hypercholesterolemia.

Table 2. Participants' Perceptions of Patient Involvement in Medication Decision Making

Variability in perceptions of patients' role in decision making

Subtheme: patients do not want to be part of the decision making

Passive acceptance; want the doctor to tell them what to do

Fear and anxiety regarding illnesses; illness is overwhelming

Trust and confidence in the doctor means you should accept what the doctor says

Subtheme: patients cannot be a part of decision making

Patient is powerless and not taken seriously

Patients lack the knowledge to participate

Doctor should know what she is doing

People who do not trust the doctor will keep things from him

Subtheme: patients can and should participate in medication decision making

Patient is the one who knows her body and self

Patients have a responsibility to learn about their diseases and medications

Finding the right medications is a process of trial and error

Trust and confidence in the doctor facilitates participation

Medication use should be based on individual health goals

Doctor's attitudes and behaviors facilitate or impede patient participation

Subtheme: doctor's negative attitudes and behaviors impede participation

Some doctors are perceived as uncaring and unconcerned, abrupt, and not wanting to talk or knowing how to talk with patients; some doctors do not take the time to explain or provide enough information to allow patient participation; some doctors have an authoritative, intimidating manner Patients perceive that doctors do not want patients to participate; perceive that doctors do not want to be questioned

Subtheme: doctors who communicate well encourage participation

Doctor behaviors that encourage participation include being straightforward in answering questions, giving patients a chance to talk, gearing information to the patient, adopting an unhurried and nonintimidating manner

It helps participation if the doctor knows the patient

Doctors have to appear receptive to patient input and involvement; ask about the patients' concerns, and tell patients that they have choices Subtheme: doctors' focus on treating individual diseases and numbers was perceived as impeding patient participation in medication decision making

Health care system and logistical factors facilitate or impede participation

Subtheme: involvement of other people facilitates shared decision making

Pharmacists can help explain medications and expected effects

Support staff (e.g., nurse, social worker, aide) can supplement the patient's interaction with the doctor and aid communication

Bringing someone to the doctor's visit (to back them up) can help

Subtheme: the health care system is not structured to allow participation in decision- making

Not enough time; no reimbursement for the time it takes

Cannot chose a doctor with whom can be an active participant

Subtheme: medication decision making is too complex to allow anyone (doctor or patient) to make informed decision making

Information changing all the time; no one can keep up

Overspecialization of doctors; doctors only know their own area

Patients go to several physicians; no one has the overall plan or decision making

impeding or facilitating patient participation. The perception of the physician as uncaring or unconcerned was frequently identified as a barrier, as reflected by this quotation, "Well it all depends on how the doctor reacts. Some doctors are just so selfish you don't want to ask them nothing \dots like they don't care, you know \dots "

Communication and Interpersonal Skills. Poor communication and interpersonal skills were frequently cited problems. Examples given by participants included physicians using terminology patients did not understand, not providing patients with enough information, and not asking whether the patient had questions. Abrupt, dismissive, superior, authoritarian, intimidating, and hurried were adjectives used by participants to describe physician behavior that impeded patients' participation in decision making.

Conversely, an unhurried, nonintimidating, relaxed manner; listening to the patient; asking whether the patient has questions; and knowing the patient as a person were physician behaviors and qualities mentioned as conducive to patient participation. One woman felt it was possible for patients to be involved only if the physician initiates the process and educates the patient, "So I don't know whether it is possible for a lay person to be involved in their medication unless the doctor sits down and says to them, well we have a choice of doing A, B,

and C. And then outlines what A, B, and C are, and then offers them a choice."

Physician's Focus on Treating Numbers Rather Than Patients. Physicians' focus on treating numbers was seen as a barrier to patient's participation as reflected in these quotations, "I think they keep layering on medications . . . It's taken two or three different medications to get it [hypertension] under control," and "He kept raising my Lipitor in leaps and bounds because he was trying to bring the numbers down," and "His one goal was to see a certain number and that was it" and "Certain doctors are robots. They're statistical robots."

Health Care System and Logistical Factors Impede or Facilitate Patient Participation in Decision Making. Lack of time during the clinical encounter and the inability to choose a doctor because of insurance were 2 ways cited by participants by which the health care system impedes patient participation in decision making. Involvement of other people was mentioned as a way to facilitate patients' role in decision making. Examples included asking pharmacists to explain medications and expected effects, bringing a friend or relative to a doctor's visit, and involving office support staff such as a nurse, social worker, or aide.

Rapidly evolving medical information was seen as making it difficult for patients and physicians to remain informed. Specialization and having multiple physicians were also recognized as a challenge to patient participation as reflected by this quotation, "They're getting specialized, so the doctor who sees this doesn't know anything about that. If he doesn't know anything about it he says see a guy who does that . . . I don't do that, I do this."

DISCUSSION

This study revealed several themes relating to older adults' perception of patient involvement in medication decision making. There was variability in perceptions on whether it was possible or desirable for patients to participate in any aspect of prescribing decisions. While some participants expressed attitudes and beliefs that were congruent with the paternalistic model,³⁷ deferring decisions completely to the physician, others supported a more participatory role for the patient. For those who considered it possible for patients to participate, knowledge, communication, confidence, trust, time constraints, the expanding number of medications available, the focus on treating numbers, and multiple physicians prescribing for the same patient were recurring themes that facilitated or impeded patient involvement in medication decision making. Participants also expressed views on participating in different aspects of decision making.24,25,30 For some interviewees, involvement was limited to the physician providing drug-specific information to the patient, which, while a necessary step, is not the same as sharing decisions. 24,25 Others mentioned discussing treatment options. Only 1 participant expressed the idea that medication prescribing should be based on individual patients' health preferences and goals, a key component of shared decision making. 24,25

Many of our findings are consistent with previous studies addressing medication related and other health care decision making. Prior investigations have shown, for example, that some patients do not want to be involved in decision making. ^{26–29,38} Of those who do want to be involved, the spectrum of involvement ranges from sharing information to active participation in the final decision. ^{24,25,30,31} Many of the views and issues mentioned by our participants were similar to those reported for decisions ranging from cancer screening and treatment to asthma management, ^{27–29} suggesting that many of the important considerations are not unique to older adults or to medication decision making.

One advantage of qualitative research is the opportunity to uncover unexpected themes. ^{34–36} One such unexpected theme in the present study was that both presence and absence of trust in the physician could serve to either facilitate or impede participation. This complex relationship between trust and patient involvement requires further exploration and hints at the difficulties confronting an evolution to a shared decision-making model of medication prescribing.

The limitations of this study are several. We did not attempt to prioritize the responses in this qualitative study. We cannot comment, therefore, on the relative importance of the themes. Participation was limited to English-speaking adults who were able to go to medical appointments or to senior centers, and in the case of participants recruited from physicians' offices, be able to participate in a telephone interview. We do not know how many, or who, did not chose to participate or

whether nonparticipants might have perceptions different from those expressed by participants. Finally, the number of minority participants was small although they raised themes similar to those raised by Caucasian participants. In this qualitative study, we could not determine the prevalence of the various responses or the differences in prevalence across participant characteristics such as age, gender, ethnicity, or health status. Further research is needed to quantify the perceptions expressed by participants and to determine the spectrum of desired participation. In the meantime, our findings suggest areas that need to be addressed.

While evolution to greater patient involvement may be possible, and desirable to some older patients, findings suggest that the transition will be challenging. Several different strategies likely will be necessary to encourage older patients to participate in medication decision making. As a simple first step, physicians need to directly ask patients how involved they would like to be in making decisions. The shared decision-making model involves various aspects including exchange of information between patient and physician, discussing treatment options, and making the treatment decisions. 24,25,30 The physician should elicit which aspects the patient wishes to be involved in. For those patients not wishing to be involved, further exploration may be needed. Because fear, perceived lack of knowledge, and low self-efficacy were frequently mentioned reasons for the reluctance to participate, strategies to enhance patient knowledge and to increase confidence in interacting with physicians should be used before accepting that patients do not wish to be involved.

For those patients who express interest in being involved, the study highlights ways to encourage greater patient participation. The communication skills of both patient and physician were frequently mentioned determinants of patient involvement. Although the concept of patient centeredness has influenced recent teaching practices, training in communication skills remains largely focused on history taking and diagnosis. Less attention has been paid to decisionmaking tasks. See high statements of the statement o

The reference to prescribing by multiple physicians as a barrier indicates that communication between providers is as important as patient-physician communication. Physicians must not only communicate with each other but must agree on the medication regimen that best meets individual patients' goals and preferences.

Another physician-related issue was the perception of several participants that physicians are focused on "treating numbers." Such a focus is an expected consequence of guide-line-driven medication prescribing. 40,41 Successful implementation of shared decision making, however, will require a resolution of the inherent conflict between appropriate treatment of individual diseases and goal-directed care of older adults with multiple conditions. 6

Eliciting patient goals and preferences is a fundamental aspect of decision making and is particularly important given the variability in health outcome priorities among older patients with multiple conditions. The rare mention of goals and preferences in this study suggests that training in, and encouragement of, elicitation of preferences will be essential to shared decision making. $^{13-15}$

Shared decision making between physicians and patients would seem integral to dealing with the uncertainty and variability inherent in medication prescribing for older patients with multiple conditions. The perceptions and views expressed by interviewees in this study can help inform movement toward greater involvement of older patients in medication decision making.

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REFERENCES

- Kaufman DW, Kelly JP, Rosenberg L, Anderson TE, Mitchell AA. Recent patterns of medication use in the ambulatory adult population of the United States. The slone survey. JAMA. 2002;287:337–44.
- Linjakumpu T, Hartikainen S, Klaukka T, Veijola J, Kivela SL, Isoaho R. Use of medications and polypharmacy are increasing among the elderly. J Clin Epidemiol. 2002;55:809–17.
- Balkrishanan R. Predictors of medication adherence in the elderly [Review]. Clin Ther. 1998;20:764–7.
- Gandhi TK, Weingart SN, Borus J, et al. Adverse drug events in ambulatory care. N Engl J Med. 2003;348:1556–64.
- Gurwitz JH, Field TS, Harrold LR, et al. Incidence and preventability of adverse drug events among older persons in the ambulatory setting. JAMA. 2003;289:1107–16.
- Tinetti ME, Bogardus ST, Agostini JV. Potential pitfalls in disease guidelines for patients with multiple conditions. N Engl J Med. 2004;351: 2870–4.
- Lewis DK, Robinson J, Wilkinson E. Factors involved in deciding to start preventive treatment: qualitative study of clinicians' and lay people's attitudes. BMJ. 2003;327:841-6.
- Townsend A, Hunt K, Wyke S. Managing multiple morbidity in mid-life: a qualitative study of attitudes to drug use. BMJ. 2003;327:837–41.
- Britten N, Stevenson FA, Barry CA, Barber N, Bradley CP. Misunderstandings in prescribing decisions in general practice: qualitative study. BMJ. 2000;320:484–8.
- Berry DC, Michas IC, Gillie T, Forster M. What do patients want to know about their medicines and what do doctors want to tell them? A comparative study. Psychol Health. 1997;12:467–80.
- Dickinson D, Raynor DK. What information do patients need about medicines? Ask the patients—they may want to know more than you think. BMJ. 2003;327:861–4.
- Wyn G, Edwards A, Britten N. What information do patients need about medications? Doing prescribing: how doctors can be more effective. BMJ. 2003;327:864–7.
- Tsevat J, Dawson NV, Wu AW, et al. Health values of hospitalized patients 80 years or older. JAMA. 1998;279:371-5.
- Fried TR, Bradley EH, Towle VR, Allore H. Understanding the treatment preferences of seriously ill patients. N Engl J Med. 2002;346: 1061-6.
- Epstein RM, Alper BS, Quill TE. Communicating evidence for participatory decision making. JAMA. 2004;291:2359–66.
- Schneider JK, Mion LC, Frengley JD. Adverse drug reactions in an elderly outpatient population. Am J Hosp Pharm. 1992;49:90–6.
- Chaudhry SI, Krumholz HM, Foody JM. Systolic hypertension in older persons. JAMA. 2004;292:1074–80.
- Dahlof B, Lindholm LH, Hansson L, et al. Morbidity and mortality in the Swedish Trial in old patients with hypertension (STOP-Hypertension). Lancet. 1991;338:1281-5.

- Mulrow CD, Cornell JA, Herrera CR, et al. Hypertension in the elderly. Implications and generalizability of randomized trials. JAMA. 1994;272: 1932–8.
- Systolic Hypertension in the Elderly Program Cooperative Research Group. Prevention of stroke by antihypertensive drug treatment in older persons with isolated systolic hypertension. JAMA. 1991;265:3255–64.
- Gueyffier F, Bulpitt C, Boissel J-P, et al. Antihypertensive drugs in very old people: a subgroup meta-analysis of randomized controlled trials. Lancet. 1999:353:793–6.
- Gross CP, Mallory R, Heiat A, et al. Reporting the recruitment process in clinical trials: who are these patients and how did they get there? Ann Intern Med. 2002;137:10–6.
- Whitney SN, McGuire AL, McCullough LB. Typology of shared decision making, informed consent, and simple consent. Ann Intern Med. 2003;140:54-9.
- 24. Charles C, Gafni A, Whelan T. Shared decision-making in the medical encounter: what does it mean? (or it takes at least two to tango). Soc Sci Med. 1997:44:681–92.
- Charles C, Gafni A, Whelan T. Decision-making in the physician-patient encounter: revisiting the shared treatment decision-making model. Soc Sci Med. 1999;49:651–61.
- Arora NK, McHorney CA. Patient preferences for medical decision making: who really wants to participate? Med Care. 2000;38:335–41.
- Flood AB, Wennberg JE, Nease RF Jr., Fowler FJ Jr., Ding J, Hynes LM. The importance of patient preference in the decision to screen for prostate cancer. Prostate Patient Outcomes Research Team. J Gen Intern Med. 1996;11:342–9.
- Beaver K, Luker KA, Owens RG, Leinster SJ, Degner LF, Sloan JA.
 Treatment decision-making in women newly diagnosed with breast cancer. Cancer Nursing. 1996;19:8–19.
- Degner LF, Sloan JA. Decision making during serious illness: what role do patients really want to play? J Clin Epidemiol. 1992;45:941–50.
- Deber RB, Kraetschmer N, Irvine J. What role do patients wish to play in treatment decision making? Arch Intern Med. 1996;156:1414–20.
- Levinson W, Kao A, Kuby A, Thisted RA. Not all patients want to participate in decision making. A national study of public preferences. J Gen Intern Med. 2005;20:531–5.
- Roccaforte WH, Burke WJ, Bayer BL, Wengel SP. Validation of a telephone version of the mini-mental state examination. J Am Geriatr Soc. 1992;40:697–702.
- 33. Cornoni-Huntley J, Brock DB, Ostfeld AM. Established Populations for the Epidemiologic Studies of the Elderly: Resource Data Book. US Department of Health and Human Services Publication NIH-86-2443. Washington, DC: National Institute on Aging: 1986.
- Glaser PG, Strauss AL. The Discovery of Grounded Theory: Strategies for Qualitative Research. Hawthorne, NY: Aldine Publishing Co.; 1967.
- Strauss A, Corbin J. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. 2nd edn. Thousand Oaks, CA: Sage Publications; 1998.
- Crabtree B, Miller W, eds. Clinical Research a Multimethod Typology and Roadmap. Doing Qualitative Research. 2nd edn. Thousand Oaks, CA: Sage Publications; 1999.
- Emanuel EJ, Emanuel LL. Four models of the physician-patient relationship. JAMA. 1992;267:2221–6.
- Torke AM, Corbie-Smith GM, Branch WT. African American patients' perspectives on medical decision making. Arch Intern Med. 2004;164: 525–30.
- Elywn G, Edwards A, Kinnersley P. Shared decision-making in primary care: the neglected second half of the consultation. Br J Gen Prac. 1999:49:477–82.
- Institute of Medicine. Crossing the quality chasm: A New Health System for the 21st Century. Washington, DC: National Academies Press;
- National Committee for Quality Assurance. The state of health care Quality: 2003. Washington, DC: National Committee for Quality Assurance; 2003.