

Patient-Physician Concordance: Preferences, Perceptions, and Factors Influencing the Breast Cancer Surgical Decision

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ABSTRACT

Purpose

This study explored patient preferences for involvement in the breast cancer treatment decision and concordance between patients' and physicians' views on decisional role. The impact of demographic and psychosocial characteristics on patients' decisional role was also examined.

Patients and Methods

Women with stage I or II breast cancer who were candidates for either mastectomy or lumpectomy were recruited from a university breast cancer treatment center. Patient interviews were obtained before meeting the surgical oncologist and again after the treatment decision was made but before surgical intervention. Clinician responses were obtained after the consultation.

Results

The 101 participants were generally white (97%), married (80%), and well-educated. They reported moderate levels of depression and anxiety but good social support and self-efficacy in communicating with their physician. Before the consultation, 47% of women reported a preference for shared decision making; afterwards, 61% felt they had primary responsibility for the decision. Only 38% of patients agreed with the physician's assessment of how the treatment decision was made. In regression analyses, higher education was significantly associated with patients' preferred level of control ($P = .01$). There was a trend toward women with greater self-efficacy desiring more active decisional roles ($P = .08$). Patient preference for decision making did not impact time in the patient-physician encounter, but more influence did increase satisfaction.

Conclusion

Limited concordance between patient preference and patient perception and between patient and physician perception in how the treatment decision was made suggests the need for better communication between patient and clinician during a critical treatment encounter for breast cancer patients.

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INTRODUCTION

The last decade has seen increased research into patient preferences for information and decisional roles in the treatment process as well as a shift to a more patient-centered approach to health care delivery. This movement, which has emphasized a more active, participatory role for patients and a more tailored approach to patient education by health care providers, is perhaps best known as shared decision making.¹⁻³ Shared decision making is comprised of

the following four key characteristics: (1) at least two partners (eg, doctor and patient) are involved; (2) both partners take steps in sharing a treatment decision; (3) the two partners share information about treatment options; and (4) together they arrive at a consensus regarding the preferred treatment option.⁴ Some researchers have explored the advantages and limitations of shared decision making and its implementation in clinical practice,^{5,6} whereas others have attempted to define its conceptual underpinnings.^{7,8}

There is a growing body of literature that shows that shared decision making between patients and providers may result in a variety of benefits, including improved patient satisfaction and clinical outcomes.⁹⁻¹⁶ One important factor that might contribute to the potential for shared decision making to improve clinical outcomes is achieving congruence between a patient's preference for decisional role and their actual role in the clinical encounter. Thus, considerable attention has focused on identifying patient preferences and the extent to which these preferences are met in patient-provider interactions.

This article presents findings from a study that examined patient preferences for involvement in the breast cancer treatment decision and concordance between patients' and physicians' views of how that treatment decision was made. The following specific questions were addressed: (1) to what extent are patients' preferences for involvement in the surgical decision for breast cancer met in the patient-physician encounter; (2) what is the concordance between the patient's and physician's views on the patient's role in the decision-making process; (3) to what extent do socio-demographic or psychosocial characteristics impact patient preferences for treatment decision-making roles; (4) does the patient's decisional role impact the amount of time spent in the patient-physician encounter; and (5) does more active involvement in the decisional process enhance patient satisfaction?

Research findings to date have varied considerably on the extent to which patients desire to have a more active role in medical decisions. Benbassat et al,¹⁷ in a meta-analysis of studies using forced choice instruments or multiple-item questionnaires to characterize patients' preferences, concluded that most studies found higher proportions of patients desiring information than desiring to participate in the medical decision. Patient preferences for an active role ranged from 22% to 81% in the studies cited in Benbassat et al.¹⁷ More recently, Arora and McHorney,¹⁸ using a single-item measure, found that 69% of patients preferred a passive role.

Studies have also varied based on whose preferences are actually measured. For example, Degner and Sloan¹⁹ surveyed male and female cancer patients and the general public about preferred decision-making roles. They found that almost 60% of cancer patients wanted the physician to make the treatment decision after considering their opinion. In contrast, 64% of the general public preferred an active decision-making role. Bruera et al²⁰ compared male and female cancer patients' preferences for decisional role to physicians' beliefs about the patients' preferences. They found agreement in only 30 cases (38%).

Several researchers have focused on the treatment decision-making processes of women diagnosed with breast cancer who are faced with the choice of mastectomy or breast-conserving therapy, which requires consideration of

their personal preferences. Bilodeau and Degner²¹ conducted a cross-sectional survey of decisional preferences and roles in 74 women diagnosed within the previous 6 months with breast cancer. They found that 20% preferred an active role, and 24% took an active role; 37% preferred a collaborative role, and 19% played a collaborative role; and, finally, 43% endorsed a passive role preference, yet 57% said that was the role they played. Moreover, only 50% of the women achieved agreement between their decisional-role preference and the role actually assumed. However, assessment of a woman's preference for decision making was made after the surgery had taken place, which is a limitation to the study design.

Degner et al²² later sampled more than 1,000 breast cancer patients and found that 22% wanted to make the treatment decision alone, 44% preferred a collaborative approach, and 34% wanted the physician to make the decision. In terms of correspondence, 42% of women reported achieving their desired decisional role; moreover, only 21% of women preferring an active role achieved that, compared with 81% who preferred and achieved a passive role. However, the mean time from breast cancer diagnosis was 4.1 years (standard deviation [SD], ± 4.7 years), which may have affected the patients' ability to accurately recall their preferences at the time the treatment decision was made.

Because of the wide variation in decisional-role preferences that have been observed, several researchers have examined sociodemographic predictors of decisional preference. In general, patients who are younger, female, less sick, and more educated have been found to desire more active decisional roles.^{17,18,22} Few have examined whether psychological characteristics are associated with patients' preferences for decisional roles.

The present study amends and extends the current literature by exploring medical decision-making preferences and achieved roles in a sample of newly diagnosed breast cancer patients who were candidates for either lumpectomy or mastectomy. Whereas breast cancer patients in other studies have undergone either treatment, the importance of being a candidate for either surgery, and thereby having a choice in the treatment decision, has never been a specific requirement for participation. Another advantage of the present study is the timing of data collection. Baseline decisional preferences were obtained before the patients' consultation with physicians. Assessments of the decision role played were gathered approximately 1 week later, before treatment initiation. Thus, the findings from this study should reflect an accurate representation of patients' desires for participation in the treatment process compared with their perceived participation and of the physicians' perceptions of how the surgical decision was made.

PATIENTS AND METHODS

Study Design

This study, which was approved by the institutional review board, used a prospective, randomized, controlled design. Patients were recruited from the University of Michigan Breast Cancer Center (BCC), a multidisciplinary academic tertiary care center, from March 2000 through December 2001. The initial eligibility criteria included newly diagnosed stage I or stage II breast cancer and the ability to complete all interviews in English without assistance. Women were excluded if they were pregnant or had bilateral or multicentric breast cancer. An additional inclusion criterion was the BCC Tumor Board determination that the woman was an acceptable candidate for either breast conservation or mastectomy (ie, did not have any major medical comorbidities that would pose life-threatening risks for mastectomy or have absolute contraindications for radiation therapy). Because the primary aims of this study examine preferred and perceived involvement in the breast cancer treatment decision, the sample is limited to those women who were determined to be good candidates for either breast-conserving surgery or mastectomy and who could be offered a choice.

The BCC nurse made preclinic telephone calls to all new patients to provide standard information about the clinic procedures and, for women who appeared to be eligible, to inquire about their interest in participating in the study. Names of women who voiced such an interest were given to the research associate who made a follow-up call to further describe the study. Verbal consent was obtained by all women choosing to participate, and the women were then scheduled for the baseline interview. All study patients were interviewed twice; the first interview took place upon recruitment to the study, after the patients learned of their breast cancer diagnosis but before the meeting with the BCC health care team to discuss treatment options, and the second interview took place approximately 1 week after the BCC clinic visit after the treatment decision had been made but just before surgery. Whenever possible, the baseline interview was done by telephone ($n = 76$); women who were unavailable completed the baseline interview in the clinic before any treatment discussions with clinic personnel ($n = 25$). Verbal consent for the baseline interview was supplemented by written consent obtained at the time of the patient's visit to the BCC. All subsequent interviews for all patients were performed via telephone.

This study was part of a larger intervention study examining the effect of a video intervention on making the decision for breast cancer treatment. The effects of the video were modest (Wilkins EG et al, submitted for publication), and intervention status was not related to the constructs of interest in the current study.

Sample

A total of 162 women indicated to the BCC nurse that they would like to know more about the study. After hearing a fuller explanation from the research associate, three women elected not to participate. Of the remaining 159 women who met the initial eligibility criteria, 19 were subsequently dropped from these analyses because they did not complete both the baseline and follow-up interview. Of the 140 remaining women, the BCC Tumor Board deemed that 34 did not have a treatment choice, and an additional five were excluded because they had chemotherapy as their first treatment step before surgery. Therefore, this study is based on the 101 women who met the initial eligibility criteria and

who did have a choice of treatment (mastectomy or breast conservation surgery).

Measures

The baseline interview operationalized a number of sociodemographic characteristics and psychosocial constructs and three decisional-role outcome measures. The following paragraphs identify the key constructs and measures used.

Sociodemographic Variables

Sociodemographic variables included date of birth, race/ethnicity (five levels), marital status (five levels), education (six levels; eighth grade or less through graduate school), employment status (seven levels), and total family income (seven levels; less than \$10,000 through over \$100,000).

Psychosocial Measures

State-Trait Anxiety Inventory. The six items summed to create the State-Trait Anxiety Inventory²³ used a four-point scale from "not at all" to "very much." The measure addresses the extent to which respondents feel calm, tense, upset, and so on.

Center for Epidemiologic Studies-Depression Scale (CES-D). This 20-item measure assesses symptoms of depression such as poor appetite, trouble sleeping, sadness, loneliness, and so on. Responses range from 0 (rarely/never) to 3 (all of the time). The sum of the items was used to assess somatic and cognitive symptoms of depression.²⁴

Self-efficacy to communicate with physicians. A three-item measure developed by Lorig²⁵ was used to measure patients' self-efficacy to communicate with their physicians about such matters as their illness and personal problems and to work out their differences. The score is the mean of three items whose responses range from 1 (not at all confident) to 10 (totally confident).

Medical Outcomes Study Social Support Survey. This instrument includes a series of 18 questions regarding the availability of companionship, information, assistance, and other kinds of support and yields four domains of social support (emotional, tangible, affectionate, and social interactions).²⁶ Responses ranged from 1 (none of the time) to 5 (all of the time). The items in each domain were summed and then transformed to yield scores ranging from 0 to 100. Higher scores indicated more support.

Satisfaction with the medical decision. Women's satisfaction with their decision was assessed in terms of its appropriateness, their confidence in it, and the extent to which the decision was consistent with their personal values, and so on.²⁷ Six items used a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items were summed to create the score. Higher values indicate more satisfaction with the medical decision.

Outcome Measures

The main outcome measures in this study were three parallel versions of the Control Preferences Scale by Degner et al.²² The parallel statements for the three versions of the Control Preferences Scale are shown in Table 1 and are described in the following three paragraphs.

Patient Preference Scale. The first version of the Control Preferences Scale used in this study was the original unaltered version of the measure; however, it was renamed the Patient Preference Scale to distinguish it from the two modified versions below. This scale assessed a woman's preferred decisional role on a five-point scale.

Patient Perception Scale. An investigator-developed modification of the Control Preferences Scale administered in the patient

Table 1. Three Parallel Versions of the Control Preferences Scale

Patient Preference Scale	Patient Perception Scale	Physician Perception Scale
I prefer to make the final selection about which treatment I will receive.	I made the final decision about which treatment I would receive.	The patient made the final decision about which treatment she would receive.
I prefer to make the final selection of my treatment after seriously considering my doctor's opinion.	I made the final selection of my treatment after seriously considering my doctor's opinion.	The patient made the final decision about which treatment she would receive after seriously considering my opinion.
I prefer that my doctor and I share responsibility for deciding which treatment is best for me.	My doctor and I shared responsibility for deciding which treatment was best for me.	I shared responsibility with the patient for making the final decision about treatment she would receive.
I prefer that my doctor make the final decision about which treatment will be used but seriously consider my opinion.	My doctor made the final decision about which treatment would be used but seriously considered my opinion.	I made the final decision about which treatment the patient would receive after seriously considering the patient's opinion.
I prefer to leave all decisions regarding my treatment to my doctor.	My doctor made all the decisions regarding my treatment.	I made the final decision about which treatment the patient would receive.

follow-up interview assessed the woman's perception of who actually made the decision.

Physician Perception Scale. Finally, surgical oncologists completed an investigator-developed modification of the Control Preferences Scale after meeting with each study patient during her BCC visit to discuss treatment options. This measure assessed the clinician's perception of who actually made the decision.

An additional item on the physician survey asked the physician to provide his or her recommendation regarding treatment. Finally, time spent by physicians with patients was determined by a research assistant located in the BCC hallway who recorded the exact time the physician entered and exited the patient's exam room during the meeting in which treatment options were discussed. These times were entered into the database to calculate the total time spent in the encounter.

Data Analysis Plan

Descriptive frequencies, or means and SDs, were produced for all measures. Student's *t* tests, χ^2 analyses, and Pearson correlations explored bivariate relationships. Bowker's test of symmetry assessed where deviations from agreement occurred between patient perceptions before and after the decision and between patients' and physicians' perceptions. The test of symmetry requires that both measures have the same number of response categories; therefore, the highest value on patient perceptions (5) was recoded as a 4 for analysis with patient preferences, on which item no one responded with a 5. Ordered logit regression assessed the relationships between the predictors and the patient's preference for control in the decision-making process. For these analyses, the Patient Preference Scale was collapsed to three levels because of the sparse number of responses at the tails (mostly patient, shared decision making, and mostly physician). Parsimonious models were sought because of the small sample size. An initial model of the Patient Preference Scale included all the demographic characteristics of age, work status (working *v* not working), marital status (unmarried *v* married), total family income, and attainment of a college degree. A second model included all the psychosocial measures of CES-D depression score, self-efficacy to communicate with physician, State-Trait Anxiety Inventory, and the four domains of the Medical Outcomes Study Social Support Survey, while controlling for education, the only significant demographic characteristic. Analysis of variance, controlling for education, assessed whether the amount of time the physician spent with the patient was

related to either the patient's preference for a decisional role or the perceived role played in the treatment decision. All analyses were carried out using SAS 8.2 (TS2M0; SAS Institute, Cary, NC).

RESULTS

Tables 2 and 3 summarize the sociodemographic characteristics and psychosocial and clinical factors of the sample. Women ranged in age between 34 and 81 years (mean, 54.9 years; SD, 9.8 years; *N* = 101). Approximately 97% of the

Table 2. Sociodemographic Characteristics of Study Sample

Sociodemographic Factors	No. of Patients (<i>N</i> = 101)	%
Age group, years		
< 50	31	31
50-64	57	56
≥ 65	13	13
Race		
White	98	97
Nonwhite	3	3
Marital status		
Married	81	80
Unmarried	20	20
Working status		
Full time or part time	54	53
Not working	47	47
Total family income, pretax		
< \$20,000	4	04
\$20,000 < \$40,000	24	25
\$40,000 < \$60,000	20	20
\$60,000 < \$80,000	14	14
\$80,000 < \$100,000	14	14
\$100,000 +	22	23
Highest level of education		
High school or less	32	32
Some college	25	25
Bachelor's degree	25	25
Graduate school	19	19

Table 3. Psychosocial and Clinical Factors of Study Sample

Factors and Ranges	Mean	SD
Psychosocial		
CES-D score, 0-42	11.0	8.5
State-Trait Anxiety Score, 6-24	13.0	4.2
Self-efficacy with physician, 3-10	8.6	1.4
MOS Social Support Measure		
Emotional, 2.1-5.0	4.4	0.66
Tangible, 1.0-5.0	4.3	0.83
Affectionate, 2.0-5.0	4.7	0.65
Positive social interactions, 2.3-5.0	4.5	0.60
Clinical		
Time spent with surgeon, 5-63 minutes	20.8	11.1
Physician recommendation for treatment		
Lumpectomy		
No.		58
%		59
Mastectomy		
No.		6
%		6
Either treatment		
No.		34
%		35
Surgical treatment received		
Lumpectomy		
No.		81
%		80
Mastectomy		
No.		20
%		20

Abbreviations: SD, standard deviation; CES-D, Center for Epidemiologic Studies-Depression Scale; MOS, Medical Outcomes Study.

women were white, 80% were married, and 53% were employed. Half of the women (51%) reported family income greater than \$60,000, and 44% had a college degree.

A total of eight physicians participated in the study; five were male, and three were female. The average age of the physicians was 46.5 years, with a range of 35 to 65 years. Male

physicians were older on average than female physicians, with means of 50.6 years versus 36.3 years, respectively.

At baseline, women did report a modest amount of anxiety and depression. For example, a score of 10 to 15 on the CES-D depression scale indicates mild depression, and the study women reported a mean of 11, with close to 21% reporting clinically significant levels of depression (ie, score of ≥ 16). In general, women reported relatively high levels of self-efficacy to communicate with their physician (mean of 8.6 on a 10-point scale) and fairly high levels of the four domains of social support, with all means above 4.0 on a five-point scale.

The average time spent in the physician-patient encounter was 20.8 minutes. Immediately after the visit, the surgical oncologists indicated what their recommendation for treatment would be for each woman. Responses across the entire sample were as follows: lumpectomy in 59% of women, mastectomy in 6%, and either treatment option in 35% of the women. Among women for whom either treatment was recommended by the surgeon, 21 received lumpectomy, whereas 13 received mastectomy. In five women, the actual surgical outcome was not the one initially noted by the surgeon as his or her recommendation on the postconsultation survey. Ultimately, 80% of women received lumpectomy, and 20% received mastectomy.

Table 4 reveals that, before their consultation, the majority of women (86%; n = 85) preferred to either share the treatment decision (47%) or make the decision (38%) after input from the physician. After the visit, more women perceived that they made the decision after input from the physician (n = 55) than shared in the decision process (n = 30). Overall, 42% of the patients preferred the precise level of control they experienced in making their treatment decision. The table lacks symmetry (Bowker's $S = 15.4$; $df = 4$; $P = .017$), with more patients below than above the diagonal cells of agreement (ie, it was more likely for women to experience a greater role in the decision-making

Table 4. Patients' Preferences About Involvement in Treatment Decision Versus Perception of How the Treatment Decision Was Made

Patient Preferred Level of Control	Patient Perceived Level of Control (No.)					Total Patients	
	Patient Alone	Patient With Physician Input	Shared Decision	Physician With Patient Input	Physician Alone	No.	%
Patient alone	0*	1	0	0	0	1	1.0
Patient with physician input	3	25*	9	1	0	38	38.4
Shared decision	3	20	17*	6	1	47	47.5
Physician with patient input	0	9	4	0*	0	13	13.1
Physician alone	0	0	0	0	0*	0	0.0
Total							
No.	6	55	30	7	1	99	
%	6.1	55.6	30.3	7.1	1.0		100.0

NOTE. % Agreement = $(25 + 17)/99 = 42.4\%$.
*Complete agreement.

Table 5. Patients' Perceptions of How Treatment Decision Was Made Versus Physicians' Perceptions of How Treatment Decision Was Made

Patients' Perceptions	Physicians' Perceptions (No.)					Total Patients	
	Patient Alone	Patient With Physician Input	Shared Decision	Physician With Patient Input	Physician Alone	No.	%
Patient alone	3*	1	2	0	0	6	6.1
Patient with physician input	11	15*	27	1	0	54	55.1
Shared decision	3	5	18*	3	2	31	31.6
Physician with patient input	0	3	2	1*	0	6	6.1
Physician alone	0	0	0	1	0*	1	1.0
Total							
No.	17	24	49	6	2	98	
%	17.4	24.5	50.0	6.1	2.0		100.0

NOTE. % Agreement = (3 + 15 + 18 + 1 + 0)/98 = 37.8%.
 *Complete agreement. % Agreement (3 + 15 + 18 + 1 + 0)/98 = 37.8%.

process than they originally preferred, rather than to experience a lesser role than preferred).

Table 5 contrasts patients' and physicians' views of the treatment decisions. Most of the responses from patients and physicians fell into two categories, either the patient made the decision after input from the physician or the decision was shared. However, only 38% of patients agreed completely with their physicians' assessment of who made the treatment decision. This table also shows a significant lack of symmetry (Bowker's S = 27.9; *df* = 10; *P* = .0019), with more patients above than below the diagonal cells of agreement (ie, physicians perceived women taking a more limited role in the decision-making process than women perceived for themselves).

We also explored whether patient or physician perceptions were related to variations in physician characteristics. Patient preference, patient perception, and physician perception were not significantly related to physician sex or physician age.

In the first ordered logit regression model, the demographic variables were assessed for their relationship to the Patient Preference Scale (Table 6). Only education was significantly associated with patient's preference; in other words, women with a college degree were significantly more likely to prefer a more active role in the treatment decision (odds ratio [OR] = 0.33 ; 95% CI, 0.14 to 0.78; *P* = .01).

Table 6. Model of Patient Preference Scale As a Function of Sociodemographic Characteristics (n = 96)

Sociodemographic Factors	Odds Ratio	95% CI	<i>P</i>
Age, years	1.01	0.97 to 1.06	.65
Unmarried, yes/no	0.86	0.28 to 2.68	.80
College degree, yes/no	0.33	0.14 to 0.78	.01
Working, yes/no	1.07	0.42 to 2.72	.89
Income, by \$20,000	1.05	0.79 to 1.40	.73

Next, we explored whether psychosocial characteristics were associated with desired decisional role after controlling for education, the only significant sociodemographic characteristic (Table 7). The psychosocial measures included depression, anxiety, self-efficacy to communicate with the physician, and four categories of social support (emotional, tangible, affectionate, and positive social interactions). Although none of the psychosocial measures achieved statistical significance at the *P* < .05 level, there was a trend toward women with higher levels of self-efficacy in communicating with their physician preferring more influence in the decision process (OR = 0.74; 95% CI, 0.53 to 1.04; *P* = .08). Holding a bachelor's degree was still significantly associated with favoring a more active decisional role (OR = 0.34; 95% CI, 0.15 to 0.79; *P* = .01).

The possible influence of patients' preferred or perceived decisional role on time spent discussing treatment options with the clinician was investigated in two models, controlling for education. Neither the model including the Patient Preference Scale nor the one including the Patient Perception Scale indicated that desire for influence in the decision had a significant impact on time in the clinical encounter.

Finally, the relationships between the two outcomes, patient preferred role and patient perceived role achieved in the surgical decision, and subsequent satisfaction with the decision was explored. A woman's preferred decisional role was not associated with satisfaction with the treatment decision. However, there was a significant correlation between how women perceived the decision was made and their satisfaction with the decision, with women who perceived playing a more active decisional role reporting higher levels of satisfaction (*r* = -0.27, *P* < .01).

DISCUSSION

This study design allowed us to compare women's preferences for decision making with their perceptions of how the

Table 7. Final Model of Patient Preference Scale As a Function of Psychosocial Characteristics Controlling for Educational Attainment (n = 97)

Psychosocial Characteristics	Odds Ratio Estimates	95% CI	P
Education			
College degree, yes/no	0.34	0.15 to 0.79	.01
Psychosocial characteristics			
CES-D score	0.95	0.89 to 1.02	.15
Anxiety (STAI)	1.05	0.92 to 1.19	.48
Self-efficacy to communicate with physician	0.74	0.53 to 1.04	.08
Social support scale			
Emotional support	0.95	0.34 to 2.70	.93
Tangible support	1.25	0.54 to 2.87	.60
Affectionate support	2.29	0.79 to 6.69	.13
Positive social interactions	1.16	0.37 to 3.65	.79

Abbreviations: CES-D, Center for Epidemiologic Studies-Depression Scale; STAI, State-Trait Anxiety Inventory.

treatment decision was made, as well as the concordance between the perceptions of female patients and their physicians regarding the treatment decision. With regard to preference, women in this sample generally desired to have either primary responsibility after considering their physician's input or shared responsibility for the breast cancer treatment decision. Overall, the fact that women ultimately reported more involvement in the decision than their stated preference may be viewed as a positive trend, although further studies should examine whether this scenario leads to increased treatment satisfaction or decisional regret. If the goal is to achieve perfect concordance between patient preference and perceived decisional role, the findings suggest there is considerable room for improvement. Only 42% of women reported that degree of concordance. Interestingly, this is exactly the same percentage observed by Degner et al,²² who examined decision making in breast cancer patients using a retrospective approach (ie, women were asked after their decision what role they preferred). However, if one allows up to a one-unit difference on the scale of decisional control to denote concordance, over 85% of the preferred-perceived pairs meet that criterion.

The discord between patients' initial preferences and perceived decisional role may, in part, be explained by their previous experiences with the health care system. Physician-recommended preventive health maintenance behaviors usually do not require shared decision making. For newly diagnosed breast cancer patients, meeting with the surgical oncologist to decide between mastectomy and lumpectomy may be their first opportunity to participate in medical decision making. The demands and expectations of this experience compared with routine preventive care may help explain why women took a more active role in the breast cancer treatment decision than they might have initially preferred.

Regarding the observed discrepancy between patients' and physicians' views of the patients' decisional role, one possible explanation is that physicians based their observa-

tions on behavioral cues, which have been shown to be inconsistent with patient perceptions.^{20,21} Physicians who want to meet their patients' expectations may need to ask directly about role preferences instead of trying to discern them from the opinions offered or questions asked.

This study did not support earlier findings that younger women prefer more influence in the decision-making process.¹⁷ Consistent with several previous studies,^{17,18,22} level of education was a significant factor, with more educated women desiring more active decisional roles. Women who are more educated may also have a heightened awareness of the move toward shared decision making or have more exposure to information on various treatment options.

The psychological factors assessed here generally did not seem to impact preferred decisional role. Current levels of anxiety or depression were not associated with decisional preference. In addition, although perceived level of social support may impact aspects of the surgical recovery process, it did not influence preferred decisional role in this sample. The impact of these factors warrants further study in larger and more diverse samples. Higher levels of self-efficacy to communicate with the physician were marginally associated with the desire to take a more active role in the treatment decision-making process. If shared decision making is desired, interventions aimed at increasing patient self-efficacy to communicate with providers may be warranted.

Although one might speculate that women who desire a more active decisional role may extend the physician-patient encounter to allow sufficient time to hear about each option, this study found no relationship between decisional preference and total visit time. Thus, concerns that increased patient involvement in the treatment decision process will necessarily increase the length of visits²⁸ were not supported. However, there was a significant relationship between active involvement in the surgical decision and satisfaction with the decision.

Several study limitations must be acknowledged. First, the generalizability of the findings is limited to a relatively well-educated, predominately white group of women attending a university-based comprehensive cancer center. In addition, although the physician assessment of the relative influence of each party in making the treatment decision was made immediately after the encounter, patients' views were not ascertained until approximately 1 week later when patients had finalized their decision. This time delay may have impacted the observed concordance. Finally, the sample size did not allow us to do subgroup analyses.

In conclusion, with the exception of education, few sociodemographic or psychosocial factors assessed in this study were associated with preferred decisional role. Never-

theless, we did find that satisfaction is related to more active decision making. Given the overall lack of concordance between physicians' and patients' perceptions of the decisional context, one reasonable and unobtrusive approach would have physicians ask patients' preferences at the beginning of each clinical encounter and check on patients' level of satisfaction with their participation at the conclusion. This simple feedback loop might help narrow the gap between patient preferences and the decisional roles they achieve in the patient-provider interaction.

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