Patient Demands and Requests for Cancer Tests and Treatments

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**IMPORTANCE** Surveyed physicians tend to place responsibility for high medical costs more on “demanding patients” than themselves. However, there are few data about the frequency of demanding patients, clinical appropriateness of their demands, and clinicians’ compliance with them.

**OBJECTIVE** To assess how frequently patients demand or request medical tests or treatments, what types they demand, the clinical appropriateness of their demands, and how frequently clinicians comply.

**DESIGN, SETTING, AND PARTICIPANTS** Immediately after visits, clinicians—physicians, fellows, nurse practitioners, and physician assistants—were interviewed about whether the patient made a demand or request and their type and appropriateness. Interviews occurred in oncology outpatient facilities at 3 Philadelphia-area hospitals between October 2013 and June 2014.

**MAIN OUTCOMES AND MEASURES** The 4 main outcomes were (1) frequency of patient demands for medical tests or treatments, (2) the types of tests or treatments demanded, (3) clinicians’ assessment of the clinical appropriateness of the demands, and (4) how frequently clinicians complied.

**RESULTS** There were 5050 patient-clinician encounters involving 3624 patients and 60 clinicians. Overall, of the 5050 encounters, 440 (8.7%) included a patient demand or request for a medical intervention. Clinicians complied with 365 of the clinically appropriate demands (83.0%). In only 50 of the 440 encounters with demands (11.4%) did the patient demand or request clinically inappropriate interventions. Clinicians complied with 7 of these inappropriate demands or requests (14%). Clinicians complied with inappropriate demands or requests in only 0.14% (7 of 5050) of encounters. Of the 440 patient demands, 216 (49.1%) were for imaging studies; 68 (15.5%) were for palliative treatments, excluding chemotherapy or radiation; and 60 (13.6%) were for laboratory tests. In a multivariable model, having lung/head and neck cancer (odds ratio [OR], 1.74; 95% CI, 1.26-2.41), receiving active treatments (OR, 1.40; 95% CI, 1.11-1.77), and a fair- or poor-quality patient-clinician relationship (OR, 2.82; 95% CI, 1.13-7.07) were associated with patients making demands or requests (all P < .01).

**CONCLUSIONS AND RELEVANCE** Patient demands occur in 8.7% of patient-clinician encounters in the outpatient oncology setting. Clinicians deem most demands or requests as clinically appropriate. Clinically inappropriate demands occur in 1% of encounters, and clinicians comply with very few. At least in oncology, “demanding patients” seem infrequent and may not account for a significant proportion of costs.
In 2014, total US health care expenditures were over $3 trillion. Physicians tend to attribute high health care costs to lawyers, insurers, drug companies, and patients rather than themselves. Physicians often contend that malpractice suits force them to practice defensive medicine. Similarly, it is claimed that the proliferation of information on the Internet and consumerism induce patients to demand expensive tests and treatments. Physicians may feel obligated to satisfy patients’ demands to protect the physician-patient relationship, especially because reimbursement increasingly depends on patient satisfaction, and to prevent patients from switching practices.

Despite physicians’ perceptions, the available data suggest that malpractice and defensive medicine account for very little of health care costs and cost growth. According to a Congressional Budget Office assessment, malpractice reforms would produce a 0.5% ($11 billion in 2009 dollars) reduction in health care spending, of which “0.3% comes from slightly less utilization of health care services,” that is, defensive medicine.

Surveys show that 40% to 66% of physicians report having received patient demands or requests for tests or treatments and that 25% to 53% have complied with such requests at least once. Opinion pieces often advise physicians on responding to inappropriate demands. Surprisingly, we could find only 1 study quantifying the frequency of patient demands in clinical practice. It reported that 23% of patients made a request for a test, new prescription, or referral. However, this study was published in 1999, assessed only 559 encounters, relied on researchers’ interpretation of audiotapes to determine whether demands were made, and did not assess the clinical appropriateness of the demands nor report how often physicians complied with them.

To quantify the frequency of patient demands or requests for tests or treatments, the nature of requests or demands, their clinical appropriateness, and which requests were complied with, we interviewed clinicians just after they had seen patients. We evaluated demands and requests in oncology because of the seriousness of the disease; the life-or-death motivation of patients to find effective treatments; extensive consumer information available on the Internet; and the potentially high cost of inappropriate imaging, genomic testing, chemotherapy, and radiation therapy.

At a Glance
- Patients requested a test or treatment in 9% of all encounters with clinicians; clinicians deemed these requests as clinically appropriate over 70% of the time.
- Imaging studies constituted almost 50% of patient demands or requests and palliative measures comprised over 15%.
- In only 1% of encounters did a patient request a clinically inappropriate test or treatment.
- Clinicians ordered a clinically inappropriate test or treatment prompted by a patient demand or request in 0.14% of encounters.

Clinicians were asked, “During today’s visit, did the patient request or demand a specific test or treatment?” A “no” response terminated the survey. A “yes” response prompted a series of questions such as “On a scale from 1 to 10, how would you rate the level of appropriateness for the test or treatment?” Ten was “extremely appropriate” and 1 was “not appropriate at all.” Respondents were asked “Did you ultimately order the test or treatment?” and to characterize the reason(s) why.

The survey instrument also contained questions about patient and clinician characteristics. Additional patient information, such as sociodemographic characteristics, insurance, and cancer type, were obtained from the medical record.

Methods

Survey Instrument Development

The study protocol was approved by the institutional review board of the University of Pennsylvania and the Clinical Trials Scientific Review and Monitoring Committee. A survey instrument was developed through a 7-step process: (1) literature review for surveys on patient demands, (2) creation of questions with face validity, (3) testing of the survey wording in a focus group, (4) refinement of the questions, (5) evaluation by a survey methodologist, (6) pretesting to ensure comprehensible wording and functionality of the web-based platform, and (7) final revisions.

Clinicians were identified in oncology practices at Philadelphia-area hospitals including The Hospital of the University of Pennsylvania (HUP), Presbyterian Hospital, and Pennsylvania Hospital. Sixty clinicians were interviewed: 34 oncologists, 11 oncology fellows, and 15 nurse practitioners and physician assistants. There were 5050 patient-clinician encounters among 3624 unique patients, 2427 from HUP, 559 from Presbyterian Hospital, and 638 from Pennsylvania Hospital.

Each clinician gave written consent prior to participation. Clinicians were interviewed by trained research assistants either immediately after they left the examination room (1949 encounters [38.6%]) or, at the end of a half-day clinic session, a research assistant would review with the clinician each patient encounter (3101 encounters [61.4%]). The encounters occurred between October 2013 and June 2014.

The interview answers were recorded on an iPad (Apple Inc) using Qualtrics (Qualtrics) software that automatically recorded data.

Statistical Analysis

Clinically appropriate requests were classified as those ranked 8 to 10 on a Likert scale by clinicians; inappropriate requests were ranked as 1 to 3 and equivocal as 4 to 7. Data from the 2010 United States census were used to assign median income by patient zip code as an approximation for socioeconomic status.

Data are summarized as numbers and percentages and are compared across groups using the chi-square test or Fisher exact test when cell sizes were 5 or less. Logistic regression was used to...
assess independent relationships between potential predictors and patient demands. All models were clustered by patient to account for within-patient correlation in demand requests. Age and clinician years in practice were entered as a continuous variable after examining their relationship with the outcome using locally weighted scatterplot smoothing. Variables with a 2-sided P value of .20 or lower in bivariate analysis were included in the multivariable model. The Wald test was used to eliminate variables in a backwards fashion to arrive at a parsimonious final model. Hospital site was forced into the model to adjust for hospital-level characteristics that may affect patient demands. The predicted probabilities for demands were calculated using marginal standardization for all variables in the final model.

A priori, we hypothesized that there would be an interaction between treatment status (active or observation) and disease stage. To explore this, a model was constructed that included all the variables in the final predictive model in addition to this interaction. P ≤ .05 (2 sided) was considered significant. All data were analyzed using Stata 13.1 (StataCorp).

## Results

### Characteristics of Patients and Clinicians

Data were collected on 5050 patient-clinician encounters involving 3624 unique patients. Overall, 96.5% of patients had 3 or fewer encounters, with 2756 patients having 1 encounter, 535 having 2, 205 having 3, and 73 having 4; 2 patients had a maximum of 11 encounters. The majority of patients were female (n = 2127 [58.7%]), with 2514 white patients (69.4%), 739 black patients (20.4%), and 371 patientsof other races (10.2%)

### Number, Type, and Nature of Patient Demands or Requests

Among the clinicians, 30 (50.0%) were male and 53 (88.3%) were white (Table 2). Clinicians evaluated their relationship with the patient as excellent in 3307 cases (65.5%), very good in 894 (17.7%), good in 223 (4.4%), but fair or poor in 31 (0.6%). A total of 595 encounters (11.8%) involved a new patient or the clinician did not evaluate the relationship.

### Patient Demands for Cancer Tests and Treatments

Of all the patient demands or requests, 216 (49.1%) were for imaging studies; 68 (15.5%) were for palliative treatment of pain, insomnia, or other symptoms; 60 (13.6%) were for laboratory tests such tumor markers; 23 (5.2%) were for genetic or chemosensitivity analyses; and 30 (6.8%) were for a clinical trial.
Only 3 (0.7%) were for proton beam treatment and 16 (3.6%) were for off-trial chemotherapy or other drugs.

Of the 50 clinically inappropriate demands or requests, 18 (36.0%) were for imaging studies, 8 (16.0%) were for laboratory tests such as tumor markers, 9 (18.0%) were for chemosensitivity assays, 2 (4.0%) were for proton beam therapy, 2 (4.0%) were for chemotherapy, 2 (4.0%) were for clinical trials, 1 (2.0%) was for palliative care, and 8 (16.0%) were for other interventions such as intravenous fluids and shingles vaccine.

The patient initiated 419 of the demands or requests (95.9%); a family member or friend initiated 146 (33.0%); and 2 were from others, such as another clinician. Of all the demands or requests, 145 (33.0%) were based on information from clinicians, 88 (20.0%) were based on information from family or friends, 79 (17.7%) were based on a fellow patient, 32 (7.3%) were from a medical reference book, 61 (13.9%) were based on the Internet, and 3 (0.7%) were informed by a television, radio, or billboard advertisement (numbers add to over 100% because clinicians could select multiple sources). In just under half the cases (207 [47.0%]), the clinician did not know the source that informed the demand or request. Of the 50 clinically inappropriate demands or requests, the clinician did not know the source of the information in 12 (24.0%) instances, 8 (16.0%) were based on Internet searches, 8 (16.0%) were based on other sources, 7 (14.0%) were informed by other clinicians, and 2 (4.0%) were inspired by family or friends. None were based on television, radio, or other advertisements.

Compliance With the Demands or Requests

Of the 440 patient demands or requests, clinicians complied with 365 (83.0%) (Table 3). Of the 316 clinically appropriate demands or requests, clinicians complied with 310 (98.1%). Of the equivocal ones, clinicians complied with 48 (64.9%) (Table 3).

Of the 50 clinically inappropriate demands or requests, clinicians complied with only 7. That is, in just 0.14% (7 of 5050) patient–clinician encounters did clinicians order a test or treatment based on a patient’s clinically inappropriate demand or request. The 7 inappropriate requests clinicians complied with included 2 blood tests, 2 imaging studies, 2 chemosensitivity analyses, and 1 request for hemodialysis. Clinicians did not comply with inappropriate requests for proton beam therapy, chemotherapy agents, or surgical procedures.

When asked if they believed the patient would request or demand the test or treatment from another clinician if they did not order it, clinicians in 63 of the 440 encounters with demands or requests (14.3%) thought it was very likely; 85 (19.3%), somewhat likely; 56 (12.7%), not likely at all; and 236 (53.6%),
Patient Demands for Cancer Tests and Treatments

Factors Associated With Patient Requests or Demands
In bivariable analysis, there was no association between sex, age, race, type of insurance, approximate household income, disease stage, treatment intent, visit type, type of clinician, clinician race, hospital, and patient requests or demands or inappropriate requests (Table 4 and Table 5). In a multivariable predictive model, patients with lung/head and neck cancer were significantly more likely to make a request or demand (odds ratio [OR] 1.74; 95% CI, 1.26-2.41), as were patients undergoing active treatment (OR, 1.40; 95% CI, 1.11-1.77). Patients with worse clinician relationships were also more likely to make demands or requests (good: OR, 1.79; 95% CI, 1.19-2.69; and fair or poor: OR, 2.82; 95% CI, 1.13-7.07). Indeed, 19.8% of patients with fair or poor relationships made demands or requests, while only 8.2% of patients with excellent or very good relationships did. Finally, patients receiving active treatment were significantly more likely to make a demand if they had early-stage (I, II, III) cancer (OR, 1.78; 95% CI, 1.34-2.36) and less likely to make a demand if they had metastatic (stage IV) cancer (OR, 0.76; 95% CI, 0.49-1.19).

Discussion
Patient demands or requests for medical interventions occur in 8.7% of patient-clinician encounters in outpatient oncology practices. Demands or requests for clinically inappropriate tests or treatments occur in just 1% of outpatient oncology encounters. Oncology clinicians comply with clinically inappropriate demands or requests in just 0.14% of all encounters. At least in oncology, physicians’ perceptions that demanding patients induce a large quantity of clinically inappropriate tests and treatments seem inaccurate. Five points should be emphasized.

First, in assessing 5050 outpatient encounters among patients with cancer, we found that few (8.7%) include patient demands or requests for any medical service. Surprisingly, of those demands or requests, the clinician judged most to be clinically appropriate. We found far fewer patient demands and requests than the single previous study (8.7% vs 23%).16 The reason(s) for the discrepancy are unclear but may include that in the previous study researchers listening to audiotapes of encounters interpreted more comments as demands or requests than clinicians would; that in California, primary care patients make more demands than cancer patients in Pennsylvania; or that the previous study had significantly fewer interactions and clinicians generating a selective sample.16

Patient demands and requests are infrequent but loom large in physicians’ minds. Why? Our data do not answer this question directly, but one possibility is that patients’ demands or requests, while infrequent, are emotionally salient. Even requests for clinically appropriate interventions can suggest lack of trust in the clinician and threaten the therapeutic relationship. They probably take additional time during the encounter. Indeed, clinically inappropriate requests likely require substantial time to explain why they are inappropriate. And in the few cases in which clinicians order a clinically inappropriate test or treatment, they may feel as if they have acted unprofessionally.
patients have social networks and access to other resources that can allow them to gain more knowledge about their options.

Fourth, physicians and other clinicians, as well as medical textbooks and information from the health facility itself, played a large role in informing all demands or requests, and 20% of the clinically inappropriate ones. Few demands or requests came from the Internet or advertising; although among the inappropriate ones, over 20% did arise from the Internet. Clinicians appear to be as important as the Internet in fueling patient demands and requests.

Finally, given the rarity of clinically inappropriate demands or requests, that few were high cost, and that few were complied with, they are unlikely to add significantly to healthcare costs. Of the 7 inappropriate patient requests that were complied with, none include proton beam therapy, specialty chemotherapy drugs, or other expensive interventions.

This study has several limitations. It may not be generalizable in a number of ways. First, it was conducted in outpatient clinics in 3 Philadelphia-area hospitals. It may not generalize to other geographic regions or inpatient or other practice settings. Second, it was focused on oncology and may not generalize to patient-clinician encounters in primary care, other specialties, or other types of practices. Third, the sample included a high proportion of patients with private insurance and from higher-income zip codes, and the results may not apply to Medicaid or to less affluent patients. Finally, determination of a patient demand or request and of clinical appropriateness was based on clinicians’ perceptions. Clinicians could be in error, for instance, classifying a patient’s inquiry as a demand or overlooking a request. Ultimately, however, it is clinicians’ subjective perceptions, not independent researchers’ evaluations, that are important in determining “demanding patients” who contribute to clinicians’ orders for interventions, thereby generating high health care costs.

Conclusions

Physicians often identify “demanding patients” as fueling high health care costs. How frequent are “demanding patients?” In the outpatient oncology setting, we found that in fewer than 9% of encounters do patients demand or request tests or treatments, and most of those are clinically appropriate. Only 1% of outpatient oncology encounters have clinically inappropriate demands or requests, and in only 0.14% of encounters do clinicians comply with clinically inappropriate demands or requests.

Second not all “demanding” patients are demanding in a negative way. Most of the demands or requests are clinically appropriate and many seem reasonable. Other patient demands are even desirable. For instance, requests for additional palliative interventions, such as pain medications or insomnia treatments, accounted for 1 in 6 of the demands or requests (15.5%) and provide insight into patients’ symptoms, which is obviously valuable.

Third, patients who made demands and requests tended to have worse relationships with their clinicians and to be undergoing active treatment intended for a cure. It is not clear which way the causality runs. Patient demands may make the clinician evaluate the relationship as poorer. Conversely, worse patient-clinician relationships with less trust may lead to more demands and requests for treatments; without confidence in the clinician, patients may feel as if they have to be their own agents. Similarly, patients undergoing active treatment for a cure of cancer have the most at stake in getting the right medical interventions, which may make them more demanding.

Conversely, we were surprised that affluent, privately insured patients did not tend to make more demands and requests. Such patients have social networks and access to other resources that can allow them to gain more knowledge about their options.

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REFERENCES


