

Physicians' Utilization of Health Care

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OBJECTIVE: To describe how physicians attend to their own health care needs.

SETTING: Rhode Island.

PARTICIPANTS: A random sample of Blue Cross/Blue Shield providers. The 306 respondents (67% of 458) primarily (92%) had MD or DO degrees. The nonphysician providers were chiropractors, dentists, optometrists, and podiatrists.

DESIGN: A mailed survey provided data describing the respondents' medical conditions and utilization of formal and informal care during a three-year period. Questions asked about provider visits, physical examinations, preventive and diagnostic tests, and medication use. The respondents indicated whether services had been initiated by themselves or by another physician.

MAIN RESULTS: The physicians' overall use of formal health services was low; their number of office visits was a fourth of the national average. Two-thirds of the respondents reported having a primary care physician, and one-third had sought informal care. The respondents' use of preventive services was high. During the three-year period, 82% of the women physicians had received a Pap test, and 81% of the women physicians over the age of 40 years had received mammography. Cholesterol levels were checked for more than two-thirds of all the respondents. Medical examinations and laboratory tests tended to be ordered by another physician, although self-prescribing was not uncommon. Furthermore, 61% of the respondents had self-prescribed at least one medication.

CONCLUSIONS: Physicians' care-seeking behavior covers a broad spectrum, ranging from self-care, to informal consultation, to formal treatment by another physician. Physicians appear to be low users of formal services overall, but high users of preventive care.

KEY WORDS: health personnel; physicians; self-care; preventive health services; self-medication; resource utilization. *J GEN INTERN MED* 1995;10:261-265.

Defining appropriate utilization of health care is critical for sound health services research, for health care financing, and for quality assurance. Physicians' own pattern of health care use may provide insight into

the care-seeking behavior and utilization of highly informed consumers.^{1, 2} However, only limited and mostly stale information regarding physician utilization of health care services is available.

Some studies indicate high rates of utilization among physicians, while others suggest the opposite. A 1979 study³ found that surgery utilization rates were as high as or higher than those for lawyers, ministers, or business executives. Similarly, Cockerham et al.¹ found a high rate of medical service use among physicians, with use of prescription drugs leading the list. Kahn et al.⁴ noted that university-based faculty who had MD degrees reported receiving essential health maintenance tests and procedures more often than did non-MD faculty, but were less likely to have visited a physician for health maintenance reasons.

In contrast, two earlier reports suggest that physicians may underutilize health services. Robbins et al.⁵ found that physicians were as likely as other patients to delay the diagnosis and treatment of their own cancers. Another study, based on medical examinations, revealed that a higher proportion of physicians than of business executives had significant, unknown disease necessitating treatment.⁶

In addition to seeking formal treatment, many physicians may obtain treatment through informal avenues. Previous research suggests that 29% to 44% of physicians do not have a primary care physician.^{4, 7} Those who do not have a personal physician often direct questions about their own health to colleagues or find the answers themselves.⁴

To investigate how physicians attend to their own health care needs, we surveyed Rhode Island providers. The purpose of our survey was to determine physicians' rates of utilization during a three-year period, including their use of formal and informal care, preventive and diagnostic tests, and medications. In addition, we asked whether the medical services received had been initiated by themselves or by another physician.

METHODS

Study Participants

We selected a 10% random sample from a mailing list of Rhode Island Blue Cross/Blue Shield providers. The 458 providers selected included those who had MD or DO degrees, chiropractors, dentists, optometrists, and podiatrists. The response rate was 67% after three mailings in 1992.

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Survey Instrument

The survey asked respondents about their socio-demographic characteristics, specialty, type of practice, and year graduated from medical school. We asked respondents to indicate, using a checklist, any personal medical conditions that existed or had occurred during the last three years. We also asked about the respondents' use of formal and informal sources of care, including whether they had a primary care physician and whether they had sought informal advice about personal health concerns from colleagues. We assessed utilization of several types of health care services, such as physician visits, hospitalizations, and emergency department visits, during the preceding three years. The questionnaire assessed the use of specific examinations and laboratory tests during the three-year period, distinguishing between those ordered by the respondent and those ordered by another physician. We instructed the respondents to list any medications used during that period and to indicate whether the medications had been prescribed by themselves or by another physician.

RESULTS

Description of Respondents

The sample was predominantly (89%) male, white (93%), and married (86%). The respondents' ages ranged from 27 to 81 years (mean = 48, SD = 12). Nearly 92% of the respondents had either MD or DO degrees; 8% were nonphysicians, such as chiropractors, dentists, optometrists, and podiatrists. More than half (52%) of the physician respondents were classified as primary care providers (general practice, family practice, general internal medicine, or pediatrics), and 37% were surgeons (general surgery or a surgical subspecialty).

The majority (68%) of the respondents were in pri-

Table 1
Medical Conditions in the Preceding Three Years

Type of Medical Condition	n	(%)
Musculoskeletal injury	77	(25%)
Respiratory condition	64	(21%)
Arthritis	41	(13%)
Headaches	30	(10%)
Psychiatric condition	29	(10%)
Hypertension	28	(9%)
Cardiac condition	18	(6%)
Gastrointestinal condition	18	(6%)
Genitourinary condition	16	(5%)
Endocrine/metabolic disorder	12	(4%)
Allergies	10	(3%)
Obstetric/gynecologic condition	10	(3%)
Dermatologic condition	9	(3%)
Cancer	8	(3%)
Neurologic condition	8	(3%)
Vision or hearing problem	4	(1%)
Other condition	14	(5%)

Table 2
Specialty of Physicians Identified by Respondents as Their Primary Care Provider(s)

	n	(%*)
General internal medicine	115	(71%)
Cardiology	15	(9%)
Family practice	11	(7%)
General practice	11	(7%)
Obstetrics/gynecology	8	(5%)
Other†	17	(10%)

*Percentages do not add up to 100 because some individuals had more than one primary care physician.

†Categories included under "Other" are: chiropractic, general surgery, gastroenterology, nephrology, pulmonary diseases, osteopathy, dermatology, and urology.

vate practice; 27% were in a hospital-based practice; and 5% listed another type of practice such as a health maintenance organization (HMO) or health clinic. [Some individuals ($n = 16$) listed more than one practice type; the most common ($n = 10$) combination was private office and hospital-based practice. For the respondents who indicated two or three practice types, those who checked hospital-based ($n = 14$) were categorized as hospital-based regardless of their other responses, and those who checked private practice but were not hospital-based ($n = 2$) were categorized as in private practice.] The number of years since graduation from medical or professional school ranged from three to 56 (mean = 22, SD = 12).

Medical History

The number of medical conditions reported by the respondents for the three-year period ranged from 0 to 9, with a mean of 1.4 (SD = 1.49). The majority had either no medical condition (29%) or one (38%); 14% had two, 9% had three, and 10% had more than three.

As indicated in Table 1, the most common medical problems reported were musculoskeletal injuries and respiratory conditions. The majority of the musculoskeletal injuries (75 of 78) were exercise-related. The most frequent respiratory disorders were acute respiratory infection (50 of 71 cases) and asthma/chronic obstructive pulmonary disease (17 cases). The psychiatric conditions of the respondents included depression, anxiety, insomnia, and stress.

Use of Formal and Informal Sources of Health Care

Approximately two-thirds (66%) of the respondents reported having a primary care physician other than themselves. Of these, 91% ($n = 149$) reported one and 9% ($n = 14$) reported two primary care physicians. For those who had more than one primary care physician, nearly all ($n = 13$) indicated an internist and another physician, who most frequently was a cardiologist or an

obstetrician/gynecologist. Table 2 outlines the specialties of the primary care physicians. The majority of the respondents' primary care physicians were generalists.

The number of physician visits during the preceding three years ranged from 0 to 67 (mean = 3.7, SD = 6.6), with 21% of the respondents reporting none and 51% reporting between one and three. Most of the respondents (81%) had no hospitalization; the remainder had between one and four (mean for all respondents = 0.2, SD = 0.5). Emergency department visits also ranged from 0 to 4 (mean = 0.2, SD = 0.5), with 83% of the respondents reporting no such visit. Only a minority (7%) of the respondents had visited a psychiatrist or psychologist; the number of visits ranged from 0 to 63 (mean = 1.6, SD = 7.7). About 8% of the respondents had visited a chiropractor; the number of visits ranged from 0 to 234 (mean = 2.0, SD = 14.6), although only one person reported more than 40 visits. The use of nontraditional care providers such as hypnotherapists and acupuncturists was reported by only 1% of the respondents; the mean number of visits for the sample as a whole was 0.1 (SD = 0.1), and the range was from 0 to 12. The percentage of physician office visits that were courtesy varied widely, with 35% reporting that none of their visits were courtesies, and 41% reporting that all were courtesies. A third (33%) of the respondents indicated that they had sought informal advice about their own personal health concerns from colleagues during the three-year period.

The respondents reported high use of preventive tests. Rectal examinations were conducted for 56% of the 190 respondents over the age of 40 years, sigmoidoscopies were carried out for 29% of the 102 respondents over the age of 50, and cholesterol levels were checked for 69% of all the respondents. Mammograms were obtained for 81% of 16 women over the age of 40, and Pap tests were conducted for 82% of the 33 women. Prostate-specific antigens were evaluated for 26% of the 170 men respondents over the age of 40. As shown in Table 3, preventive tests tended to be ordered by another physician, rather than by the respondent. Cholesterol levels were the most frequently self-ordered preventive test.

Table 3 also shows the use of medical examinations and other diagnostic laboratory tests during the three-year period. The most frequently self-initiated examinations were complete blood counts, biochemistries, physical examinations, and glucose testing. When carried out, most examinations or diagnostic tests were initiated by a physician other than the respondent.

Medication Use

Medication use, both self-prescribed and other-prescribed, is shown in Table 4. The mean number of medications reported per respondent for the three-year period was 2.1 (SD = 1.9, range = 0 to 10), with a mean of 1.2 for self-prescribed (SD = 1.4, range 0 to 8) and

0.9 for other-prescribed (SD = 1.4, range 0 to 7) medications. The majority of the respondents (61%) reported taking drugs prescribed by themselves, and 44% reported taking drugs prescribed by another physician.

DISCUSSION

Physicians are low users of health services compared with the general population. Our respondents averaged

Table 3
Tests Ordered during the Preceding Three Years

Tests Ordered	Self-initiated		Other-initiated	
	n	(%)	n	(%)
Preventive tests				
Gender-neutral tests				
Rectal examination				
◆ All respondents	19	(6%)	114	(37%)
◆ Those aged more than 40 years	17	(9%)	90	(47%)
Sigmoidoscopy				
◆ All respondents	9	(3%)	32	(10%)
◆ Those aged more than 50 years	5	(5%)	25	(24%)
Cholesterol test	71	(23%)	147	(48%)
Preventive tests for women				
Mammography				
◆ All women respondents	2	(6%)	19	(59%)
◆ Those aged more than 40 years	2	(12%)	11	(69%)
Pap test	1	(3%)	26	(81%)
Preventive tests for men				
Prostate-specific antigen test				
◆ All men respondents	7	(3%)	36	(14%)
◆ Those aged more than 40 years	7	(4%)	35	(21%)
Medical examinations and diagnostic tests				
Physical examination	43	(14%)	150	(49%)
Electrocardiography	22	(7%)	125	(41%)
Complete blood count	47	(15%)	144	(47%)
Biochemistry panel	39	(13%)	116	(38%)
Glucose test	40	(13%)	117	(38%)
Thyroid function test	8	(3%)	55	(18%)
Carinoembryonic antigen test	1	(0%)	7	(2%)
Chest x-ray	21	(7%)	82	(27%)

Table 4
Medications Used during the Preceding Three Years

Type of Medication	Self-prescribed		Other-prescribed	
	n	(%)	n	(%)
Analgesic and anti-inflammatory	65	(21%)	6	(2%)
Antibiotics	66	(22%)	37	(12%)
Cold medications	43	(14%)	13	(4%)
Antihypertensive and antianginal drugs	6	(2%)	36	(12%)
Peptic ulcer disease medications	12	(4%)	44	(14%)
Asthma medications	6	(2%)	7	(2%)
Psychotropic medications	4	(1%)	6	(2%)
Diabetes drugs	0	(0%)	9	(3%)

3.7 physician visits over three years, compared with the U.S. general population average, based on 1988 data, of 15.9 physician contacts.⁸ Why are physicians' utilization rates so low?

Our results suggest that the medical treatment physicians receive covers a wide spectrum of care formality, ranging from self-treatment to informal "corridor consultations," to courtesy office visits, and, at its most formal, to fee-for-service or HMO office visits coordinated by a primary care provider. Location, payment, and record keeping are the key defining characteristics of treatment formality. Although the respondents' use of formal care was low, most of the physicians had at least one formal office visit during the three-year period. One-third of the respondents reported not having a primary care physician; that proportion is similar to the 29% found in a recent survey of physicians in the Boston area.⁷

The literature^{9, 10} contains many anecdotes suggesting the hazards of treating oneself and of relying on informal consultation, as did one-third of our respondents. Individuals who self-treat may be unable to evaluate their own medical conditions objectively. Informal care is often obtained from a colleague or friend, whose objectivity may be compromised and whose willingness to ask potentially embarrassing questions or to carry out intrusive medical examinations may be limited.¹¹ Such care is often obtained without complete history taking¹² and may be fragmented. These problems are akin to those that have been observed when physicians treat members of their own families.¹³ Despite the problems associated with informal care, it is not clear whether physicians who seek informal care would obtain formal treatment if informal care were not available; they might rely on self-treatment instead. It is also possible that those reporting informal care use it as a "second opinion" to supplement self-treatment or even formal care.

The findings from our study reveal that, despite their overall low use of formal care, physicians are high users of preventive services such as mammography and Pap tests, compared with the general public¹⁴ and compared with nonphysician college professors.⁴ Possible explanations for this use include physicians' greater knowledge about preventive health practices and their relative lack of financial barriers to utilization. While the ability to order these services for themselves probably accounts for some of the increased use, most of these tests, as well as other diagnostic tests, were ordered by other physicians rather than by the respondents. Our findings regarding the use of cholesterol screening, Pap testing, and chiropractor services are quite similar to those from a recent study of Harvard medical faculty.⁷

We offer several possible explanations for the generally low use of formal health care services by physicians. The reported rates may underestimate physicians' use of health care due to their reliance on informal care. Physicians' greater medical knowledge may enable them

to avoid unnecessary tests and visits. Physicians may also have psychological and other barriers to obtaining appropriate care. Their knowledge about illnesses and side effects of treatment may lead to a greater tendency to minimize or self-deny signs of illness.¹⁰ Physicians may be reticent to discuss personal health problems with a colleague, in part out of concern that referrals will decrease as a result.¹⁰ Additionally, the role reversal from a treating physician to a patient may be difficult for many physicians.^{10-12, 15, 16} Other barriers include physicians' busy schedules and the expectation that physicians should put their patients' needs ahead of their personal concerns.¹⁰

Because physicians seek informal advice from colleagues and self-prescribe both screening and diagnostic tests, the patterns of health services utilization reported by our respondents should not be construed as normative care-seeking behavior for informed nonphysician consumers. While physicians use the health care system as highly informed consumers, they also have options that are not available to other consumers.

Our findings suggest that physicians may medicate themselves for minor ailments but obtain care from other providers for more serious ailments or less innocuous treatments. For example, analgesic and anti-inflammatory drugs, antibiotics, and cold medications were more likely to be self-prescribed than other-prescribed; in contrast, drugs to manage cardiovascular disease or peptic ulcers were more likely to be prescribed by someone other than the respondent. As physicians become increasingly ill, their desire to dominate the decision making regarding their own health care may decrease.¹⁷

This report is one of the few to provide empirical data regarding the utilization of a variety of health care services by physicians in the United States. Several limitations to the generalizability of our results must be noted, however. First, our sample consisted only of Rhode Island physicians, and our results may not therefore be generalizable to physicians nationwide. Second, our physicians were primarily fee-for-service providers. Health care utilization by physicians who work in other health delivery models (such as HMOs) may be different. Third, the health status and utilization patterns of the nonrespondents are unknown and may differ from those of the respondents. Fourth, this study relied on retrospective self-reports of utilization. These reports—for example, of who initiated the ordering of tests—may have been influenced by recall bias or by the respondents' desire to describe themselves in a positive light. While more objective measures of physician utilization would have been preferable, it is unclear where or how such information could be obtained, given physicians' reliance on self-care and informal source of care. The rates of courtesy visits and informal advice seeking by physicians suggest that third-party claims cannot be used to estimate health services utilization in this population.

In conclusion, our study found low use of health

services in general among physicians, but high use of preventive services. A substantial proportion of the medical care received by physicians is obtained outside the traditional system of health care available to the general public, with many physicians relying on self-treatment and informal care.

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