The Predictive Value of the Presenting Complaint

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The relationship between the presenting complaint and the principal problem identified during 103 new patient visits was assessed in an academic primary care setting. Complaints and problems were classified by content as somatic, psychosocial, or health maintenance and compared by category. The presenting complaint correctly identified the category in 76 percent of somatic but only 6 percent of psychosocial principal problems (sensitivity of 76 percent and 6 percent, respectively). The likelihood of a same-category principal problem (positive predictive value) ranged from 53 percent for somatic to 100 percent for psychosocial presenting complaints. A specific underlying motivation for the visit other than the presenting complaint was noted by the primary provider in 42 percent of the encounters and was most frequent in those encounters characterized by a lack of concordance between complaint and problem. The presenting complaint introduces the clinical encounter, but its value is limited in specifically identifying the principal problem.

The identification of the patient's principal problem during a clinical encounter represents the clinician's synthesis of the historical, physical, and laboratory data obtained. The presenting complaint is elicited early in the encounter with the expectation that it will serve to specifically direct the inquiry toward identification of the principal problem, a function that depends on the predictive value of the complaint. All complaints may not serve equally well in this regard, and the presenting complaint may bear little resemblance to the principal problem ultimately defined.[1-4]

A disparity between complaint and problem implies the operation of a transition in the patient-physician interaction between the focus of the complaint and that of the problem. Such transitions may be initiated by the patient or by the physician in response to verbal or nonverbal patient cues, and a sensitivity to such cues may be an important clinical skill. In an effort to better define both the predictive value of the presenting complaint and the clinician's perception of such transition cues, a study was carried out to examine the clinical perception of concordance between the presenting complaint and the principal problem among new patients in an academic primary care setting.

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Methods

University Health Plan is a primary care internal medicine facility serving a population of both hospital employees, for whom care is provided as an employee benefit, and community patients. This facility is staffed by three faculty internists, three nurse clinicians, and 24 internal medicine residents, all of whom participated in the study. From April 1 through June 30, 1978, 131 newly enrolled patients were evaluated in a routine manner by a resident (85 percent of visits) or staff (15 percent) primary care provider employing history and physical examination as well as office laboratory as appropriate (stool occult blood, urinalysis, or hematocrit determination). Informed consent was obtained prior to the encounter. Participating patients then completed a questionnaire that requested demographic information and a statement of the presenting complaint. Following the encounter, the provider completed a questionnaire indicating the patient's presenting complaint, an assessment of the patient's principal problem, other identified problems, and any perceived underlying motivation other than the presenting complaint that might have prompted the patient's visit. Complete sets of questionnaires were available for the initial visits of the 103 patients who made up the study group.

The complaints and problems were classified by the primary provider as somatic, psychosocial, or health maintenance and coded according to the International Classification of Diseases (ICDA).[5] Psychosocial problems were those classified in the ICDA as mental disorders and included traditional psychiatric diagnoses, situational disturbances, and disorders of presumed psychogenic origin. Health maintenance problems included preventive, administrative, and well-care services (ICDA Y codes). Any underlying motivation noted by the provider was classified by that provider as being a somatic, psychosocial, or health maintenance concern, and its specific content was classified by ICDA code. In those encounters in which more than one presenting complaint was recorded, the complaint most closely concordant with the principal problem was selected for analysis to avoid underestimating concordance levels.

Complaint-problem concordance was assessed using a system similar to that of Freidin et al.[4] The presenting complaint and principal problem, as identified by the provider, were said to be completely concordant if both represented a somatic problem of the same organ system, a psychosocial issue, or an identical health maintenance service. The complaint and problem were partially concordant if they identified somatic problems of differing organ systems, a somatic manifestation of a psychosocial problem, or differing health maintenance services. Completely discordant complaint problem pairs included those differing in their somatic, psychosocial, or health maintenance categorization with the exception of potential somatic manifestations of psychosocial problems (eg, headache as a manifestation of depression), which were classified as partially concordant.

The sensitivity, specificity, and predictive value of the presenting complaint were assessed using the category of the complaint (somatic, psychosocial, or health maintenance) as a "test" for a principal problem of the same category.[6] Thus, for a somatic problem, sensitivity is the proportion of all those with a somatic problem who present a somatic complaint (positive test). Specificity is the proportion of all those with a nonsomatic problem who present a nonsomatic complaint (negative test). Positive predictive value is the proportion of all those with a somatic complaint (positive test) who have a somatic problem, and negative predictive value is the proportion of all those with a nonsomatic complaint (negative test) who have a nonsomatic problem. Groups were compared using chi-square analysis.

Results

A description of the 103 patients is presented in Table 1. These patients introduced 118 presenting complaints from which their clinicians generated 110 principal problems. The relationship between the category of the presenting complaint and that of the identified principal problem is indicated in Table 2. Overall, 55 (50 percent) of the complaint-problem pairs were completely concordant, and 72 (65 percent) were either partially or completely concordant. Psychosocial principal problems were significantly less likely to have been introduced by a concordant presenting complaint than either somatic or health maintenance problems ($P < .01$). Of the 46 somatic principal problems, 35 had presented as concordant somatic

Table 1. Characteristics of the Study Population

Characteristics	No. (%)
Sex	
Male	32 (31)
Female	71 (69)
Age (yr)	
Mean	31
Range	17-83
Payment status	
Employee	55 (53)
Nonemployee	48 (47)
Education	
College graduate	59 (57)
Some college	16 (16)
High school	28 (27)
Occupation	
Professional	52 (51)
Technical	20 (19)
Service	31 (30)

complaints (31 completely, 4 partially). Similarly, of the 29 health maintenance problems, 24 were introduced by concordant complaints (22 completely, 2 partially). In contrast, only 2 of the 35 psychosocial problems had presented as completely concordant complaints, while 11 complaints were partially concordant and 22 completely discordant. Fourteen of these psychosocial problems presented as unrelated somatic complaints, 11 as potential somatic manifestations of the psychosocial problem, and 8 as health maintenance requests. In only 2 of the 55 completely or partially discordant pairs was the complaint concordant with any other problem listed by the clinician.

An underlying motivation other than the presenting complaint was felt by the clinicians to have been instrumental in prompting 46 of the encounters, and was most often of a psychosocial nature (34 psychosocial, 10 somatic, 2 health maintenance). The presence of underlying motivation was associated with identification of a psychosocial principal problem (24 of 35, psychosocial; 16 of 46, somatic; 6 of 29, health maintenance; $P < .01$) and was less frequent in those encounters characterized by complaint-problem complete concordance (11 of 55) than in the partially concordant (11 of 17) or completely discordant (24 of 38) encounters ($P < .01$). No significant relationship was found between patient demographic characteristics (Table 1) and complaint category or complaint-problem concordance or with the presence of underlying motivation.

If the category of the presenting complaint (somatic, psychosocial, or health maintenance) is regarded as a "test" for the presence of a principal problem of the same category, then the complaint's sensitivity, specificity, and predictive value can be examined (Table 3). Complaints varied substantially in their ability to identify the nature of the principal problem. Of the 65 somatic presenting complaints, 35 were associated with a somatic principal problem (four of which were in differing organ systems), yielding a positive predictive value of only 53 percent. Similarly, the positive predictive value of a health maintenance complaint was 55 percent. Psychosocial presenting complaints were unusual (two encounters) but, when present, were in each case associated with a psychosocial principal problem (positive predictive value of 100 percent). The sensitivity of a psychosocial complaint, however, was only 6 percent in detecting a psychosocial principal problem (2 of 35).

Discussion

The presenting complaint focuses the initial interaction in a clinical encounter. The traditional function assigned the presenting complaint is the elicitation of the patient's reasons for seeking care or most troublesome problem.[7] This complaint, however, cannot be accepted as a statement of the patient's principal problem. The presenting complaint may instead serve other functions including, as Balint has suggested, "legitimization" of the clinical encounter.[8,9] The presenting complaint of new patients in this setting appeared directly useful in predicting 60 percent of the principal problems identified, 10 percent of which were suggested only after consideration of the potential psychosocial origin of a somatic complaint. Thus in 40 to 50 percent of these encounters the presenting complaint focused the initial interaction in an area distinct from that of the principal problem. Similar degrees of complaint-problem disparity have been noted previously. Morrel[3] and Meyer et al[10] observed that up to 40 percent of patients with

Table 2. Relationship of Presenting Complaint to Principal Problem

Presenting Complaint	Principal Problem			
	Somatic	Psychosocial	Health Maintenance	Total
Somatic	35 (4)*	25 (11)	5	65
Psychosocial	0	2	0	2
Health maintenance	11	8	24(2)	43
Total	46	35	29	110

*Complaint-problem pairs identified as partially concordant are in parentheses

Table 3. Presenting Complaint as a "Test" for the Category of Principal Problem

Presenting Complaint	Principal Problem		
	Somatic	*Nonsomatic*	*Total*
Somatic	35	30	65
Nonsomatic	11	34	45
	Psychosocial	*Nonpsychosocial*	*Total*
Psychosocial	2	0	2
Nonpsychosocial	33	75	108
	Health maintenance	*Non-health maintenance*	*Total*
Health maintenance	24	19	43
Non-health maintenance	5	62	67

Complaint	*Sensitivity (%)*	*Specificity (%)*	*Predictive Value (%)*	
			Positive	*Negative*
Somatic	76	53	53	76
Psychosocial	6	100	100	69
Health maintenance	83	76	55	92

psychosocial problems had presented with somatic complaints. Conversely, Bain and Spaulding[1] noted that the proportion of somatic complaints attributable to nonsomatic problems varied from 10 to 50 percent for each of the five most common presenting complaints in an ambulatory practice. Similarly, Freidin et al[4] noted complete concordance between patient and physician versions of the principal problem in only 47 percent of return visit encounters.

This potential for complaint-problem disparity limits the ability of the presenting complaint to specifically focus clinical inquiry. The extent of this limitation can be assessed through consideration of the performance of the presenting complaint as a diagnostic test for the presence of a problem of matching content. While technological procedures are routinely subjected to such an analysis, clinical tools such as the presenting complaint are rarely, if ever, so evaluated. Assessed as such a "diagnostic tool," the presenting complaint was of limited value in predicting a principal problem of the same category. Somatic and health maintenance complaints provided substantially lower positive predictive values than did psychosocial complaints. Psychosocial complaints, however, were distinctly uncommon and thus insensitive in identifying only 2 of the 35 psychosocial principal problems. The positive predictive value of a test for a given condition varies directly with the prevalence of that condition. The positive predictive value of a somatic complaint would therefore be higher in a population characterized by a higher prevalence of somatic disease (or less frequent psychosocial problems) than that observed in this study population. Thus the observation by Freidin et al[4] of physician-patient concordance on the biological nature of the principal problem in 83 percent of return visit encounters is consistent with the high prevalence of chronic disease in their study population and, although not reported, would have produced a higher positive predictive value for somatic complaints than that observed in the present study. In addition, higher concordance rates might be anticipated for return visits, to the extent that they represent mutually agreed upon agenda for follow-up, than for new patient visits.[11]

Sixty percent of the observed complaint-problem discordance (33 cases) occurred in encounters characterized by a psychosocial major problem, reflecting in part the prevalence of psychosocial problems in a medical population that is reluctant to present them directly.[12-15] Patients experiencing psychosocial distress may be more sensitive to, and threatened by, minor somatic deviations and may seek medical "caring" when other sources of social support prove inadequate. Tessler et al[16] have prospectively demonstrated increased medical utilization among such distressed patients.

Another source of discordance observed in this population was the appropriate medical function of uncovering somatic disease in patients either requesting health maintenance (11 cases) or presenting with unrelated somatic symptoms (4 cases). Conversely, there were five encounters in which patients had evidently presented a somatic complaint as justification for a "checkup." In addition, the misattribution of symptoms by patient or clinician may produce complaint-problem disparity.[17,18] Furthermore, adherence by clinicians to a model focusing upon a solitary "chief" complaint may preclude elicitation of other potentially congruent patient concerns.[19] It should also be noted that the principal problems with which presenting complaints are being compared are those diagnoses established at the conclusion of a single visit. It thus remains possible that an alternative diagnosis could be established over time that might more closely relate to the original presenting complaint.

The presence of complaint-problem discordance as perceived by the clinician does not imply that the complaint is irrelevant or that the clinician's assessment of the principal problem is correct. Just as patients may misattribute symptoms, so too may clinicians misinterpret complaints and apply priorities distinct from those of the patient in assessing the importance of problems. Thus, there is not a single optimum level of concordance. Rather, the appropriate level of concordance may vary among encounters; complete concordance implies that the physician never uncovers unsuspected illness, while complete discordance suggests disregard of patient concerns. Appropriate concordance may be reflected in both measures of patient satisfaction and health outcomes, as suggested by Starfield et al.[11,20]

The perception by the clinicians of the presence of an underlying patient motivation for the visit was an important element in the encounter, contributing directly to the identification of 35 percent of the principal problems. The process by which clinicians identified this underlying motivation remains undefined. After identifying a principal problem seemingly unrelated to the presenting complaint, the clinicians may have re-examined the process by which they had arrived at the diagnosis and only in retrospect noted any underlying motivation. In certain encounters, however, there may have been cues suggesting the presence of a

problem distinct from the presenting complaint, and these cues may have prompted the transition to consideration of a new problem. If the cues that prompt such transitions can be identified, and sensitivity to them acquired, they may prove to be a valuable addition to the presenting complaint in guiding clinical inquiry.

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