

# Health Care Utilization Among Physicians in a Large Prepaid Medical Group

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In order to assess their own health care practices, 750 physicians in a large prepaid medical group were surveyed. From the 84 percent who responded, it was apparent that physicians utilize the health care system in as erratic a fashion as does the general public. These results suggest an urgent need to re-evaluate criteria for optimal health care for everyone.

One of the greatest challenges of the 1980s for medicine will be the determination of criteria for optimal health care for the average patient. Studies of patient utilization are few, and selection of appropriate guidelines is therefore difficult. According to data collected from the US Health Interview Survey, 1974, 85.9 percent of the general population reported having been to a physician during the past year.<sup>1</sup> From the results of the National Ambulatory Medical Care Survey, conducted by the National Center for Health Statistics,<sup>2</sup> approximately 66 percent of the visits to physicians in a given year included limited or general examinations. Statistics compiled for 1979 by the Southern California Region of the Kaiser Foundation Health Plan show that on the average each member visits a physician 3.157 times per year.<sup>3</sup>

Lewis Thomas suggested that the best way to develop answers about utilization is to examine in detail the ways in which physicians themselves utilize the system.<sup>4</sup> He argues that this group represents the most sophisticated, knowledgeable, and presumably satisfied consumers who have full access to modern medicine.

This study develops a profile of physician utilization patterns in a large prepaid medical group.

## Methods

Questionnaires were sent by mail to physicians in the Southern California Permanente Medical Group. In order to exclude from the sample all those who had received mandatory physical examinations when first joining the medical group, only physicians with six years or more of seniority were surveyed. Data from the returned questionnaires were transferred to a computerized retrieval system. Utilization patterns were analyzed and correlated with age, sex, and specialty.

The survey asked 16 specific questions, including time of the last complete physical examination, electrocardiogram, complete blood count, routine urinalysis, lipid determination, tuberculin skin test (if not already positive or if bacille Calmette-Guérin had not been administered), tetanus immunization, routine chest x-ray examination, Pap smear, sigmoid examination (if over the age of 50 years), total number of medical hospitalizations, and number of formal visits made to a physician in the past year and in the past five years. In addition, physicians were asked if they had a medical problem requiring regular follow-up, if they had ever had major surgery, and how often in the past year they had prescribed antibiotics of any kind for themselves.

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Table 1. Percent Distribution of Physicians By Specialty and Age

Age	Internal Medicine	Pediatrics	Surgery	Family Practice	Other Nonprimary Care
Less than 40 years	30.39	19.61	21.57	24.51	3.92
40-49 years	41.96	18.43	25.10	10.98	3.53
More than 50 years	35.16	13.19	32.60	15.38	3.66
Total	37.14	16.35	27.78	15.08	3.65

## Results

Of 750 questionnaires sent, 630 were returned. Of these, 549 (87.1 percent) were from men and 81 (12.9 percent) were from women. The mean age of the respondents was 46 years, with 16.2 percent under the age of 40 years, 40.5 percent between the ages of 40 to 49 years, and 43.3 percent over 50 years. The mean number of years with the medical group was 13. Twenty-three specialties were represented, but in order to increase the accuracy of the survey, they were subdivided into five categories: internal medicine (37.1 percent of total), pediatrics (16.3 percent), surgery (general and subspecialties) (27.8 percent), family practice (15.1 percent), and nonprimary care specialties, including radiology, pathology, psychiatry, dermatology, neurology, and physical medicine (3.7 percent).

Some of these findings were compared with those from other surveys of physician utilization in the general population.<sup>2</sup> Results indicated that physicians' visits to physicians were fewer than those reported by the general population (21.7 percent compared with 85.9 percent). Only 27.3 percent of physicians surveyed had had a complete physical examination in the past year as compared with 66 percent of the general population.

While data regarding specific laboratory procedures and immunizations are not available for the general population, more than one half of the physicians surveyed had had an electrocardiogram, complete blood count, lipid profile, routine urinalysis, and chest film in the past five years, whereas less than one half had had tuberculin skin tests, sigmoid examinations, or tetanus immunization. Of the female physicians, 51 percent had yearly Pap smears, and 2.4 percent indicated that they had never had a Pap smear.

The mean number of medical hospitalizations for all physicians was 1.4. The average number of major surgical procedures per physician was two. Of all physicians polled, 28.5 percent indicated that they had a serious medical problem requiring regular follow-up, and of these, 87.2 percent did so. The average physician made 1.2 medical visits in the past year and 2.9 in the past five years. Over one half of the group stated that they never prescribed antibiotics for themselves (62.4 percent), while 36.2 percent prescribed them between 1 and 4 times, 1.1 percent between 5 and 10 times, and 0.3 percent more than 10 times.

Sex of the physician did not appear to be a significant factor in data variation. There were some significant differences, however, between specialties and age groups. Table 1 shows the distribution of specialists by age. Results concerning complete physical examinations are shown in Figure 1.

When considering all physicians, there is a definite trend toward more complete physical examinations as the group becomes older ( $P = 0.000$ ). For each age group, more internists than other specialists had complete physical examinations, while fewer physicians in the nonprimary care fields had complete physical examinations than any other group. Internists and family physicians had significantly more sigmoid examinations than all other specialties (Figure 2). In the age group 40 to 49 years, nonprimary care female physicians were more likely to have had Pap tests (Figure 3).

There were no significant differences between physicians with regard to tuberculin skin tests, routine urinalysis, complete blood count, or tetanus immunizations. Nonprimary care physicians over 50 years had significantly less surgery ( $P = 0.002$ ) and appear to visit a physician less often. In the

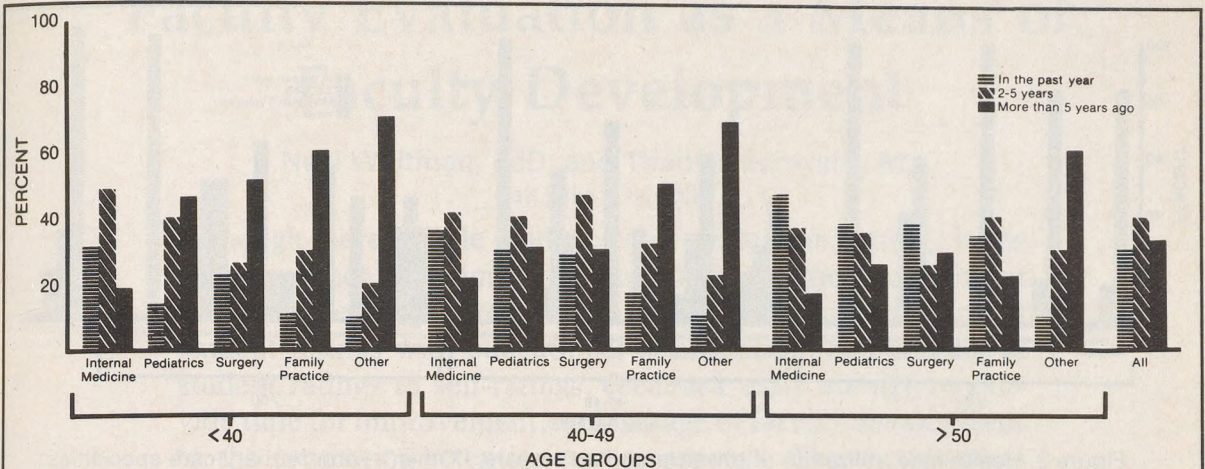


Figure 1. Health care utilization of physicians: complete physical examinations. "Other"—non-primary-care specialties

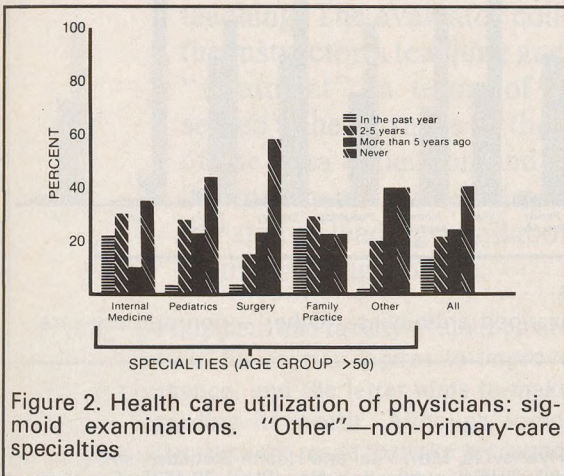


Figure 2. Health care utilization of physicians: sigmoid examinations. "Other"—non-primary-care specialties

age group 40 to 49 years, nonprimary care physicians had significantly fewer hospitalizations ( $P = 0.0000$ ). Moreover, the nonprimary care specialist self-prescribed antibiotics less often than other physicians in all three age groups (Figure 4).

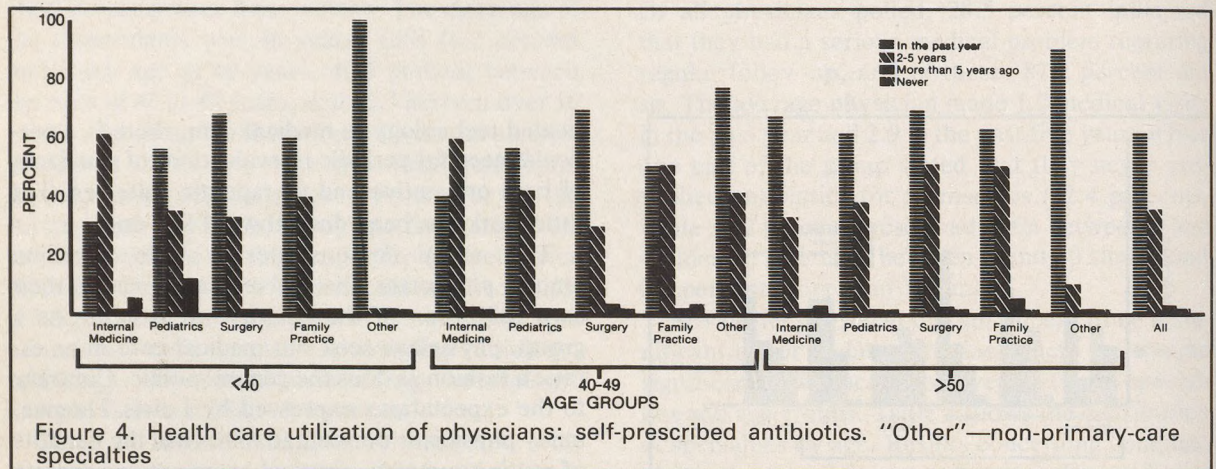
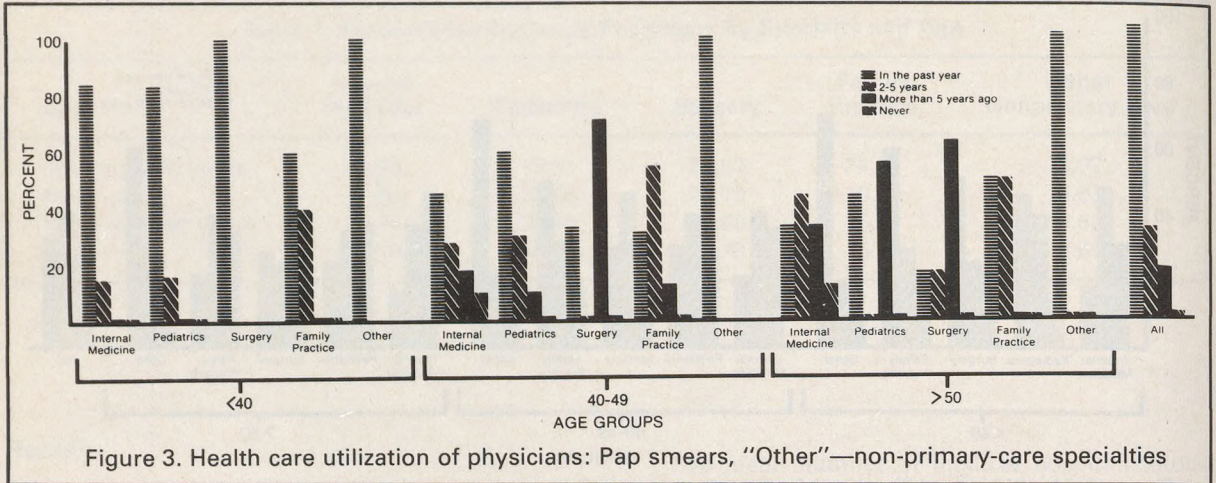
## Discussion

Today, with the rapid proliferation of medical knowledge and the widening application of sophis-

ticated technology to medical care, there is a particular need for periodic re-evaluations of standards of both preventive and therapeutic strategies. Yet little work has been done toward this end.

This study demonstrates a wide variation among physicians themselves in terms of their own utilization of the health care system. As a group, physicians seek out medical care in as erratic a fashion as does the general public. Contrary to the expectations expressed by Lewis Thomas, many physicians do seem to believe in the benefits of routine complete physical examinations despite there being scanty evidence to prove that early diagnosis of a given condition improves prognosis at an acceptable risk.<sup>4-6</sup>

On the other hand, many ignore criteria set forth for preventive measures<sup>7,8</sup> such as routine Pap smears, sigmoid examinations, chest x-ray examinations, tetanus immunization, and tuberculin skin tests. Moreover, there appears to be no difference between male and female physicians with regard to their utilization practices. It is not surprising that as physicians become older, their utilization increases. However, the reasons for differences between specialties, particularly the primary and nonprimary care groups, can only be speculative. Fewer serious medical problems, operations, and hospitalizations among the nonprimary care physicians may reflect a less stressful type of practice. That this group also tends to self-



prescribe antibiotics less often than other physicians may demonstrate a certain lack of familiarity with these drugs.

In summary, although today's consumer expects the physician to tell him how to rationally use the health care system, it would appear that providers are uncertain how to utilize the system for themselves. This information is especially significant, since the data come from a prepaid medical group, where access to care is optimal.

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