

The Effect of Unmet Expectations among Adults Presenting with Physical Symptoms

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Background: Unmet patient expectations are common and have been associated with decreased patient satisfaction.

Objective: To assess the prevalence and effect of unmet expectations in patients presenting with physical symptoms.

Design: Prospective cohort study.

Setting: Primary care walk-in clinic. Most patients were seeing a particular provider for the first time.

Patients: 750 adults whose principal reason for the clinic visit was a physical symptom.

Measurements: Patients completed previsit questionnaires that assessed symptom characteristics, the patient's expectations of the visit, functional status (Medical Outcomes Study Short Form-6), and mental disorders (Primary Care Evaluation of Mental Disorders [PRIME-MD]). Patient questionnaires given immediately after the visit and 2 weeks after the visit assessed patient satisfaction with the visit and unmet expectations; the 2-week questionnaire also assessed symptom outcome and functional status. Postvisit physician questionnaires measured encounter difficulty (Difficult Doctor Patient Relationship Questionnaire) and what the physician did in response to the patient's symptom.

Results: Nearly all patients (98%) had at least one previsit expectation, including a diagnosis (81%), an estimate of how long

the symptom was likely to last (63%), a prescription (60%), a diagnostic test (54%), and a subspecialty referral (45%). Immediately after the visit, the most common unmet expectations were for prognostic information (51%) or diagnostic information (33%). Only 11% of patients had an unmet expectation of a diagnostic test, subspecialty referral, prescription, or sick slip. Unmet patient expectations were more common after encounters experienced as difficult by the clinician and in patients with underlying mental disorders. Patients with no unmet expectations had less worry about serious illness (54% vs. 27%; $P < 0.001$) and greater satisfaction (59% vs. 19%; $P < 0.001$), and patients who reported receiving diagnostic or prognostic information were more likely to have symptom alleviation (relative risk, 1.2 [95% CI, 1.02 to 1.3]) and functional improvement (functional status score, 25 vs. 23; $P = 0.01$) at 2 weeks.

Conclusions: Patients who seek care for physical symptoms and do not leave the encounter with an unmet expectation are more likely to be satisfied with their care and to have less worry about serious illness. Diagnostic and prognostic information are particularly valued by patients and may be associated with greater improvement in symptoms and functional status 2 weeks after the visit.

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Almost 20 years ago, Barsky (1) wrote of “hidden” reasons why patients seek medical care, and he suggested that patient dissatisfaction should trigger exploration for unmet expectations. Subsequent research has shown that patient expectations, distinct from requests (2), are ubiquitous. Broad categories include expectations of information, support, and medical diagnosis or treatment (3, 4). Unfortunately, physicians often undervalue or do not recognize patient expectations (5–7), and expectations are therefore often unmet (8–14). Unmet expectations have been associated with decreased patient satisfaction (8, 15–21), no adherence (15, 22–24), and possibly worse health-related outcomes (18, 25).

Our goal was to determine the frequency of symptom-related patient concerns and expectations and to assess the relationship between expectations and patient-centered outcomes.

METHODS

Adults presenting to the general medicine walk-in clinic at Walter Reed Army Medical Center, Washington, D.C., with a chief complaint of a physical symptom were eligible to participate. The demographic characteristics, medical and psychiatric comorbid conditions, and satisfaction with care of patients seen in a military general medicine clinic are similar to those seen in civilian settings (26, 27).

These protocols were approved by our institutional human use committee.

Previsit Patient Questionnaire

Immediately before seeing a physician, all patients completed a questionnaire on their presenting symptom (“What problem brings you to the clinic today?”), symp-

tom severity (ranked from 0 to 10 on a visual analogue scale), symptom duration (in days), previous visits for the symptom (yes or no), worry about serious illness (yes or no), stress in the previous week (yes or no), and presence of common symptom-related expectations. The expectations included expectations of a diagnosis (an explanation of the symptom's cause), prognostic information (an estimate of how long the symptom was likely to last), a prescription, a diagnostic test, a referral to another clinic, or another physician action (8, 13). In addition, all patients completed the Medical Outcomes Study Short Form-6, a six-item scale that measures functional status in six domains: general health, role function, physical function, social function, emotional health, and physical pain (28). Patients were also evaluated for depressive and anxiety disorders by using the Primary Care Evaluation of Mental Disorders (PRIME-MD) (29).

Postvisit Patient Questionnaire

Immediately after the visit, patients completed the Medical Outcomes Study nine-item satisfaction survey (30), which asks about overall satisfaction and eight domains of satisfaction. Additional questions assessed residual worry about serious illness and unmet expectations with respect to a diagnosis, prognostic information, a prescription, a diagnostic test, or a referral. Patients were invited to list any other unmet expectations.

Two-Week Patient Questionnaire

Two weeks after the visit, patients were mailed a questionnaire that assessed symptom outcome and severity, residual worry about serious illness, unmet expectations, functional status (Medical Outcomes Study Short Form-6), and a single question on satisfaction: "Overall, how do you feel about the care you received for *this problem* from your doctor?" Patients were also asked whether they had had or had anticipated having another physician visit for the original symptom and whether the symptom had lasted longer than expected.

Physician Variables

After each visit, physicians completed the 10-item Difficult Doctor Patient Relationship Questionnaire (31) to assess clinician-perceived difficulty of the encounter. This questionnaire was previously shown to be reliable, with scores greater than 30 points (on a scale of

10 to 60 points) indicating a "difficult" encounter (32). Physicians also indicated whether the symptom had led them to order a prescription, diagnostic test, or referral and whether they had told the patient what the problem was and how long it would probably last.

Statistical Analysis

Our primary analysis assessed the presence of unmet expectations immediately after the visit and 2 weeks after the visit in relation to other variables, using the chi-square test or the Student *t*-test. The McNemar test was used to compare the proportion of patients who had an unmet expectation immediately after the visit with the proportion of patients who had an unmet expectation at 2 weeks. To assess functional status, overall scores were created by summing scores for each of the individual domains. Logistic regression techniques were used to determine independent correlates of unmet expectations and satisfaction. Unmet expectations were dichotomized into any unmet expectation or no unmet expectation; overall satisfaction was dichotomized into fully satisfied or less than fully satisfied. Overall satisfaction was used at both time points for two reasons. First, each of the eight domains of satisfaction of the Medical Outcomes Study survey correlated strongly with overall satisfaction ($r > 0.85$). Second, we thought that at 2 weeks, patients would recall overall satisfaction more accurately than they would recall specific aspects of the encounter.

Data were collected as part of two clinical trials in which previsit information on patients' symptom-related expectations and mental disorders was given to clinicians. Both trials were done in the same clinic, had the same inclusion criteria (walk-in patients presenting with a physical symptom), and included the same survey instruments. The first study, a pre-post trial involving 500 patients, was conducted from November 1994 to January 1996 (33). During the intervention period, physicians were given previsit information about their patients' worry over serious illness, expectations of care, and mental disorders. The second study, a randomized trial involving 250 patients, was done from August to September 1998. Patients were randomly assigned to one of three groups. One group's clinicians were given no information, the second group's clinicians were given previsit information about worry over serious illness and expectations, and the third group's clinicians received information about mental disorders.

The two cohorts were similar in terms of patient sex, race, educational status, worry over serious illness, symptom duration, symptom type or severity, number of previsit expectations, functional status, recent stress, prevalence of mental disorders, satisfaction, and 2-week improvement rates. Patients in the first cohort were slightly older than those in the second (55 years vs. 51 years; $P = 0.007$). Because the two cohorts were similar in most variables and visited the same clinic, they were combined into one group for purposes of our analysis. Although no differences were seen in any outcome measured in the second trial, the pre–post trial modestly reduced unmet expectations and patient difficulty (33). We explored for potential confounding of our outcomes by this intervention; because we found none, we report all data unadjusted. All analyses were done by using Stata 6.0 (Stata Corp., College Station, Texas).

RESULTS

Baseline Data

Table 1 presents the baseline characteristics of the study sample. The 750 participating patients averaged 55 years of age; 52% were women, 49% were white, and 46% were African American. Most patients (93%) were seeing the examining physician for the first time. Thirty percent of patients had a depressive or anxiety disorder. Patients presented with numerous problems, which we collapsed into 15 broad categories. One hundred forty-three patients (19%) answered the question “What problem brings you to the clinic?” by stating that they had more than one physical symptom, 97 (13%) noted two symptoms, 14 (2%) had three symptoms, and 3 (0.4%) listed four symptoms. The most common type of symptom was pain (53%), and the second most common was symptoms suggestive of an upper respiratory tract infection (congestion or cough), present in 21%. In addition to listing their presenting symptoms, patients were asked whether they had been “often bothered” by 15 common symptoms on the PRIME-MD. Patients had had a mean (\pm SD) of 4 ± 2.8 of these symptoms during the past month (median, 4; range, 0 to 14). The median duration of the presenting physical symptom was 14 days (range, 12 hours to 13 years). Sixty-three percent of patients were worried that their symptom might represent a serious illness.

Nearly all patients (98%) reported at least one previsit expectation (Table 2). Eighty-one percent hoped

Table 1. Characteristics of the Study Sample

Characteristic	Value
Demographic characteristics	
Mean age \pm SD, y	54.6 \pm 18.4
Female sex, %	52
Ethnicity	
White	49
African American	46
Other	6
Symptom characteristics	
Median duration (range)	14 d (12 h–13 y)
Mean symptom severity \pm SD (on a scale of 1 to 10)	5.6 \pm 2.6
Type of presenting symptom, %	
Back pain	7
Chest pain	4
Cough, congestion	21
Dermatologic	12
Dizziness	5
Ear, nose, throat	6
Fatigue	2
Gastrointestinal	11
Genitourinary	5
Headache	4
Musculoskeletal	30
Neurologic	2
Ophthalmologic	4
Any pain	53
Psychiatric	0.5
Previous visit with any physician for this problem, %	45
Worry about serious illness, %	63
Recent stress, %	43
Mental disorder, %	
Any	30
More than one	15
Depression	
Major	8
Minor	12
Anxiety disorder	
Generalized anxiety disorder	2
Panic disorder	1
Anxiety not otherwise specified	12

for a diagnosis (an explanation of the symptom’s cause), and 63% desired prognostic information (an estimate of how long the symptom would last). Sixty-six percent hoped for a prescription, 54% a diagnostic test, 45% a subspecialty referral, and 7% an excuse from work. The 250 patients in the randomized trial were also asked about expectations for counseling or referral for specific issues, but these expectations were held by only small proportions of patients. The specific issues included tobacco use (0.43%), nutrition (1.7%), alcohol use (0.43%), obesity (1.7%), exercise (1.3%), cancer screening (0.9%), cholesterol levels (1.3%), sexual function (0.43%), stress management (2.2%), and domestic violence (0%).

Most patients had more than one expectation for

Table 2. Prevalence of Symptom-Related Expectations

Symptom-Related Expectation	Before the Visit (n = 750)	Immediately after the Visit (n = 750)	At 2-Week Follow-up (n = 632)
	←—————%—————→		
Physician communication			
Diagnostic (causal explanation of symptom)	81	33	Not measured
Prognostic (likely duration of symptom)	63	51	Not measured
Physician action			
Diagnostic test	54	5	14
Prescription for medication	66	2	6
Subspecialty referral	45	4	16
Work excuse	7	0	0

the visit, and the mean number of expectations was 3 ± 1.3 (Figure). Patients who desired a diagnosis were more likely to want prognostic information (relative risk [RR], 1.6 [95% CI, 1.5 to 1.8]), but neither of these expectations clustered with desires for a prescription, test, or referral. In addition, no evidence was seen of clustering of desires for prescriptions, referrals, or diagnostic testing. Neither the type nor the number of previsit expectations was associated with demographic characteristics; presence of a mental disorder; functional status; or duration, type, or severity of the presenting symptom. There was also no relationship between the type or number of previsit expectations and the number of physical symptoms, whether volunteered by the patient as a presenting symptom or noted on the PRIME-MD.

Immediately after the Visit

Immediately after the visit, the proportion of patients worrying about serious illness was substantially reduced, from 63% to 30%. One third of patients had an unmet expectation of a diagnosis, and half had an unmet expectation of prognostic information (Table 2); only 12% had any other unmet expectation (5% had desired a diagnostic test, 4% a referral, 2% a prescription, and 1% a sick slip).

On multivariate analysis, continuing worry about serious illness, not receiving a diagnosis, being considered difficult by the physician, and having an underlying mental disorder independently increased the likelihood of having an unmet expectation immediately after the visit (Table 3). In contrast, patient demographic characteristics, type or duration of the presenting symptom, recent stress, and functional status were not associated

with unmet expectations. Patients with an underlying mental disorder had more symptoms, both volunteered as presenting symptoms and noted on the PRIME-MD ($P < 0.001$ for both). However, neither measure of symptom count was associated with a greater likelihood of unmet expectations after adjustment for mental disorders.

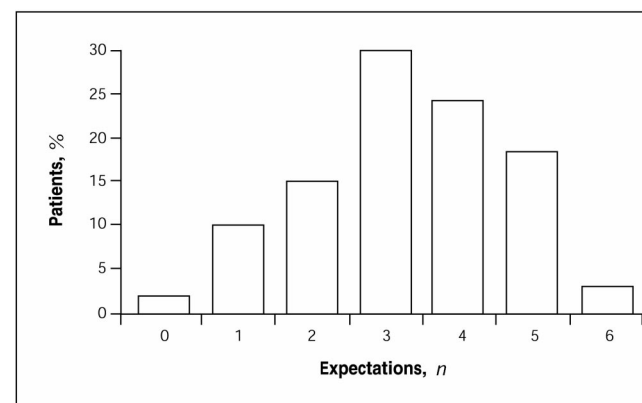
Most patients who had an unmet expectation after their visit had had a previsit desire for the same item, including 76% of patients with a residual desire for a prescription, 68% of those still wanting a diagnostic test, and 62% of those still desiring a subspecialty referral. Patients who expressed previsit expectations for a prescription (RR, 1.5 [CI, 1.3 to 1.8]), a diagnostic test (RR, 1.5 [CI, 1.3 to 1.8]), or a referral (RR, 1.6 [CI, 1.3 to 1.9]) were more likely to receive them. This was not the case for those desiring a diagnosis or prognostic information.

Immediately after the visit, 55% of patients were fully satisfied with the care they had received. Patients were more likely to be fully satisfied if they had received a diagnosis (RR, 1.4 [CI, 1.2 to 1.6]) or prognostic information (RR, 1.3 [CI, 1.2 to 1.5]), and patients were less likely to be fully satisfied if they had an unmet expectation for a test or referral (RR, 0.4 [CI, 0.2 to 0.6]). Unmet expectations for prescriptions were not associated with satisfaction.

Two Weeks after the Visit

We obtained follow-up information on 632 patients (84%) at 2 weeks. Nonrespondents differed from respondents only in being younger (43 years vs. 55 years; $P < 0.001$); no differences were seen in previsit expect-

Figure. Distribution of previsit expectations among patients presenting with physical symptoms.



tations, unmet expectations or satisfaction after the visit, or likelihood of receiving a diagnosis or prognostic information. By 2 weeks, 71% of patients had symptom alleviation. Patients who reported immediately after the visit that they had received a diagnosis (RR, 1.2 [CI, 1.02 to 1.3]) or prognostic information (RR, 1.2 [CI, 1.04 to 1.3]) were more likely to have symptom improvement, even after adjustment for patient demographic characteristics (age and sex), the presence of mental disorders, and symptom characteristics (duration, severity, and type of symptom).

Worry about serious illness rebounded slightly; 30% of patients had it immediately after the visit, and 38% had it by 2 weeks (Table 2). Two thirds of patients thought that their symptom had lasted longer than expected, and 44% either had had or had anticipated another visit for the same symptom. Actual or anticipated revisits were less likely in patients who were given a diagnosis (RR, 0.88 [CI, 0.78 to 0.99]) or prognostic information (RR, 0.79 [CI, 0.69 to 0.91]).

Unmet expectations were more prevalent at 2 weeks than immediately after the visit (27% vs. 11%; $P < 0.001$). Among patients reporting complete resolution of their symptom, 14% reported an unmet expectation. In contrast, an unmet expectation was reported by 28% of patients reporting their symptom as “better,” 48% of those reporting “no change,” and 64% of those reporting “worsening.” Overall, 16% of patients at 2 weeks wished that they had received a referral, 14% wished that they had received a diagnostic test, and 6% wished that they had received a prescription (Table 2). No relationship was seen between previsit expectations and unmet expectations at 2 weeks. Whereas patients reporting an unmet expectation immediately after the visit were more likely to still have unmet expectations at 2 weeks (RR, 2.1 [CI, 1.6 to 2.8]), 78% of patients with unmet expectations at 2 weeks had had no unmet expectations immediately after the visit. On multivariate analysis, persistent worry over serious illness, lack of alleviation of the symptom, a longer duration of the symptom than expected, and an encounter rated as difficult by the physician correlated with the presence of an unmet expectation at 2 weeks (Table 3).

By 2 weeks, 60% of patients reported that they were fully satisfied with the care they had received. The strongest correlate of satisfaction at 2 weeks was the absence of any unmet expectation (OR, 15 [CI, 8.7 to 26.1]).

Table 3. Independent Correlates of Unmet Patient Expectations*

Correlate	Odds Ratio for Unmet Expectation (95% CI)	
	Immediately after Visit	2 Weeks after Visit
Worry about serious illness	2.4 (1.5–4.0)	2.5 (1.6–3.8)
Provider considered encounter difficult	1.8 (1.1–3.0)	2.1 (1.2–3.7)
Presence of a depressive or anxiety disorder	1.8 (1.1–3.0)	1.4 (0.9–2.4)
Receiving a diagnosis (causal explanation of symptom)	0.5 (0.3–0.9)	0.9 (0.6–1.4)
Symptom same or worse	NA	1.9 (1.2–3.0)
Symptom lasted longer than expected	NA	2.3 (1.4–3.8)

* NA = not applicable.

Other correlates included symptom alleviation (OR, 3.0 [CI, 1.7 to 5.1]), better functional status (OR, 1.1 [CI, 1.04 to 1.2]), the symptom not lasting longer than expected (OR, 2.0 [CI, 1.2 to 3.4]), and patient age greater than 65 years (OR, 1.9 [CI, 1.1 to 3.1]).

Physician–Patient Interactions

Physicians rated 100 encounters (14%) as difficult. Patients involved in difficult encounters were less likely to report receiving prognostic information (RR, 0.68 [CI, 0.5 to 0.92]) and more likely to have unmet expectations both immediately and at 2 weeks (Table 2).

Patients and physicians had good agreement on certain aspects of the visit, including whether a prescription (85% agreement; $\kappa = 0.63$), a diagnostic test (83% agreement; $\kappa = 0.64$), or a referral (84% agreement; $\kappa = 0.67$) was provided. However, patient–physician agreement was poor on whether a diagnosis (72% agreement; $\kappa = 0.17$) or prognostic information (67% agreement; $\kappa = 0.36$) was provided.

DISCUSSION

Among patients presenting with a physical symptom, symptom-specific expectations for care are common and include desires for a diagnosis and prognostic information as well as diagnostic testing, prescriptions, and referrals. Other common aspects of routine health care seem not to be expected in visits triggered by physical symptoms. Patients who reported receiving prognostic and diagnostic information were more likely to have symptom alleviation and improvement in functional status 2 weeks after the visit. Both immediately and 2

weeks after the visit, patients who reported any unmet expectation were less satisfied with their care.

Previous studies have found that unmet expectations are common (8, 12, 20) and that patients particularly value diagnostic and prognostic information (20, 35–37). Similarly, we found that receiving either diagnostic or prognostic information was associated with a reduction in worry about serious illness immediately after the visit, fewer actual or anticipated return clinic visits at 2 weeks, increased satisfaction both immediately after the visit and at 2 weeks, and a greater likelihood of symptom improvement at 2 weeks. Other trials have shown that better health outcomes (blood pressure, blood glucose level, or functional status) are consistently related to aspects of physician–patient communication (18), but our study links health outcomes specifically to the provision of diagnostic and prognostic information. One possible explanation is that patients with simple, self-limiting disorders are both easier to diagnose and more likely to improve; consequently, their clinicians may be more apt to give them specific diagnostic and prognostic information. However, this does not seem to entirely explain our findings for several reasons.

First, although patients presenting with symptoms lasting 72 hours or less were more likely to be given diagnostic (RR, 1.1 [CI, 1.03 to 1.3]) or prognostic (RR, 1.5 [CI, 1.3 to 1.8]) information, receiving such information predicted improved symptom outcomes even after adjustment for symptom duration. Second, patients presenting with specific categories of symptoms suggesting self-limited illnesses, such as a urinary tract infection, were not more likely to improve than were patients with other categories of somatic problems. Third, no relationship was seen between the physician's report of providing prognostic ($P > 0.2$) or diagnostic ($P = 0.13$) information and the likelihood of symptom alleviation at 2 weeks. If patients with self-limited, straightforward symptoms were more likely to receive a diagnosis or to be given prognostic information, one would expect this to be reflected by physician reports of providing such information. Instead, only the patient's perception of receiving this information was associated with symptom alleviation.

Although patients and physicians agreed rather well about concrete visit events, such as whether a prescription, a diagnostic test, or a subspecialty referral had been ordered, patients frequently disagreed with physicians

about whether diagnostic and prognostic information had been provided. Although disturbing, this discordance has several possible explanations. The physician–patient discussions could be implicit rather than explicit. Physicians may use language not readily understood by the patient, or the patient may reject the physician's prognostic or diagnostic statements. The interactive nature of patient–physician communication is exemplified by the fact that patients from encounters experienced by clinicians as difficult were less likely to report receiving diagnostic information and more likely to have unmet expectations.

Because of limited symptoms-based research, providers themselves may be uncertain about the cause of a symptom in a particular patient. A clear-cut diagnosis cannot be established for physical symptoms at least one third of the time (38). Diagnostic uncertainty may in turn foster hesitancy about discussing prognosis. Preliminary research does suggest that, regardless of symptom type, improvement occurs in most primary care patients within a few weeks to several months of the index visit, and occult, serious causes seldom become manifest at follow-up (39). Clearly, additional research on specific symptoms is needed to strengthen the ability of clinicians to confidently provide diagnostic and prognostic information. Meanwhile, even generic “positive reassurance” strategies may improve symptom outcomes (40).

Our study focused on unscheduled visits for somatic symptoms. Expectations are also common in patients presenting in continuity settings and include desires for physical examination, prescription refills, blood testing, prognostic counseling, and discussion of the patient's own ideas about management (10, 17, 41). Expectations may also vary with the type of visit. In our sample of symptomatic walk-in patients, few were interested in components of health delivery considered part of routine health care, such as counseling on tobacco use, nutrition, weight control, cholesterol levels, cancer screening, and stress reduction. Other studies have suggested that among patients with symptoms, receipt of diagnostic information is more valued than being included in the management decision-making process (42). Clinicians need to consider the nature and reason for the patient's visit to anticipate and elicit particular expectations for the encounter.

Since unmet expectations have been found to be associated with lower satisfaction (8, 10, 16–21), several

investigators have tried to improve management of patient expectations. One study found that giving information to clinicians on patient stress and functioning improved patient satisfaction (47). Other studies, focusing on patient worry about serious illness (48) and providing previsit feedback on patient expectations (49), had no effect. Two trials, using pre–post designs and coupling workshops on eliciting and managing expectations with previsit information on patient desires, reduced the number of unmet expectations without improving satisfaction (33, 50). One of these trials found no improvement in physician communication on diagnosis or prognosis (33); the other trial did not report on this variable. If diagnostic and prognostic information are particularly important, these trials may not have produced changes necessary to improve patient outcomes. On the other hand, although it is tempting to conclude that unmet expectations trigger patient dissatisfaction, the direction of the relationship is not clear. It may be that patients finding themselves less than fully satisfied are more likely to report an unmet expectation immediately after the visit.

Our study has several important limitations. First, the relationship between receipt of diagnostic and prognostic information and symptom alleviation may be due to self-selection. Patients with easily diagnosable, self-limited illness may be more likely to receive diagnostic and prognostic information. Although we adjusted for symptom type and duration as well as for various patient and encounter characteristics, these may not be optimal surrogate markers. However, we also asked physicians whether they had given the patient a diagnostic explanation and discussed prognosis. Notably, physician reports of giving such information failed to predict symptom alleviation, whereas patient reports of receiving this information did.

A second limitation is that the relationship between receiving a diagnosis or prognosis and symptom alleviation was modest (RR, 1.2 for both). Only 10% of the variance in symptom severity at 2 weeks was explained by these two variables. Third, without direct observation, it is difficult to determine precisely the source of discordance between patient and physician reports of what occurred during the encounter. Future studies may wish to include audiotape or videotape. Fourth, our encounters involved almost exclusively new patient–physician interactions. Although one must be cautious about

generalizing these findings to continuity settings, 7% of encounters in our study involved established patient–physician relationships, and these did not differ from other encounters in the number of previsit and postvisit expectations or the rate of symptom alleviation. Moreover, previous studies of established relationships have found the type and number of expectations to be similar to those that we report (9).

Almost all patients who present with physical symptoms have one or more symptom-specific expectations of what is desired from the physician. Unmet expectations after the visit, although less prevalent, may have significant effects on numerous outcomes, including satisfaction, symptom resolution, functional status, and health care utilization. The most important expectations relate to diagnostic information (a causal explanation for the symptom) and prognostic information (an estimate of symptom duration). Unfortunately, this information is often either not provided or not clearly grasped by patients. Clinicians could endeavor to improve this aspect of physician–patient communication by explicitly addressing the diagnostic and prognostic concerns of patients who present with physical symptoms.

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