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Physician–Patient Discussions of Controversial Cancer Screening Tests

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Abstract

Background—Screening mammography for younger women and prostate-specific antigen (PSA) measurement have controversial benefits and known potential adverse consequences. While providing informed consent and eliciting patient preference have been advocated for these tests, little is known about how often these discussions take place or about barriers to these discussions.

Methods—We administered a survey to medical house staff and attending physicians practicing primary care. The survey examined physicians' likelihood of discussing screening mammography and PSA testing, and factors influencing the frequency and quality of these discussions.

Results—For the three scenarios, 16% to 34% of physicians stated that they do not discuss the screening tests. The likelihood of having a discussion was significantly associated with house staff physicians' belief that PSA screening is advantageous; house staff and attending physicians' intention to order a PSA test, and attending physicians' intention to order a mammogram; and a controversial indication for screening. The most commonly identified barriers to discussions were lack of time, the complexity of the topic, and a language barrier.

Conclusions—Physicians report they often do not discuss cancer screening tests with their patients. Our finding that physicians' beliefs and intention to order the tests, and extraneous factors such as time constraints and a language barrier, are associated with discussions indicates that some patients may be inappropriately denied the opportunity to choose whether to screen for breast and prostate cancer.

The doctrine of informed consent encourages physicians to allow patients to participate fully in their medical care through provision of information,[1–3] while the model of shared decision-making emphasizes collaboration between physicians and patients.[4] Both models assume that the patient actively participates in the decision-making process. Patient involvement may be especially important for the decision to screen for cancer, as testing risks may cause harm to asymptomatic patients.[5–8]

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Authorities have expressed concern that physicians often provide or withhold screening without involving patients in the decision-making process.[7,9] While the use of screening mammography for women aged <50 years and prostate-specific antigen (PSA) measurement have potential benefits, each has known adverse effects, including anxiety and the evaluation of false-positive results. Given uncertain benefits in reducing mortality and conflicting recommendations,[10–17] physicians have been advised to provide adequate information for patients to make informed decisions about these screening tests.[1,13,18–27] Little is known, however, about how often physicians provide patients with information about controversial cancer screening tests, and the factors influencing the frequency and quality of these discussions.

Methods

We developed a questionnaire to assess how often physicians provide patients with information about controversial cancer screening tests, and the factors influencing these discussions. Survey items were generated from a review of the literature and open-ended telephone interviews with a random sample of 20 primary care physicians. The survey was piloted with ten academic internists and revised to create the final questionnaire. The survey describes three patients with no significant medical history and normal physical examinations: a 55-year-old man, a 45-year-old woman, and a 55-year-old woman. No other information was presented. After describing each patient, physicians were asked: (1) whether they would order a PSA/mammogram, (2) if the advantages of checking a PSA/mammogram outweigh the disadvantages for the patient, and (3) if they would discuss the benefits and risks of the test with the patient when deciding whether to order a PSA/mammogram. For the man and younger woman, physicians were also asked how likely they would be to discuss the aspects of screening listed in Table 1, and the influence on their discussions of the factors listed in Table 2. House staff were also asked whether their preceptors encourage them to discuss the benefits and risks of testing with patients.

We mailed questionnaires to all attending physicians and categorical house staff affiliated with the departments of medicine of an urban tertiary care hospital, an affiliated municipal hospital, and an affiliated Veterans Affairs hospital. We excluded physicians who stated they do not spend at least 25% of their patient care time practicing primary care. Associations between binary/categoric variables were examined using the chi-square test or Fisher's exact test as appropriate when samples were independent, and using McNemar's test when comparing correlated proportions between scenarios. All tests were two sided at a significance level of 5% and performed using the software package SAS.

Results

Questionnaires were returned by 151 of 278 attending physicians and 83 of 127 house staff physicians, for a response rate of 58%. Of the attending respondents, 65 were excluded because they did not practice primary care. The remaining 86 attending physicians and 83 house staff physicians had a mean age of 45 and 29, respectively. Both groups were predominantly male (66%) and Caucasian (88%). Most attendings were full-time faculty

members of a teaching institution (69%) and board certified (99%), and 43% completed a fellowship in a medical specialty.

Nearly all physicians reported they would order a mammogram for the older woman and 75% for the younger woman, but only 50% of attendings and 6% of house staff would order a PSA measurement (Table 3). Most physicians reported that they decided whether to order the screening tests independent of the patient's preference. Only 17% of physicians chose "depends on the patient's preference" when asked whether they would order a PSA test, and only 18% chose this option for mammography for the younger woman.

Physicians were more likely to discuss screening mammography for the controversial scenario (45-year-old woman) than the uncontroversial scenario (55-year-old woman) (attendings 84% vs 75%, p=0.05; house staff 78% vs 69%, p=0.05). House staff who reported that PSA screening is advantageous were more likely to discuss screening than those who considered the test to be not advantageous (85% vs 55%, p=0.04) (Table 4). However, the likelihood of discussion of PSA screening for attendings and mammography for the younger woman were not significantly affected by physicians' beliefs in the screening tests (Table 4).

In general, physicians reported that they were more likely to discuss screening if they planned to order the test (Table 4). For example, attendings who would order a PSA test were more likely to discuss screening than those who would not order the test (70% vs 53%, p<0.01). For mammography for the younger woman and PSA measurement, all physicians whose decision to order the test depended on the patient's preference would discuss screening.

Aspects of Cancer Screening Discussed and Barriers to Discussion

Physicians reported that they most commonly discussed the efficacy of screening and the potential for false-positive results, and least often discussed aspects of treatment of cancer, if discovered (Table 1). The most commonly identified factors affecting whether a discussion about screening takes place or the quality of the discussion were "lack of time," "the complexity of the topic," and "a language barrier between myself and my patients" (Table 2). Approximately one fourth of all physicians reported that the likelihood or quality of discussion was affected by their "belief that such a discussion would not influence whether I order the test."

Only 28% of house staff agreed that their preceptors encourage them to discuss the benefits and risks of screening mammography and PSA testing with patients. There was a trend for house staff who reported being encouraged to have these discussions to discuss the tests more often than those who reported not being encouraged (PSA 83% vs 53%, p=0.06; mammography for the younger woman 83% vs 65%, p=0.06; mammography for the older woman 83% vs 53%, p=0.03).

Discussion

Several findings from this study indicate that a substantial number of physicians decide whether to screen patients for prostate and breast cancer without sufficiently involving patients in the decision. Up to one third of physicians reported that they do not discuss the risks and benefits of these cancer screening tests at all, and few physicians reported that their decision whether to order the controversial tests depends on their patient's preference. Furthermore, up to one fourth of physicians stated that the frequency or quality of their discussions is affected by their belief that such a discussion would not influence whether they order the test.

Physicians appear to be more likely to discuss tests with patients if they believe in the test and intend to order it. Moreover, the controversial test (mammography for a younger woman) was discussed more often than the uncontroversial test (mammography for an older woman). If physicians tend not to discuss aspects of medical care that are clear (even if they confer risks), this would be at odds with the accepted principle that patients should participate in the decision-making process for all significant medical decisions.[3,9,28–30]

Time constraints and the complexity of the discussion were the two most-common barriers physicians reported to discussing controversial cancer screening tests. Several authorities have described the difficulties inherent in discussing the benefits and risks of these tests.[7,21,26,31] Physicians may become more comfortable fostering patient participation by making use of existing tools and techniques that simplify the discussion.[32] In addition, our finding that a language barrier is a common impediment to discussions emphasizes that having adequate resources available for interpretation is essential to the informed consent process. In our study, preceptor encouragement showed a trend toward increasing the rate of discussion by house staff. Thus, there may be an opportunity to alter the behavior of house staff by educating their preceptors.

The primary limitation of this study is the reliance on self-report to describe physician behavior. Other studies have found that physicians tend to overestimate their performance of discussions with patients.[33–35] An analysis of audiotaped primary care encounters revealed that physicians elicited patients' preferences for only 19% of decisions.[36] A second limitation was the conduct of the study among a relatively small group of physicians at three affiliated urban hospital centers. Future research should directly measure the behaviors of larger and more diverse groups of physicians.

Pauker and Kassirer[19] have argued that the decision whether to screen women aged <50 years for breast cancer and men for prostate cancer is a "toss-up," and that it is the patient's choice, "no matter what the studies show or how physicians, policy analysts, or special-interest groups interpret the data." Our finding that physicians' beliefs and intention to order the tests, and extraneous factors such as time constraints, are associated with discussions indicates that some patients may be inappropriately denied the opportunity to make this choice.

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Table 1

Aspects of screening discussed

	PSA measurement[a] % (N=169)	Mammography, 45-year-old woman[a] % (N=169)
The efficacy or lack of efficacy in detecting prostate/breast cancer	90	85
The efficacy or lack of efficacy in reducing mortality from prostate/breast cancer	78	77
The possibility that a test may prompt further procedures that may not reveal cancer	94	82
The anxiety that may occur while waiting for results or getting results that require more tests	66	59
The possibility that prostate cancer, even if untreated, may not cause significant morbidity	69	
The possible pain and discomfort of mammography		64
The efficacy or lack of efficacy of treatment options that are available for prostate/breast cancer	57	38
The possible side effects of various treatments for prostate/breast cancer	43	26

[a]Combined data for attendings and house staff. There were no significant differences between attendings and house staff.

PSA, prostate-specific antigen.

Table 2

Factors influencing discussions of cancer screening[a]

	PSA measurement		Mammography, 45-year-old woman	
	Attendings % (N=86)	House staff % (N=83)	Attendings % (N=86)	House staff % (N=83)
Lack of time	51	58	46	52
The complexity of this topic	48	48	32	32
A language barrier between myself and my patients	32	44	26	36
My belief that such a discussion would not influence whether I order the test	25	18	26	24
My personal lack of knowledge about the benefits and risks of screening PSA/mammography	8*	39	7	14
My concern that this discussion would make me appear less knowledgeable to the patient	1*	10	1†	10
The concern that this discussion might discourage the patient from having the test	6	5	10	17
The patients I see are already well informed about this topic	4*	1	10‡	1

[a]For each factor, respondents were asked to indicate their level of agreement with a statement that the factor "affects whether I have a discussion, or affects the quality of the discussion."

Physicians responding strongly agree or agree were considered to feel the factor affects their discussion.

*$p<0.01$ for the comparison of house staff and attendings.

†$p=0.02$ for the comparison of house staff and attendings.

‡$p=0.03$ for the comparison of house staff and attendings.

PSA, prostate-specific antigen.

Table 3

Physician discussions, beliefs, and intention to order screening PSA measurement and mammography

	Would discuss risks and benefits[a]		Believe test is advantageous[b]		Would order test[c]	
	Attendings % (N=86)	House staff % (N=83)	Attendings % (N=86)	House staff % (N=83)	Attendings % (N=86)	House staff % (N=83)
PSA measurement	69	66	52	26	50	6
Mammography, 45-year-old	84	78	76	79	71	77
Mammography, 55-year-old	75	69	100	100	99	100

[a] Percentage responding that they would definitely or probably discuss the benefits and risks of the test.

[b] Percentage responding that the advantages of the test definitely or probably outweigh the disadvantages.

[c] Percentage responding that they would definitely or probably order the test.

PSA, prostate-specific antigen.

Table 4

Rates of discussion in relation to physicians' beliefs in the test's benefits and intention to order the test

	Discuss,[a] attendings *n* (%)		Discuss,[a] house staff *n* (%)	
Belief in the test's benefits—prostate-specific antigen				
Advantageous	31/45 (69)		17/20 (85)	
Not advantageous	20/33 (61)		27/49 (55)	*p*=.04
Unsure	8/8 (100)		9/11 (82)	
Belief in the test's benefits—mammography (45-year-old)				
Advantageous	53/65 (81)		50/64 (78)	
Not advantageous	7/8 (87)		7/8 (87)	
Unsure	11/12 (92)		6/9 (67)	
Intention to order—prostate-specific antigen				
Order	30/43 (70)		5/5 (100)	
Do not order	16/30 (53)	*p*<.01	32/59 (54)	*p*<.01
Depends on the patient's preference	13/13 (100)		16/16 (100)	
Intention to order—mammography (45-year-old)				
Order	47/60 (78)		47/62 (76)	
Do not order	3/5 (60)	*p*=.01	7/9 (78)	
Depends on the patient's preference	20/20 (100)		9/10 (90)	

[a]Subjects responding that they would definitely or probably discuss the benefits and risks of the test by category. Thus, 31/45 means that 31 of 45 subjects with a particular belief or intention would definitely or probably discuss the test with the patient.