Continuity of Care in the Referral Process: An Analysis of Family Physicians' Expectations of Consultants

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A total of 497 referrals from a rural family practice training center are analyzed from the perspective of the referring physicians' expectations for continuing care of the referred patient. Those expectations were stated explicitly at the time of referral within three mutually exclusive categories. Referral expectations are partitioned by diagnostic groups and by specialty of the consultant. Analysis suggests that the referring physicians' expectations for continuing care of the referred patient vary significantly depending upon the specialty of the consultant.

Research in a variety of sites in the United States and Canada has suggested that family practice referrals range from 1.0 to 5.5 percent of total office visits.[1-8] Continuity of patient care is of importance to family physicians, especially so when a family physician refers a patient to a consultant. When a referral is made, the family physician has implicit expectations about which party in the referral process has continuing responsibility for that patient's care.

Four prior studies, each with different methods, have attempted to analyze those expectations for continuity of care of referred patients. Geyman et al[1] examined the referring physician's perception of which party (family physician or consultant) had responsibility for care under the referral process. Of 103 referrals analyzed, 38 percent were to be the full responsibility of the consultant for the care of the referral problem. In 3 percent of the cases, the family physician perceived that he or she maintained total responsibility, and in the remaining cases, the family physician and the consultant shared responsibility for the care of the referred problem. Brock[2] analyzed 465 cases to determine reasons for referral that the referring physician believed were important. Reasons were not mutually exclusive. The three most important reasons given were "second opinion for management" (72 percent of referrals), "lack of required facilities and/or skill" (62 percent), and "second opinion for diagnosis" (45 percent). A report by Moscovice et al[3] analyzed the purpose of referring 161 patients from four family practices. There was variation among the four practices, but overall 9.3 percent were referred for "opinion only," 82.6 percent for "management of this problem only," 2.5 percent for "permanent transfer of responsibility," and the remainder for special tests. Recently, Taylor[9] reported on a retrospective survey of 40 family physicians about care provided in a total of 1,014 patient encounters. Although the author identified possible weakness in the research design, his statistics suggested that 7.28 percent of encounters involved problems that are "best managed in concert with a colleague possessing in-depth knowledge, skill and experience," and 2.7 percent of encounters involved problems that "necessitate a transfer of control to another physician who will provide critical care, perform surgery, or offer some other specialized service."

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Family physicians' explicit expectations are examined here with regard to the continuity of care of referred patients. Research in this study differs from previous work in the following ways: (1) expectations for continuing care of the referred patient were stated explicitly at the time of referral; (2) those expectations were defined within three mutually exclusive categories as to what the referring physician expected from the consultant; (3) the data base is sufficiently large to permit the expectations of the referring physician to be analyzed by preliminary diagnosis and by specialty of the consultant.

Settings and Methods

Data for this study were obtained from a family practice residency training site in Fulton, Missouri. The clinic serves as an affiliated rural satellite to the Department of Family and Community Medicine at the University of Missouri–Columbia, approximately 25 miles away. Fulton has a population of 12,000 and a county hospital of 67 beds. In addition to the training center staff, the community has six family/general physicians and a general surgeon, but no other full-time private medical specialists.

During the study period, all residents in the family medicine training program spent approximately 25 percent of their final two years practicing in that environment. The Fulton center was initiated in 1974 to offer residents an attractive rural training site and to provide realistic experiences. About 20 residents per year participated in the rural center with three to four on site during any given day, each resident scheduled a minimum of one day each week. Residents, with the approval of the supervising faculty physician and the patient, were free to refer patients to a wide array of specialists in private and university-based practice within a 35-mile radius of Fulton. In this choice, as in most other respects, the rural training center operated similarly to private family practice groups in rural towns. The consultant's reputation, ability to see the referred patient promptly, willingness to provide a timely report of his or her findings to the referring physician, and a host of other factors were included in the decision to use a particular consultant.

In 1977, a three-year study of outpatient referrals was initiated at the Fulton training site to enhance residency training and to collect referral and related research data. Each provider (faculty physician, resident physician, nurse practitioner) who made a referral secured a specific appointment with the specialist while the patient was still in the clinic. At that time the provider initiated a data collection form that augmented the patient's record. To minimize the chances of missed data, the medical typist correlated the provider's dictated clinic notes with the referral forms and followed up on any inconsistencies. Periodically, the medical director of the clinic reviewed the referral forms, added outcome statistics, and summarized the data for internal purposes. The data collection was continued in the same format through the end of 1979, a period of 36 months.

Referrals analyzed in this paper are those that were formally initiated within the office practice. Ninety percent of referrals were made by resident physicians, 3 percent by physician faculty, and 7 percent by nurse practitioners. All office referrals by all providers to all sources of consultation are included in this paper. Data were not collected for referrals made by the physicians when they were caring for patients in the Emergency Room or the hospital. Because the clinic is a training center, these data also do not include the informal consultations between resident physician and faculty in various specialties who serve as clinic attending physicians.

For this paper three pieces of information about each referral are relevant: (1) the preliminary diagnosis or problem as identified by the referring physician and subsequently coded into the International Classification of Health Problems in Primary Care (ICHPPC), (2) the specialty of the consultant to whom the referral was made, and (3) the explicit expectation of the referring physician about the continuity of care of that patient. For this, each referring physician checked on the data collection form only one of the following categories: (1) evaluate and return to me with your recommendations; (2) assume total care of this particular problem, then return; and (3) assume total care of this patient.

Results

During the 36-month period, 497 referrals were made out of 30,131 visits, an overall referral rate of 0.0165 or 1.65 percent of office visits. Forty-nine

Table 1. Consulting Specialty vs ICHPPC Code of Preliminary Diagnosis for Family Practice Referrals

	Surgery					Internal Medicine						Other						
ICHPPC Category	General	Plastic	Orthopedics	Urology	Cardiovascular	General	Neurology	Dermatology	Cardiology	Endocrine	Other Medicine	Ophthalmology	Otolaryngology	Obstetrics/ Gynecology	Psychiatry	Pediatrics	Physical Medicine	Unidentified
I Infectious disease (n = 11)	2	1		1		1		4								1		1
II Neoplasms (n = 37)	12	1		2				5			2		3	5				7
III Endocrine (n = 12)	1									6		3			1			1
IV Blood (n = 3)											2					1		
V Mental (n = 14)				1		2	3							1	4	1	1	1
VI Nervous (n = 111)	1		2				26		1			30	40			1	1	9
VII Circulatory (n = 43)	2				1	2	1		25		2			2		8		
VIII Respiratory (n = 21)	3							1			3		11					3
IX Digestive (n = 26)	16					1					3			4	1			1
X Genitourinary (n = 58)	2			26				1			2			25				2
XI Pregnancy (n = 16)	1													14				1
XII Skin (n = 15)	1	1						10					1			1		1
XIII Musculoskeletal (n = 48)	5	2	24				3				4					1	2	7
XIV Congential (n = 12)	2	1	6	2								1						
XV Perinatal (n = 1)														1				
XVI Sign, symptom (n = 43)	15	1		5			3	2		1	1		1	11	1	1		1
XVII Injuries (n = 52)	5	2	24					1			1	7	8					4
XVIII Supplementary (n = 23)	3			1									1	13				5
Total (n = 546)	71	9	56	38	1	6	36	24	26	7	20	41	65	76	7	15	4	44
Percent of total	13.0	1.6	10.3	7.0	0.2	1.1	6.6	4.4	4.8	1.3	3.7	7.5	11.9	13.9	1.3	2.7	0.7	8.0

of those referrals involved two preliminary diagnoses being given as the problem that formed the basis for the referral, and the remainder listed only a single diagnosis as the basis for the referral, for a total of 546 preliminary diagnoses.

Table 1 shows the specialty of the consultant to whom the patient was referred according to the ICHPPC code of the preliminary diagnosis or problem. Two consultant categories have been collapsed for brevity: "other medicine" includes rheumatology, gastroenterology, hematology, pulmonary, infectious disease, and nephrology; "unidentified" includes referrals made to specialty hospitals without the name of a specific consultant (21 of the 44) and to a variety of other health care practitioners or agencies (dentists, podiatrists, physical therapists, etc). Problems tentatively identified as nervous system and sense organ diseases (category VI) were by far the most frequent problems for referral, and over 86 percent of those were referred to a neurologist, ophthalmologist, or otolaryngologist. Genitourinary system disease (category X) was the second most frequent problem for referral, the majority of the patients going to either a urologist or a gynecologist in approximately equal proportions. About

Table 2. Continuity of Care Expectations vs ICHPPC Code of Preliminary Diagnosis

ICHPPC Category		Referring Physicians' Expectations (number of referring diagnoses)		
		Evaluate and Return	Care for This Problem Only	Assume Total Care
I	Infectious disease (n = 11)	2	9	—
II	Neoplasms (n = 37)	4	32	1
III	Endocrine (n = 12)	5	7	—
IV	Blood (n = 3)	2	1	—
V	Mental (n = 14)	5	8	1
VI	Nervous (n = 111)	44	67	—
VII	Circulatory (n = 43)	25	18	—
VIII	Respiratory (n = 21)	8	13	—
IX	Digestive (n = 26)	8	17	1
X	Genitourinary (n = 58)	19	38	1
XI	Pregnancy (n = 16)	5	11	—
XII	Skin (n = 15)	7	8	—
XIII	Musculoskeletal (n = 48)	12	36	—
XIV	Congenital (n = 12)	2	10	—
XV	Perinatal (n = 1)	—	1	—
XVI	Sign, symptoms (n = 43)	16	26	1
XVII	Injuries (n = 52)	9	43	—
XVIII	Supplementary (n = 23)	7	16	—
	Total (n = 546)	180	361	5
	Percent of total	33.0	66.1	0.9

one half of musculoskeletal, congenital, and injury referrals were to orthopedists, and these problems accounted for virtually all of the orthopedic referrals. The majority of circulatory referrals (category VII) were made to a cardiologist, but it should be noted that nearly 20 percent of such referrals were sent to a pediatric subspecialist and that circulatory problems constituted over one half of all diagnoses referred to pediatricians. Table 1 also shows that specialties grouped under "surgery" received 32.1 percent of the problems. Those specialties grouped under "internal medicine" received 21.9 percent. If ophthalmology, otolaryngology, and obstetrics and gynecology referrals were classified as surgical problems, and pediatric referrals were classified as medical problems, the percentages would be 65.4 and 24.6, respectively.

In Table 2 are examined the referring physicians' expectations for continuity of care according to the preliminary diagnosis that occasioned the referral. Grouping according to preliminary diagnoses yields inadequate sample sizes for inferential statistics, but the table does suggest relative differences in expectations subject to the limitations of the ICHPPC system of grouping diagnoses. It is clear, however, that except for the few referrals for diseases of the blood and blood-forming organs (category IV) and referrals for diseases of the circulatory system (category VII), the majority of all referrals was accompanied by the expectation that the consultant would "care . . . for this problem only." Transfer of complete responsibility ("assume total care") was negligible. Overall, the referring physician's expectation on one third of the referral problems was that the consultant would "evaluate and return" the patient.

However, the mechanics of the formal referral process usually involve interactions between two physicians of different specialties. In Table 3 the referring physicians' continuity of care expectations are examined by specialty of the physician to

Table 3. Continuity of Care Expectations vs Specialty of Consultant for the Ten Most Frequently Used Specialties

Consultants Specialty	Referring Diagnoses (No.)	Patient Referrals (No.)	Referring Physicians' Expectations (percent of patient referrals)		
			Evaluate and Return (%)	Care for This Problem Only (%)	Assume Total Care (%)
Pediatrics	15	13	69	31	—
Cardiology	26	25	68	32	—
Dermatology	24	24	50	50	—
Neurology	36	34	50	50	—
Obstetrics/ gynecology	76	64	34	66	—
Otolaryngology.	65	59	32	68	—
Ophthalmology	41	39	26	74	—
Urology	38	34	23	74	3
Orthopedics	56	52	15	85	—
General surgery	71	68	9	88	3

whom the patient was referred. For clarity, only the ten physician specialties that received referrals on 15 or more problems are listed. After adjusting for referrals with multiple preliminary diagnoses, this subset accounts for 83 percent of the 497 referrals. In Table 3, these specialties are listed in descending order according to the proportion of referrals under which the referring physician's expectation was given as "evaluate and return." It is clear that this ordering according to the "evaluate and return" category yields a particular grouping: first comes pediatrics and internal medicine specialties, then specialties (obstetrics and gynecology, otolaryngology, ophthalmology) that might have some surgical component in the care, and finally, the specialties that are largely surgically oriented.

If it is assumed that these findings represent a sample rather than a complete enumeration of all referrals during the study period, then a null hypothesis that the proportion of "evaluate and return" referrals is independent of consultant specialty must be rejected according to the chi-square criterion ($\chi^2 = 57.94$; $P < .01$). Moreover, the three groups of specialties as differentiated in Table 3 are significantly different with respect to the proportion of "evaluate and return" referrals (large sample test for difference between proportions; $Z > 3.0$; $P < .01$).

Discussion

Table 1 illustrates the diversity of diagnostic or patient problems confronting the family physician for which he or she seeks assistance from a specialist colleague. Moreover, in this setting, where a full range of specialists is available within a reasonable distance, Table 1 documents the relative extent to which various specialties are called upon to support a family physician. The distribution of family practice referrals among various specialties has been described in a variety of other settings, and these results fall within the span of those reports.[1-7] The distribution of referrals among major diagnostic or problem categories, however, has received less documentation. Dolezal et al[4] used the ICHPPC system in a similar analysis of a much smaller referral data base (162 total referrals). Allowing for the discrepancy between the sample sizes of that study and this one, the results seem to support each other. To the authors' knowledge, no other referral analyses examine diagnostic category and specialty of the consultant simultaneously.

The data in Tables 2 and 3 confirm what most family physicians intuitively suspect. Even when they refer a patient to another physician, they expect to provide continuing care for virtually all those patients. Regardless of referral diagnosis or problem, the physicians in this site expected to provide continuing care in the vast majority of cases. Ignoring the few instances in which responsibility for total care is transferred to the consultant, it is clear that the referring physicians' expectations for continuing care varied significantly depending upon the specialty to which the patient was referred. These data suggest that for problems referred to medical specialties, the family physician tends to expect opinions and recommendations so that he or she can personally manage the patient's problem. For problems referred to surgical specialists, the family physician tends to expect the consultant to manage the patient problem that occasioned the referral. While intuitively supportable, the literature has not previously described those expectations on a specialty-by-specialty basis. Although such interpretation is limited somewhat by the uniqueness of the one study site, these results provide a preliminary, data-based estimate of the family physicians' expectations for true consultative ("evaluate and return") vs true referral ("care . . . this problem only," "assume total care") assistance from their various specialist colleagues.

Allowing for the different research designs and the sample sizes involved, the overall data are only partially in agreement with the results of the four studies cited above which relate to continuity of care expectations. The results of this study are in line with those of Moscovice et al[3] in that the majority of family physician referrals are for management of the referred problem only. However, the results of this study, which suggest that as much as one third of all referrals are for the purpose of getting the consultant's recommendations as to diagnosis or treatment, cannot be supported by any reasonable interpretation of the four prior studies. The relevant fact may be that the data base arises from a training setting rather than from private practice sites. Resident physicians for a variety of reasons may be less willing to transfer responsibility for managing certain types of problems to a consultant, preferring, for example, to seek the consultant's advice but to maintain patient management themselves to further their own educational goals. While physicians in private practice might also use the referral process for their own continuing education, the tendency to do so might be reduced by breadth of experience and time pressures.

Finally, it should be noted that continuity of care expectations in referrals impinge upon the broader issue of appropriate boundaries between family practice and other specialties. This analysis of referrals by diagnostic and specialty category raises boundary questions the available data leave unanswered. For example: (1) Does the proportion of "evaluate and return" expectations mirror the actual or perceived overlap in training among family physicians and other specialties? (2) To what extent can and do true consultations play a role in continuing medical education for family physicians, and should family medicine seek ways in which that role can be motivated and enhanced in training and in practice? (3) To what extent are family physician expectations for continuity of care appropriate from the viewpoint of consultants or from overall quality of care considerations, and to what extent do the consultants or the patients comply with those expectations?

Such questions are impossible to answer from a single site. However, the questions appear relevant to family physician training and to practice. The professional interactions between family physicians and their specialist colleagues—perhaps best exemplified operationally in the referral process—would seem to warrant considerable additional research toward a future characterized by physician surpluses and growing competition.

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