Patterns of Health Care Utilization in an Academic Family Practice

Howard T. Chatterton, MD, PhD, Nancy E. Clapp, RN, MPH,
and Stephen H. Gehlbach, MD, MPH
Durham, North Carolina

The theoretical model of family practice is one of primary, comprehensive, and continuous care to families. This model is not yet fully documented. In a test of the model's reality, 130 regular users of an academic family practice were surveyed. Eighty-two (63 percent) identified the practice as their usual source of care. Projected use of the practice within this subset ranged from 100 percent for general health examination to 20 percent for marital/sexual problems. Only 35 percent of the other 156 members of these 82 patients' households were said to use the practice as their usual source of care. To the extent that these findings can be generalized to other settings, it can be concluded that the health care utilization patterns of family medicine patients and their immediate family members fall short of the specialty's expectations.

Family practice established itself as a specialty in 1969. In so doing, it declared that its practitioners would improve on a fragmented health care system by providing primary, comprehensive, and continuous family oriented service. Given a choice between family practice and the other more limited specialties, it was assumed that most families would obtain the bulk of their care from family physicians.[1]

In a 1978 survey of family physicians and their patients, Hyatt found that although physicians and patients generally agreed that family physicians (1) could handle most common problems, (2) should care for hospitalized patients, and (3) should encourage the adoption of behavior conducive to good health, the patients strongly differed from the physicians in the area of referrals. The vast majority of patients felt that family physicians should refer serious problems to other specialists, even if the family physicians were capable of competently managing the problems by themselves. Most of the physicians disagreed with this position. Both groups were divided on the issue of family orientation: 50 percent of patients and 62 percent of physicians felt that a family physician should care for all family members. Less than 40 percent of patients felt it important that a physician take note of family circumstances.[2]

Hyatt's findings are consonant with research documenting that although most people identify an individual physician as their usual source of medical care, they and their families obtain health services from multiple, independently selected physicians.[3-10] Richardson[11] found that only 10 percent of the population has a pattern of care consistent with the professional vision of family practice, that is, the use of a private physician as one's usual and only source, referrals excluded.

As reviewed, the empiric literature does not support the notion that family practice is the American family's preferred source of health care. However, because many families do not have the

From the Department of Community and Family Medicine, Duke University, Durham, North Carolina. At the time the research was done, Dr. Chatterton was a family medicine resident with the Division of Family Medicine, Duke University, Durham, North Carolina. Requests for reprints should be addressed to Dr. Howard T. Chatterton, Marshfield Clinic, 906 College Avenue West, Ladysmith, WI 54848.

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option of receiving care from a family physician, their preferences in this area are moot. Existing research does not comment on the behavior of families whose choices include the full range of contemporary medical specialties. The present study examines patterns of health care utilization found among regular users of an academic family practice and their other household members in an effort to evaluate the extent to which these patients perceived the practice as their single, household source of care.

Methods

The Duke-Watts Family Medicine Program is a residency training program offering fee-for-service care to patients living in the Durham, North Carolina, area. Durham County has a total population of approximately 144,000. Most of the population resides within the city of Durham, which contains 107,000 inhabitants. The county contains approximately 41,000 households, with an average of slightly over three persons per household. Approximately 28 percent of the population is black.

The Family Medicine Center (FMC) began with a small nucleus of patients from the county hospital medical clinics and then grew as a free-standing fee-for-service unit competing within the community medical marketplace. The practice is staffed by 39 residents, 6 faculty family physicians, and consultants in clinical psychology, psychiatry, pediatrics, and obstetrics and gynecology. Approximately 12,000 patients are registered with the practice, with an average daily visiting rate of between 90 and 100 patients. Of visiting patients, 71 percent are white, 69 percent are female, and 44 percent are married. The median age of active patients is 30 years.

The Durham community is served by approximately 120 physicians whose practices cover a wide range of specialties. Twelve are in the practice of family medicine, 19 in internal medicine, 13 in pediatrics, and 29 in the surgical specialties. Three large teaching hospitals affiliated with Duke University operate within the community. The county physician/population ratio is 4.6 physicians per 1,000 population, in contrast to 1.4 per 1,000 for all of North Carolina.

The population for this study was drawn from 2,263 households that had enrolled at the Family Medicine Center during the calendar year 1977. To be eligible for the study, the first registered household member (primary registrant) had to have made one or more clinic visits at least four weeks subsequent to his or her initial visit and be a resident of the county. A 20 percent random sample of the enrolled households was taken, and a home interview of the primary registrant (or another member of the household if the primary registrant was under 15 years of age or was not at home at the time of visit) was done by a trained interviewer during April and May of 1979. Interview questions sought information on usual source of medical care ("Is there one particular doctor or place you usually go to when you are sick or when you need advice about your health?"), use of 20 area emergency, specialty, primary care, and hospital sites during the previous 12 months, and projected source of care for ten sex-specific acute, chronic, and preventive health problems ("Where would you go for medical care for each of the following:" eg, broken arm, arthritis, Pap smear, general examination). In addition, similar sources of care for children aged less than 19 years, race, sex, age, education, and usual source of care of all other household members were identified. Number of visits made to the FMC was abstracted from the medical record.

Results

Sample Population

Of 140 eligible households selected, 130 were interviewed. Ten households were not included (eight were not at home, two refused). Proxy respondents were used for 24 (18 percent) of the interviews. Of these 24, 18 (75 percent) were mothers, wives, or sisters. Sixty-six percent of the proxy respondents were FMC patients. Of the 130 primary registrants, 82 (63 percent) used the FMC as their usual source of care; the remaining 48 had "other" usual sources. As can be seen in Table 1, these groups were comparable by sex, but the "other" care respondents tended to be younger, white, single, and fewer were high school graduates. They averaged one half as many visits to the center between the time of their enrollment and the survey. The noninterviewed sample dif-

Table 1. Frequency of Patient Demographics by FMC and "Other" Source of Usual Care

Patient Characteristics	FMC (n = 82) No.	(%)	Other (n = 48) No.	(%)	Total (n = 130)
Median Age (range) (years)	31	(3-82)	37	(20-89)	32
Race					
Black	25	(30)	9	(19)	34
White	57	(70)	39	(81)	96
Sex					
Male	24	(29)	15	(31)	39
Female	58	(71)	33	(69)	91
Marital Status					
Married	41	(50)	16	(33)	57
Single	23	(28)	19	(40)	42
Widowed, divorced, separated	18	(22)	13	(27)	31
Education					
Less than high school	19	(23)	17	(35)	36
High school	28	(34)	7	(15)	35
More than high school	35	(43)	24	(50)	59
Mean number (range) of FMC visits	8.4	(2-51)	4.3	(2-17)	128

fered only by race (more white) and education (fewer were high school graduates). In the final study sample, the 82 regular FMC users were largely head of their household (80 percent) and were representative of the total FMC practice with respect to age, race, sex, and marital status.

Adult Problem-Specific Sources of Care

Problem-specific sources of projected care for the 82 primary registrant regular users of the FMC are displayed in Table 2. Overall, the center is perceived as a source of care for preventive, acute symptomatic, and chronic medical care. At least 80 percent of the patients would use the center for a preventive general examination or Pap smear as well as for the care of bloody stools, sore throat, headache, urinary tract infection, breast lump, and chronic arthritis. Use of the FMC for pregnancy, psychosocial, and acute orthopedic or laceration problems is less consistent. Nearly one third of the women would use alternate sources for pregnancy care and 40 to 80 percent of both men and women would use other sources for a fracture, depression, or marital and sexual problems. These "other" sources were almost exclusively specialty sites or physicians: obstetrics and gynecology for pregnancy, emergency room for fractures, and mental health professionals for depression and marital and sexual problems.

Medical Care Use

Thirty-eight Durham area emergency, specialty, hospital and primary care providers and sites (excluding FMC) were identified as having been utilized during the previous 12 months by the 82 patients. Table 3 shows the ranked distribution of these other sources of care. Though the data do not reflect number of times seen or reason for visit and are not explicit whether physician or self-referred, some implicit judgments can be made based on the nature of the specific sites. Except for hospitalizations, which would be physician referred, the other top four (emergency room, obstetrics and gynecology, internist, and public health department) are utilized as primary care services and were probably self-referrals.

Table 2. Percent Distribution of Projected Problem-Specific Sources of Care for Adults by Sex (n = 82)

Problem	Male (n = 24)				Female (n = 58)				
	FMC	Other	ER	Total Number	FMC	Other	Ob-Gyn	ER	Total Number
General examination	100			23					
Pap smear					81	12	7		57
Bloody stools	91	5	4	23					
Urinary tract infection					84	16			56
Sore throat	83	17		23	91	9			57
Headache	78	22		23	91	9			56
Breast lump					81	14	5		57
Arthritis	86	14		22	94	6			54
Pregnancy					68	5	27		37
Depression	45	55		22	60	40			57
Sex/marital problems	20	80		20	40	60			43
Sprained ankle	70	30		23					
Laceration	57		43	23					
Arm fracture	39	7	53	23	35	12		53	57

Household Health Care

Seventy-nine of the 82 study households contained 156 additional members, 80 of whom were adults over 18 years, and 76 of whom were children. Only one third (55 members) also used the FMC as their usual source of care. Forty-nine, or 61 percent, of the adults had "other" usual sources of care. Prominent among these sources were internal medicine (13/49) and obstetrics and gynecology (8/49). The usual source of care for the remaining 28 individuals included community institutions, other family physicians, hospital clinics, mental health professionals, and others. Sixty-eight percent (50/76) of the children were taken elsewhere for usual pediatric care, 70 percent (35/50) of these to pediatricians. The tendency was that if one child used the FMC as his or her usual source of care, so did all the other children in that child's household. Similarly, households choosing other usual sources of care for one child took all their children elsewhere.

Table 4 lists problem-specific projected sources of child care for children in the study households. FMC care for general examination and fever (47 and 42 percent, respectively) rank the highest. There was no other aspect of care, however, among the preventive, acute, and behavioral problems sampled in which the FMC would be used by more than one third of the children. As for the adults, emergency rooms were almost exclusively identified as the projected source of care for acute

Table 3. Ranked Percent Distribution of Utilization of Other Sources of Medical Care During Previous 12 Months (n = 82)

Source of Care	Percent
Emergency room	39
Hospitalization	22
Obstetrics and gynecology	16
Internist	14
Public Health Department	12
Eye hospital clinic	11
Mental health	7
Ears, nose, throat	4
Lincoln Community Health Center	4
Podiatrist	1
Other (Family physician, student health, Veterans Administration hospital, etc.)	15

Table 4. Percent Distribution of Projected Problem-Specific Sources of Care for Children (n = 43)

Problem	FMC	Pediatrics	Other	Emergency Room
General examination	47	42	11	—
Fever	42	40	18	—
Immunization	33	33	34	—
Laceration	24	20	9	47
Fractured arm	20	16	13	51
Bedwetting < 6 years (n = 21)	29	29	65	—
School problem > 12 years (n = 29)	17	10	63	—

orthopedic problems and lacerations. School problems were most likely to be taken to nonmedical providers, whereas immunization would generally be obtained from the public health department.

Discussion

The use of medical services by persons with access to family physicians clearly falls short of the profession's expectations. Many persons using family physicians do not use them on a regular basis.[12] The present study shows that only 63 percent of patients who use the FMC regularly consider it their usual source of care. Moreover, this orientation is shared by only 35 percent of these patients' other household members.

The discrepancy between expectation and reality may be attributed to four factors. First, family practice is a new discipline. Most people who have the option of receiving care from a family physician already have a usual source of care, as do other members of their families. Second, many patients may be unaware of the full range of services available from family physicians. This could reflect previous experience with physicians of narrow competence and also poor communication on the part of family physicians with both individual patients and the public at large. Third, many family physicians are not interested in providing care for entire families. Only 62 percent of the physicians in Hyatt's survey felt that family physicians should care for all family members.[2] Last, there are a number of people who prefer to obtain primary care from multiple sources, family practice notwithstanding. Their reasons are undoubtedly diverse; the profession's ability to accommodate these individuals is unknown.

Because the present study is based on an academic family practice, caution should be used in generalizing to other settings. One may presume that periodic physician turnover and inconveniences of size make academic family practice less desirable than its private counterpart. Replication and extension of this study in both academic and private settings could provide valuable information regarding the public's perception and use of family physicians. Such information is critical to the success or failure of the specialty's future development.

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