

# The Experience of Screening Mammography

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*Nearly 1000 women who had just undergone screening mammography responded to a survey regarding demographics, the circumstances of the mammographic examination, and their responses to it. Several findings of interest to the family physician include the following: (1) The majority of respondents obtained the examination as a result of their physician's referral rather than on their own. (2) Most respondents experienced less pain during the procedure than they had anticipated. (3) The major expressed motivation for obtaining the examination was to seek reassurance that nothing was wrong. Family physicians need to know that screening mammography patients accept the procedure, and should incorporate awareness of the above findings into their routine practice.*

Screening mammography is an important but underutilized method for controlling breast cancer.<sup>1-6</sup> Studies typically find that fewer than 20% of eligible women have ever had a mammogram.<sup>4-7</sup> Women's negative attitudes have been cited as a powerful factor in this underutilization. Fear of cancer, of losing a breast, of pain or of radiation associated with the examination itself, and even embarrassment about breasts are said to predispose women to refuse physicians' mammography referrals, let alone obtain the test on their own.<sup>8-11</sup> Physician reluctance to make a mammography referral reflects failure to conduct breast examinations, ignorance of (or lack of agreement with) recommendations, and such concerns as the examination's cost, safety, reliability, and yield, and the belief that patients are unwilling to accept a referral.<sup>1,3,12,13</sup>

Women's reactions to the experience of screening mammography are important, as a screening method must be acceptable to the population for which it is intended. A bad experience might cause a woman to avoid future mammograms, and hence run the risk of undetected breast cancer, to speak badly of the procedure to others, and to distrust preventive measures in general. Moreover, patient reactions may be quite important for family physicians and others in primary care. Along with physicians' beliefs about safety, yield, false-positive results, and so on, patient reactions could powerfully affect physicians' likelihood and manner of recommending the procedure.

A literature search revealed three studies dealing with

the issue of women's reactions to the mammography experience. The first<sup>14</sup> examined reactions of 60 mammography patients at a university clinic. The study found that, on the whole, the experience was positive; most women felt some relief when it was over, verifying the notion that women undergo the examination with some anxiety. A Danish study examined patients' attitudes and reactions while they awaited the procedure.<sup>15</sup> Two thirds of these women stated that they did not fear the results of their examination. In the third study, 224 women, mostly from minority groups living in Los Angeles, were interviewed immediately after a mammographic examination.<sup>16</sup> The experience was acceptable or even positive for most of them. Thus, what is known indicates that once women get through the examination, their reported experience is neutral or positive.

The purpose of the current study was to learn about particular aspects of the experience of mammography, including women's physical and emotional reactions, as well as the role of several motivating factors, both positive and negative, that might be important. Awareness of these reactions and factors can be used by family physicians to gain insight into the patient's experience of the examination, to allay patient anxieties, and ultimately to improve patient cooperation with mammography referrals.

## METHODS

### Questionnaire

A single-page, self-administered questionnaire was devised. Its introduction requested participation. Demo-

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**TABLE 1. QUESTIONNAIRE COMPOSED OF ATTITUDE STATEMENTS REGARDING MAMMOGRAPHY GIVEN TO WOMEN (N = 985) AT 5 SCREENING SITES**

I was looking forward to this examination.  
 I was dreading this examination.  
 I found the examination to be less painful than I imagined.  
 I found the examination to be more painful than I imagined.  
 I have been worried about my breasts lately.  
 A friend or relative of mine recently found she had breast disease.  
 Things I heard or read made me think twice about this examination.  
 The inconvenience or cost of this examination made me think twice about it.  
 I am afraid of what this examination will reveal.  
 I took this examination to reassure myself that nothing is wrong with my breasts.  
 I believe I am more likely than other women to get breast cancer.

**TABLE 2. DISTRIBUTION OF RESPONDENTS (N = 985), BY SITE, RESPONSE RATE, AGE, AND MARITAL STATUS**

	Site					Overall
	1	2	3	4	5	
Number	415	120	53	140	257	985
Response rate (%)	84	93	65	79	58	72
Age (years)						
Median	55	52	53	51	53	53
Range	21-84	22-77	32-76	30-87	31-82	21-87
Marital status (%)						
Single	4	7	2	2	13	7
Married	79	80	76	82	35	68
Separated or divorced	7	9	15	7	27	13
Widowed	9	4	8	9	25	13

graphic items—age, marital status, and occupation—were followed by items pertaining to the examination itself: first vs repeat mammogram, result of self-referral or physician referral; if the result of a physician's referral, the time since the referral was made and whether the patient requested the referral. Patients were then instructed to read 11 attitude statements and "check all those that apply to you." The 11 statements (Table 1) were chosen to reflect variables cited in the literature as important in women's decisions regarding mammograms, including anxiety about results,<sup>15</sup> perceived vulnerability to breast cancer,<sup>11</sup> the reputation of the examination,<sup>9,15</sup> a triggering event such as the diagnosis of breast cancer in a friend or relative,<sup>5</sup> perceived barriers to obtaining the examination,<sup>9</sup> seeking reassurance,<sup>3</sup> perceived pain relative to expectation, and overall attitude about the examination.

**Site Selection and Description**

Sites were selected that had a large volume of screening mammograms, that were located in or near a small Mid-western city, and that represented different types of patient populations. Site 1 was a recently established mobile mammography unit that traveled to several community physicians' offices on a regular basis. Site 2 was an older, established radiology office serving private practitioners in a medical building. Site 3 was similar to site 2. Site 4 was a hospital-based radiology practice in a small working-class community. Site 5 was located in a large nearby city and served primarily an inner-city population. Administrators of these sites participated in the study by having their technicians distribute and collect questionnaires during the autumn of 1987. In return, they received feedback comparing their own site with the others.

**Procedure**

Personnel at each site were told to give every screening mammography patient a questionnaire after her mammograms had been taken but before they were read. Site personnel were to tell patients that participation was completely voluntary and were instructed how to answer patients' questions. Patients had as much time as they needed to complete the questionnaire, which rarely exceeded a few minutes. Site reports indicated that the only major deviation from this procedure occurred at the inner-city site, where by previous agreement the technician was instructed to exclude from the sample patients who could not read. Minor deviations, such as occasional failures to hand out questionnaires to all patients, undoubtedly occurred as well.

**RESULTS**

**Demographics**

The distribution of the 985 respondents by site as well as data on response rates, age (median and range), and marital status is shown in Table 2. Respondents ranged in age from 21 to 87 years; the median age ranged from 51 to 55 years. Sites 1 through 4 were similar with regard to the distribution of marital status: roughly 80% married, 15% separated, divorced, or widowed, and the remainder single. Site 5 had many fewer married women and many more separated, divorced, widowed, and single women. The most frequently listed occupation for all sites was "homemaker."

**TABLE 3. FIRST MAMMOGRAM AND REFERRAL STATUS OF RESPONDENTS**

Item	Percent
First mammogram	55
Referral	
Physician	80
Self	17
Both*	2
If physician's referral, how recent	
Up to 1 month	72
1 to 2 months	11
>2 months	16
Physician's referral at patient's request	19

\*Although the question of referral source was meant to be dichotomous, a few respondents marked both responses

**First Mammogram and Referral Data**

Table 3 shows the percentage of patients having their first mammogram and indicates the type of referral. Just over one half the respondents were obtaining their first mammogram.

Most women—80% overall—said they got the mammogram as a result of a physician's referral. Two additional questions were asked, if the woman indicated a physician's referral: how long ago the referral was made, and whether the patient requested the referral. About three quarters of referred women stated that they had been referred within the past month, and 19% of referred respondents stated that they requested their physician to refer for a mammogram, suggesting that some women are taking an active role in obtaining the test.

**Attitude Statements**

Table 4 displays the percentages of respondents who indicated that a particular attitude statement applied to them. One third of the women stated they had been looking forward to the examination, although one quarter stated they had been dreading it. Over one half of the respondents found the examination to be less painful than they had imagined, while only 15% overall found it to be more so. It does not seem that either general worry or specific motivating factors were involved in getting the examination: only one in six respondents indicated such a concern or precipitating event. Nor was a more global sense of personal vulnerability to breast cancer very important. The two statements dealing with barriers in the form of negative publicity and costs and inconvenience were endorsed by only 16% and 7% of respondents, respectively. Only one tenth of the respondents admitted fearing test results, while the overwhelming majority—82% of women overall—wanted reassurance that nothing was wrong with their breasts.

**DISCUSSION**

Although the respondents in this survey were awaiting results of a test that might reveal a feared disease, they indicated that the experience of the test itself was relatively benign. These findings are by and large in line with those of previous studies that indicate the acceptability of mammography to women who make use of it.<sup>14-16</sup> Because the sample consists only of women who decided to have a mammogram and who may have had a positive orientation to the test at the outset, these findings should not be generalized to all eligible women.

**TABLE 4. PERCENTAGE OF RESPONDENTS SUBSCRIBING TO ATTITUDE STATEMENTS REGARDING MAMMOGRAPHY ADMINISTERED IN QUESTIONNAIRE**

Patient Attitudes	Mammogram			P*
	Overall	First	Repeat	
Looked forward to mammogram	33	31	34	NS
Dreaded mammogram	25	31	18	.001
Found less painful than expected	56	65	45	.001
Found more painful than expected	15	15	15	NS
Worried about breasts	16	16	17	NS
Friend or relative has breast disease	16	18	13	NS
Influenced by things heard	16	20	12	.001
Hesitated because of cost and inconvenience	7	7	5	NS
Feared results	10	10	7	.003
Wanted reassurance	82	83	82	NS
Am more likely to get breast cancer	14	10	20	.001

\*Probability of difference between first-mammogram patients and patients having a repeat mammogram, by chi square (1 df)

With this important qualification in mind, the following conclusions seem to be in order: First, although a substantial minority of women referred themselves or requested a physician's referral, most women in the sample reported a physician's referral for the test, which implies that the majority of women are waiting for their physicians to initiate mammography referral.

Second, the evidence from this study and other studies suggests that most patients who get mammograms accept them. According to data in Table 4, when compared with repeat mammogram patients, first-time mammography patients, who were in the majority in the sample and who might be somewhat more representative of eligible women than the whole sample (as most eligible women have not had a mammogram), more often dreaded the examination and feared its results but also more often found it less painful than expected. In addition, first-time patients were more likely to report that things they heard or read made them think twice about a mammogram. These findings suggest that experience with mammography may change women's perceptions by reducing fear and expectation of pain. On the other hand, repeat patients were twice as likely as first-time patients to believe that they were more vulnerable to breast cancer.

Third, physicians might profit from knowing that mammography patients overwhelmingly endorsed the statement pertaining to reassurance. This finding is important and not obvious. According to these women, their mammograms were taken for reassurance that nothing was wrong rather than as a response to recent worries, belief in personal vulnerability, or findings of breast disease in a friend or relative. Peace of mind would seem most likely to be a major motive for seeking mammography; its emphasis should become part of the physician's routine when recommending the test.

Fourth, the findings on reported pain are worth noting. Relatively few of the respondents reported the examination to be more painful than imagined, and more than one half reported it to be less painful than imagined. A physician's statement to a prospective mammography patient, such as, "Many women who have this test report that it's less painful than they thought it would be," might alleviate a great deal of needless worry.

The underutilization of screening mammography is a complex outcome of physicians' beliefs and behaviors, women's attitudes and health practices, and characteristics

of the health care system that determine the test's accuracy, availability, and safety. Data from this study provide evidence that the experience of screening mammography itself does not seem to be a negative one; whether physicians will change their referral practices on the basis of such evidence remains to be seen.

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