Annals of Internal Medicine | Review

A Practical and Evidence-Based Approach to Common Symptoms

A Narrative Review

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Physical symptoms account for more than half of all outpatient visits, yet the predominant disease-focused model of care is inadequate for many of these symptom-prompted encounters. Moreover, the amount of clinician training dedicated to understanding, evaluating, and managing common symptoms is disproportionally small relative to their prevalence, impairment, and health care costs. This narrative review regarding physical symptoms addresses 4 common epidemiologic questions: cause, diagnosis, prognosis, and therapy.

Important findings include the following: First, at least one third of common symptoms do not have a clear-cut, disease-based explanation (5 studies in primary care, 1 in specialty clinics, and 2 in the general population). Second, the history and physical examination alone contribute 73% to 94% of the diagnostic information, with costly testing and procedures contributing much less (5 studies of multiple types of symptoms and 4 of specific symptoms). Third, physical and psychological symptoms commonly co-occur, making a dualistic approach impractical. Fourth, because most patients have multiple symptoms rather than a single symptom, focusing on 1 symptom and ignoring the others is unwise. Fifth, symptoms improve in weeks to several months in most patients but become chronic or recur in 20% to 25%. Sixth, serious causes that are not apparent after initial evaluation seldom emerge during long-term follow-up. Seventh, certain pharmacologic and behavioral treatments are effective across multiple types of symptoms. Eighth, measuring treatment response with valid scales can be helpful. Finally, communication has therapeutic value, including providing an explanation and probable prognosis without "normalizing" the symptom.

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Symptoms account for over half of all outpatient visits or more than 400 million office visits annually in the United States alone (1). Yet those who seek care represent a minority of symptomatic persons in the general population: 80% of persons have at least 1 distressing symptom in a given month, yet fewer than 1 in 4 persons visit a health care provider for their symptoms (2). Thus, we must refrain from overmedicalizing symptoms in the community at large and excessively testing and treating the subset who present clinically. This is not to say that symptoms are minor, trivial, or unimportant; indeed, they cause greater distress and impairment than many of the asymptomatic risk factors (for example, hypertension, hyperlipidemia, and obesity) that we target for health care. Most symptomatic persons are currently suffering, whereas only a fraction of those with medicalized risk factors will ultimately become ill and often not until decades later. Moreover, symptoms are associated with substantial impairments in health-related quality of life, work-related disability, and increased health care costs (1, 3, 4). Further, patient and clinician dissatisfaction can occur when there are multiple symptoms or symptoms that are unexplained (5).

This article focuses on the 4 common epidemiologic questions about a clinical condition: cause, diagnosis, prognosis, and therapy. A symptom is operationally defined as an uncomfortable or distressing bodily sensation experienced by a person that is not observable by the clinician (those that are observable are signs). For example, cough, emesis, edema, and syncope are all symptomatic but also observable by clinicians and other persons besides the patient. The focus is further restricted to physical (also called somatic) symptoms. Although psychological and cognitive symptoms (for example, depression, anxiety, and impaired memory or concentration) frequently co-occur with physical symptoms, the patient in the medical setting often presents with physical symptoms that prompt a biomedically oriented search for medical causes and treatments. Of physical symptoms presented in practice, about 50% are pain, 25% to 30% are respiratory (usually upper respiratory), and 20% to 25% are nonpain and nonrespiratory in nature (for example, fatigue, sleep symptoms, gastrointestinal symptoms, or dizziness). Because symptoms related to upper respiratory infections are often self-limited and diagnostically less challenging, our main attention is on the three quarters of symptom-related office visits triggered by non–upper respiratory physical symptoms. Finally, the focus is not on a specific approach to a particular symptom but on generic principles that apply to common symptoms as a whole. Although there are symptom-specific issues, and in some cases guidelines, there are also cross-cutting epidemiologic themes that broadly apply across most symptoms.

The literature cited in this review includes articles familiar to the author complemented by relevant papers identified by a bibliographic search of those articles. The breadth of this review precluded a more formalized literature search. Also, some studies included had small samples, short follow-ups, single raters using unstructured assessments, and other methodological limitations highlighted in **Tables 1** to **3**.

See also:

Web-Only
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Key Summary Points

At least one third of common symptoms do not have a clear-cut, disease-based explanation.

The patient's history alone yields 75% of the diagnostic information.

Physical and psychological symptoms commonly co-occur.

Most patients have multiple symptoms rather than a single symptom.

Symptoms become chronic or recur in 20% to 25% of patients.

Serious causes that are not apparent after initial evaluation seldom emerge later.

Some medications and behavioral interventions are effective for multiple types of symptoms.

Measuring treatment response with valid scales can be helpful.

Communication has therapeutic value, including providing an explanation and probable prognosis without "normalizing" the symptom.

CAUSE: SYMPTOMS ARE SUFFICIENT

Symptoms transcend disease. The subjective is not inferior to the objective.

The dominant clinical paradigm is that symptoms are a derivative of disease and that optimal symptom management will naturally follow once the causative disease is identified. A corollary is that the "subjective" (what patients experience and report) depends on and is inferior to the "objective" (what clinicians or testing find). An alternative model is that symptoms are a higher-order phenomenon that come from a varying mix of disease and nondisease input (for example, biological factors that modulate symptoms and mediate symptom perception; cognitive processes, such as symptom attributions, amplification, attention, and affect; and external interpersonal and sociocultural influences). This model favors an integrative approach wherein symptoms are the most human expression of clinical medicine and do not lend themselves to overly simplified, reductionistic, or mechanistic explanations.

At least one third of symptoms evaluated in primary care are medically unexplained.

As shown in **Table 1**, studies conducted in primary care (3, 6–9), specialty settings (10), and the general population (11, 12) have consistently shown that a substantial proportion of somatic symptoms are medically unexplained. Of the 8 studies, 5 showed that 31% to 37% of symptoms were medically unexplained. The study with the highest rate (74%) may have overestimated because it depended on the ratings of 1 physician reviewer using implicit judgment rather than explicit criteria (6). Conversely, the study reporting only a 20% rate might have underestimated because certain somatic symptoms were not counted as medically unexplained if they were diagnostic criteria for patients who qualified for a depressive or anxiety disorder (3). The lack of a definitive explanation for many symptoms is further underscored by the use of adjectival modifiers indicating what a symptom is not ("noncardiac" chest pain or "nonulcer" dyspepsia) or implying causal explanations that are weakly defensible ("tension" headache, "mechanical" low back pain, or "irritable" bowel syndrome) (1). Also, some purported explanations for symptoms have become extinct (hypoglycemia, mitral valve prolapse, or chronic brucellosis), controversial (for example, multiple chemical sensitivity or sick building syndrome), or event-triggered but complex in cause (for example, Gulf War or other postwar syndromes or World Trade Center syndrome) (1, 13).

Dualistic (physical vs. psychological) explanatory models are particularly problematic.

A binary approach to classifying symptoms as medical, physical, or organic in cause or psychological, mental, or functional is neither evidence-based nor patient-centered. For example, when depression coexists with chronic pain, is it the cause, consequence, or product of a common pathway? Rather than a chicken–egg conundrum, longitudinal studies of pain and depression have consistently shown that their effects are reciprocal rather than unidirectional (14). This interactive influence of physical and psychological symptoms is true of other nonpain somatic symptoms and other psychological symptoms, such as anxiety (1, 15).

A more useful classification scheme considers cause along a spectrum from medical to mental disorders with 5 salient nodes (16). First, there are the symptoms clearly attributable to a specific medical disease, such as dyspnea in a wheezing asthmatic patient or substernal chest pain in the patient with an acute myocardial infarction. Second, there are the less well-understood functional somatic syndromes, such as irritable bowel syndrome, fibromyalgia, and chronic fatigue syndrome. Third, there are symptom-only diagnoses, such as low back pain, nonmigraine headache, nonspecific dizziness, and many other symptoms that cannot be ascribed to an obvious disease. Fourth, there is somatic symptom reporting seen in patients with depression and anxiety as either core diagnostic criteria (for example, fatigue and insomnia in depression or cardiopulmonary symptoms in panic disorder) or, more often, the increased reporting of both general (4, 17) and disease-specific (18) somatic symptoms associated with psychological conditions. Fifth, there are the medically unexplained symptoms associated with dysfunctional illness behavior classified as somatoform disorders.

Symptoms may often be multifactorial in cause.

Efforts to pinpoint a single cause for a symptom can be disappointing. For example, it may be difficult to deter-

mine what proportion of the fatigue in a patient with major depression and congestive heart failure is due to each disorder. Although a reduction in fatigue with disease-specific therapeutic trials may be informative, such treatments may only partially alleviate disease-related symptoms, and some symptoms may be less responsive than others (for example, fatigue may be more refractory than cardiopulmonary symptoms or mood symptoms). The cause of persistent dizziness may be multifactorial up to half of the time (19), and dyspnea may be due to more than 1 condition in a third of patients (20).

Multiple rather than solitary symptoms are the norm.

Symptoms commonly travel in company rather than solitude. In 2 studies totaling 1500 primary care patients who completed a checklist of 15 common physical symptoms, the proportion that endorsed 0 to 1, 2 to 3, 4 to 5, 6 to 8, and 9 or more symptoms was 21%, 23%, 21%, 22%, and 12%, respectively (3, 21). In a third study of 338 primary care patients, the proportion endorsing 0 to 1, 2 to 3, 4 to 6, and 7 or more symptoms was 25%, 30%, 31%, and 14%, respectively (8). Thus, multiple symptoms are the rule rather than the exception. Although symptom checklists (not unlike the traditional review of systems) might lead to an overendorsement of symptoms that are less clinically relevant, relying exclusively on the chief complaint may underestimate symptoms (1).

A related topic is symptom clustering, which is studied most extensively in cancer (22) but also found in other diseases (23). A common cancer cluster is the sleep-pain-anxiety-depression-energy pentad, known as SPADE, wherein insomnia, pain, fatigue, and mood symptoms frequently co-occur. The somatic-anxiety-depressive symptoms triad, known as SAD, is a related cluster consistently found across various medical populations (4, 15, 24). At the level of functional somatic syndromes, such as irritable bowel syndrome, fibromyalgia, chronic fatigue syndrome, and others, not only do individual symptoms (25) frequently overlap but syndromes often co-occur (26).

Diagnosis: Listening to the Patient

Most diagnoses for common symptoms can be made on the basis of the patient's history alone.

Empirical studies of patients presenting with general (various) somatic symptoms (6, 27–30) and particular symptoms (19, 20, 31) have suggested that most final diagnoses can be derived from the history (in about 75%) and physical examination (in about 10% to 15%), whereas diagnostic testing infrequently contributes essential information (**Table 2**). The central diagnostic role of the history and physical examination has also been shown in other studies (32, 33). This is confirmed by surveys showing that physicians (34) and medical students (35) attribute more than 80% of diagnostic information to the history and physical examination. Ironically, the hierarchical ordering of reimbursement in the United States (tests are more costly than physical examination, which is more expensive than the history) is converse to the diagnostic value of these services. Although billing practices disproportionately incentivize tests and procedures, the physical examination garners more financial reward than a detailed interview according to evaluation and management coding rules that pay for examining more bodily parts regardless of their relevance to the patient's medical problems.

Clinical examinations should be symptom-focused and evidence-based rather than complete.

We have to make the interview and physical examination efficient by gathering data that, like a good diagnostic test, have reasonable operating characteristics (sensitivity, specificity, and predictive value) for classifying the patient's

Table 1. **Proportion of Somatic Symptoms That Are Medically Unexplained**

Study, Year (Reference)	Study Setting	Study Design	Patients, *n*	Method for Classifying Symptoms as Medically Unexplained	Medically Unexplained Symptoms (95% CI), %
Kroenke and Mangelsdorff, 1989 (6)	Primary care	Chart review	1000	One physician chart auditor using implicit criteria	74 (71–78)
Khan et al, 2003 (7)	Primary care	Chart review	450	Two physician chart auditors using explicit criteria; excellent interrater reliability (κ = 0.75)	34 (30–38)
Marple et al, 1997 (8)	Primary care	Prospective cohort	338	Clinical judgment of patient's primary care physician	33 (28–38)
Steinbrecher et al, 2011 (9)	Primary care	Survey	620	Clinical judgment of patient's primary care physician	37 (33–41)
Kroenke et al, 1994 (3)	Primary care	Survey	1000	Clinical judgment of patient's primary care physician	20* (18–22)
Reid et al, 2001 (10)	Specialty clinics†	Chart review	361	One physician rater reviewed consultations on frequent attenders to 12 clinic types; excellent rater reliability (κ = 0.76–0.88)	27 (22–32)
Kroenke and Price, 1993 (11)	General population	Survey	13 328	Structured interview using the Diagnostic Interview Schedule	35 (34–36)
Escobar et al, 2010 (12)	General population	Survey	4864	Two physician raters independently reviewed structured interview data; both had to agree that symptom was unexplained	31 (30–32)

* Certain somatic symptoms were not counted as medically unexplained if they were part of the diagnostic criteria for patients who qualified for a depressive disorder (e.g., fatigue or insomnia) or an anxiety disorder (e.g., chest pain or palpitations in panic disorder).
† "Frequent attender" sample defined as persons in the top 5% of outpatient use. Rates of medically unexplained symptoms were particularly high in 5 of the 12 clinics, including gastroenterology (54%), neurology (50%), cardiology (34%), rheumatology (33%), and orthopedics (30%).

Table 2. **Diagnostic Yield of History and Physical Examination in Patients With Common Symptoms**

Study, Year (Reference)	Symptom	Study Setting	Patients, *n*	Follow-up, *mo*	History, %	Physical Examination, %
Hampton et al, 1975 (27)	General	Primary care	80	2	82	9
Sandler, 1980 (28)	General	Primary care†	630	18–30	56	17
Kroenke, 1989 (6)	General	Primary care	382‡	11§	–	–
Gruppen et al, 1988 (29)	General	Primary care	119	0	94	–
Peterson et al, 1992 (30)	General	Primary care	80	2	76	12
Schmitt et al, 1986 (20)	Dyspnea	Hospital inpatients	146	0	74	–
Kroenke et al, 1992 (19)	Dizziness	Various hospital clinics	102	12	76	4
Martina et al, 1997 (31)	Abdominal pain	Primary care	112	29‖	–	–
Martina et al, 1997 (31)	Chest pain	Primary care	78	29‖	–	–

* A = retrospective; B = single rater per case (or for all cases) using unstructured assessment; C = no explicit criteria for diagnostic classification; D = poor description of sample; E = diagnostic evaluation varied considerably among patients or was not well-described.
† Setting had a special interest in cardiologic conditions.
‡ Unit of analysis was the symptom rather than the patient. A minority of patients had more than 1 symptom.
§ Mean follow-up; range was not provided.
‖ Mean follow-up; range was 18 to 56 mo.
¶ Combined proportion may be an underestimate because the study reported only the diagnostic contribution of the history.

symptoms. The standard mantra handed down to medical students of "do a complete history and physical" is not cost-effective in most instances. Instead, a symptom-focused clinical examination is preferable. For example, a 5-minute evaluation targeting a few key items from the history and physical examination is an evidence-based approach to the initial evaluation of dizziness in primary care (36). Clinical time comes at a premium and cannot be squandered.

Besides a low diagnostic yield, testing has other important limitations.

The likelihood of detecting a serious condition may be as low as 0.5% to 3.0% when diagnostic tests are ordered in patients with a low probability of disease (37, 38). This means that a diagnostic test with 90% sensitivity and 90% specificity would yield 4 to 19 false-positive results for every true-positive result in patients for whom the test is ordered simply to rule out a disease for which clinical suspicion is already low. False-positive results may trigger additional and sometimes invasive procedures as well as anxiety, which may linger for several months or more. False-negative results can also be a concern. For example, the negative predictive value of abdominal computed tomography in patients presenting to the emergency department with undifferentiated upper abdominal pain is only 64%, which means up to 1 of every 3 normal scans in this population may be a false-negative result (38). A meta-analysis of 14 randomized trials that examined the utility of diagnostic tests in patients with a low pretest probability of disease found no benefits on reducing symptom persistence, illness worry, or anxiety (37).

Prognosis: Following the Patient

Serious diseases not initially expected seldom emerge during long-term follow-up.

Serious diseases that are unsuspected in the initial evaluation of common symptoms seldom emerge in long-term follow-up (**Table 3**) (31, 39–49). Medical textbooks that provide exhaustive tables of the differential diagnosis of common symptoms, such as headache or fatigue, rarely provide an epidemiologic rank ordering of particular causes. Such compendiums or "laundry list tables" include many conditions that are infrequent or rare causes of a particular symptom. We may also be unduly influenced by the Sherlock Holmes approach exemplified in academic clinicopathologic conferences or in popular television series, such as *House*, in which medical sleuths track down the needle-in-the-haystack diagnosis. What is glossed over in these glamorous depictions is the rarity of the villain relative to the "usual suspects."

A quarter of symptoms become chronic.

Longitudinal studies have shown that approximately 25% of somatic symptoms persist at 1 to 2 weeks (8, 50, 51), 3 months (51), 12 months (52), and up to 5 years (53) after a patient presents in primary care with a symptom. Indeed, 1 study followed the same cohort of 500 primary care patients presenting with a somatic symptom and found the proportion with symptom persistence to be similar at 2 weeks (29%), 3 months (21%), and 5 years (24%) (53). Thus, a rule of thumb would be that although most patients presenting with symptoms in primary care improve within weeks to several months, about a quarter develop chronic symptoms. Even patients with somatoform disorders, originally considered to have high persistence rates over time, show improvement rates of 50% to 75% (54). This can inform diagnostic testing and clinical management in that a conservative approach (symptom-specific management and limited testing) is sufficient for most patients, whereas a more extensive work-up can be reserved for the fraction of patients with persistent symp-

Table 2—**Continued**

Combined (95% CI), %	Study Sample	Study Limitations*				
		A	B	C	D	E
91 (85–97)	New patients referred by family physicians to a general medicine clinic		√	√	√	√
73 (70–76)	New patients referred by family physicians to a general medicine clinic		√	√	√	√
90 (87–93)	Symptoms documented in chart review of 1000 internal medicine clinic patients; included are 382 of 567 symptoms that had testing beyond history and physical examination	√	√	√		√
94¶ (90–98)	Primary care walk-in clinic; correct diagnosis produced by chief complaint alone in 79% of cases		√	√	√	√
88 (81–95)	Internal medicine clinic patients with a new or previously undiagnosed condition		√	√		√
74¶ (67–81)	Patients hospitalized with dyspnea		√			
80 (72–88)	Structured assessment of patients with persistent dizziness					
72 (64–80)	Consecutive clinic patients with chief complaint of abdominal pain			√		
88 (81–95)	Consecutive clinic patients with chief complaint of chest pain			√		

toms. Moreover, chronic or recurring symptoms may require a different management approach.

Therapy: Caring for the Patient

"Management" may be a preferable term to "therapy" or "treatment" because the latter terms tend to connote greater symptom specificity or targeting of particular mechanisms. The emphasis here is on strategies that cross symptom boundaries rather than those unique to a particular symptom. Nevertheless, the suggestions are selective rather than comprehensive, with the intent to highlight several principles that tend to be overlooked or devalued. Other strategies for managing poorly explained symptoms are reviewed elsewhere (17, 55–57).

Communication is therapeutic.

Symptom-related concerns and expectations may be as important as symptom severity or duration in prompting a health care visit for the subset of persons who actually seek care for their symptoms. Common patient expectations include provider answers to questions (for example, "What is causing my symptom?" and "How long is it likely to last?") and subsequent actions (treatments, tests, and referrals) (58–60). However, the most common unmet expectations after symptom-related visits relate to insufficient provider explanations about diagnosis and prognosis rather than inadequate physician actions. Consequently, 2 useful questions a provider might consider in closing a symptom-related encounter relate to patient-specific worries and wants: "Was there anything else you were worried about?" and "Was there anything else you thought might be helpful?"

What kind of diagnosis should be offered to the substantial proportion of patients in whom the symptom is poorly explained? First, one should maintain etiologic neutrality and feel comfortable with symptom-only diagnoses (headache, fatigue, and vertigo) rather than modifiers that are unsupported by mechanistic evidence. Second, premature psychologization should be avoided; the absence of a physical disease that definitively accounts for the symptom should not lead a physician to automatically default to a psychological explanation. Instead, positive evidence of depression, anxiety, or other mental disorders should be elicited. However, patients often volunteer clues to psychosocial factors that clinicians can pick up on and incorporate into their diagnostic explanations (55). Third, avoid normalization. Although clinical examination and testing may not uncover findings to substantiate a specific diagnosis, patients do not like to hear that "everything is normal" (61). Fourth, providing a mechanistic explanation, even if tentative, may be useful (for example, central sensitization contributing to chronic widespread pain, neurotransmitter imbalances accounting for the somatic symptoms associated with depression or anxiety, or neurally mediated colonic contractions in irritable bowel syndrome).

Some treatments may be effective across various symptoms.

Cognitive behavioral therapy and antidepressants have proven beneficial across various symptoms and symptom syndromes and have an effect that is independent of the patient's depression status (62). Likewise, exercise has proven beneficial in pain conditions (63), chronic fatigue (64), depression (65), and anxiety (66). Further, there is emerging evidence for the benefits of other types of psychotherapy (67), mindfulness-based stress relaxation (68), and some types of complementary and alternative medicine therapies (69) for various symptoms. Treatments that are effective for multiple types of symptoms suggest that symptoms may share a common etiologic pathway or that some treatments may have more than 1 mechanism of action.

Measuring symptoms is important for monitoring outcomes and tailoring treatment.

Medical treatment is typically guided by measurement that, for some diseases, consists of findings on physical examination (for example, heart failure, hypertension, or neurologic conditions) or laboratory tests (for example, diabetes, hyperlipidemia, or anemia). Patient report is the fundamental metric for symptoms, and the use of validated measures has proven helpful for some symptom-based conditions, such as depression, to adjust, switch, or combine treatments (70). The clinical utility of a patient-reported outcome measure is enhanced by it being brief, self-administered, easy to score, freely available (that is, public

Table 3. **Rarity of Unsuspected Serious Diagnoses Emerging After Initial Evaluation of Common Symptoms**

Study, Year (Reference)	Symptom	Study Setting	Patients, *n*	Follow-up, *mo*	Main Results	Study Limitations*				
						A	B	D	E	O
Wasson et al, 1981 (39)	Abdominal pain	Primary care	552	4	Male outpatients with abdominal pain (median duration, 3 wk); specific diagnosis usually made in 1 wk (81%), with diagnosis taking longer than 3 mo in only 3 patients; of the 438 patients with idiopathic pain, 61% improved at follow-up, and no unsuspected serious causes developed.		√		√	
Martina et al, 1997 (31)	Abdominal pain	Primary care	112	29†	Only 4 of 51 (7.8%) patients with initial nonorganic diagnosis developed organic diagnosis at follow-up (46 were followed up); 2 diagnoses were made in 1 h (appendicitis and urinary tract infection); the other 2 diagnoses (peptic ulcer and amebiasis) were made in 2 d.					√‡
Von Korff et al, 1993 (40)	Back pain	Primary care	1128	12	Only 22% were pain-free at 1 y; however, unsuspected serious diagnoses were not reported.				√	√§
Costa et al, 2009 (41)	Back pain	Primary care	406	12	Of patients with chronic back pain for 3 mo, 42% were pain-free at 12 mo; however, unsuspected serious diagnoses were not reported.				√	√§
Sox et al, 1981 (42)	Noncardiac chest pain	Walk-in clinic	176	4	176 patients were classified with noncardiac chest pain after initial work-up; only 1 subsequently suspected to have possible cardiac cause.					√§
Martina et al, 1987 (31)	Chest pain	Primary care	78	29†	0 of 56 patients with initial nonorganic diagnosis developed organic diagnosis at follow-up (47 were followed up).					√‡
Hawkins and Cockel, 1971 (43)	Diarrhea	Gastroenterology	163	24–240	Chronic diarrhea (>6 wk) unexplained after initial work-up; 71% improved; 3 cancer cases (2 gastric and 1 colon) occurred at follow-up.					
Kroenke et al, 1988 (44)	Fatigue	Primary care	102	12	Fatigue improved in only 28% by 1 y, but new medical diagnoses were uncommon and no more frequent than in control cases.					
Kroenke et al, 1994 (45)	Dizziness	Various hospital clinics	100	12	Dizziness improved in 55% by 1 y; 1 patient died of heart failure, and none developed a serious disease for which dizziness had been a harbinger.					
Weber and Kapoor, 1996 (46)	Palpitations	Various hospital clinics	190	12	Only 3 deaths, none of which were sudden; only 2 arrhythmias (both benign) detected at follow-up that were not initially diagnosed.					
Stone et al, 2009 (47)	Neurologic and unexplained	Neurology	1144	18	Only 4 (0.4%) patients developed an organic disease diagnosis that was unexpected at initial assessment and plausibly the cause of the patients' original symptoms.				√	
Gask et al, 2011 (48)	Medically unexplained	Primary care‖	141	18	14 (9.9%) patients were categorized as having medically unexplained symptoms by 2 raters but ultimately were found to have a medical explanation; however, it was serious in only 1 patient (coronary artery occlusion).		√		√	√¶
Skovenborg and Schröder, 2014 (49)	Medically unexplained	Psychosomatic medicine‖	120	44†	Only 5 patients had an initially overlooked medical diagnosis, none of which were serious or fully accounted for the patient's symptoms					

* A = retrospective; B = single rater per case (or for all cases) using unstructured assessment; D = poor description of sample; E = diagnostic evaluation varied considerably among patients or was not well-described; O = other limitation.
† Mean follow-up.
‡ Follow-up rate <90%.
§ Implication is that serious diagnoses did not emerge but actual data were not reported.
‖ Patients were enrolled in a clinical trial of patients with medically unexplained symptoms.
¶ Data from trial but were only briefly described in follow-up review paper.

domain), and suitable for several purposes (screening, severity assessment, and monitoring treatment response) (71). Examples of symptom measures that satisfy these criteria include the Patient Reported Outcomes Measurement Information System measures (www.promis.org) and the Patient Health Questionnaire scales (www.phqscreeners.com) (72). A literature review identified the Patient Health Questionnaire-15 as a preferred measure to screen for general somatic symptom burden (73), and an abbreviated 8-item version (the Somatic System Scale–8) has been validated recently (74). Monitoring symptom response and adjusting treatment by using automated phone calls or Web-based monitoring plus telemedicine can improve the cost-effectiveness and patient-centeredness of symptom care (75).

Collaborate with the patient and consultant.

Frequently, several medication, behavioral, or procedural treatments are available for common symptoms, and the selection often defaults to what the provider is most comfortable with rather than informing the patient and offering a choice among evidence-based options. In particular, a nonprocedural physician with limited time and lack of training in or reimbursement for behavioral or procedural therapies will preferentially offer a medication, a nonprescribing clinician will administer the nonpharmacologic intervention with which he or she is most comfort-

able, and a surgeon or other interventionist will favor the operation or procedure that is concordant with their skill set and reimbursement practices. In some cases, reassurance and watchful waiting may be an option with more active therapies based on symptom persistence at follow-up. Also, self-management has proven effective for some symptoms and can be a first step in treatment based on patient preferences.

The role of the specialist may range from 1-time evaluation (to rule out particular diseases or provide treatment recommendations) to ongoing team-based care using collaborative or integrated care models. When the symptom is mutually managed over time, intercommunication is essential and can be enhanced by written correspondence, electronic medical records, medical home models, or other system-based strategies.

The initial approach to symptoms starts with the goal of identifying a precise cause and a targeted treatment. But symptoms experienced by humans frequently defy the pigeonholing that is the hallmark of the "hard" sciences. Sufficient evidence is available to provide more effective, efficient, and patient-centered care for common symptoms even as we await the revelations of future research.

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