Relative costs of specialist services in a family practice population

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The frequency and cost of referrals to specialists in March 1984 for 8980 rostered patients attending a family practice clinic located in a teaching hospital were analysed. The patients made 1891 visits to specialists. In all age groups and for all specialties female patients were more likely to be seen. The total direct provider costs were higher for female patients than for male patients. However, costs per patient seen were higher for male patients, except for psychiatry and medicine. Visits to surgeons had the highest total cost, while visits to psychiatrists had the highest cost per patient seen. Of the direct provider costs 61% was for specialist services. The family physician, in the "gatekeeper" role, has an opportunity to control some of the costs of the health care system by ensuring that the best and most efficient use is made of the referral network.

En mars 1984, dans la clientèle d'une consultation de médecine familiale située dans un hôpital universitaire, on détermine à quelle fréquence les malades sont adressés aux spécialistes, et ce qu'il en coûte. Pour les 8980 personnes inscrites sur la liste, on compte 1891 visites chez des spécialistes. Dans toutes les tranches d'âge et pour toutes les spécialités, ce sont les malades du sexe féminin qui y vont le plus souvent. Le coût global en honoraires de ces visites est plus élevé chez elles que chez les malades du sexe masculin, mais le coût par malade est plus élevé chez ces derniers sauf en psychiatrie et en médecine interne. Les visites en chirurgie comportent le plus haut coût global, celles en psychiatrie le coût le plus élevé par malade. Du total des honoraires, les 61% vont aux spécialistes. Le médecin de famille est en quelque sorte un chien de garde: il peut jusqu'à un certain point régir les dépenses reliées à la santé en s'assurant d'adresser ses malades à bon escient.

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Although specialists and family physicians share patient management, family physicians function as "gatekeepers" to the health care system.[1-3] Thus, in addition to providing primary care, they have a major influence on the use of specialist services by their patients. This gatekeeper role also influences to a considerable extent the costs of ambulatory care.

In previous studies it has been shown that between 1.5% and 5% of patients seen by the family physician are referred to a specialist.[4,5] The most frequent referrals are to surgeons and internists.[6-8] Several investigators have contrasted alternative methods of health care delivery.[9-15] Although shared management versus specialty care for specific problems has been studied,[16] there are no reports on the costs of specialist care compared with family physician care for the same group of patients. In Ontario the family physician and the specialist share in the care of the patient. We undertook a study to determine the patterns of referral in a family practice clinic in Ontario and the direct provider costs of the referrals.

Setting and method

The Department of Family and Community Medicine, Sunnybrook Medical Centre, is a 12-physician family practice group with over 15 000 patients located in a metropolitan teaching hospital within an upper-middle-class community. All the physicians are involved in teaching, and patients are seen by medical students and family practice residents.

In July 1983 the group decided to become a Health Service Organization (HSO), an alternative form of practice that is available in Ontario. In an HSO, physicians roster patients of the group practice and receive a daily capitation payment for these patients in lieu of Ontario Health Insurance Plan (OHIP) billing revenue. Payment for a given patient is calculated as the average cost of direct family physician care for patients of the same age or sex according to OHIP. If in any month the patient uses the services of a family physician who is not in the HSO, the HSO receives no capitation

payment for the patient that month. The HSO still bills OHIP for family physician services supplied to nonrostered patients.

This system allows the HSO access to information about the practice profile and the use of health services by the rostered patients. Using computerized printouts supplied by the Ontario Ministry of Health on the 8980 rostered patients, we determined for March 1984 the number of visits to the family physician, the OHIP costs for the visits, the number of visits (both new referrals and follow-up visits) to a specialist and the OHIP costs for these visits, by specialty. The costs for family physician and specialist services did not include such components as extra-billing, laboratory tests and roentgenography.

Results

Nearly 60% of the patients were female, and over 40% were over 60 years of age (Table I). There were 1891 ambulatory or inhospital consultant visits billed to OHIP (Table II). As patients grow older they are more likely to visit a specialist; therefore, although only 41.5% of the patients were over 60, 51.3% of the visits to specialists were for this age group. In the same month the patients made 3723 visits to the family physicians.

As expected, visits to surgeons or internists were most frequent (Table III). Visits to chiropractors, who in Ontario can accept self-referred patients, were the next most frequent, followed closely by visits to psychiatrists or dermatologists, to whom patients must initially be referred. For all the specialties female patients had higher absolute and relative numbers of visits than male patients. The largest difference was in the number of visits to psychiatrists.

The costs of the visits to specialists are shown in Tables IV and V. Surgery, which had the highest number of visits, also had the highest total cost, followed by psychiatry. However, the highest cost per patient seen was for psychiatry ($208.80), followed by obstetrics and gynecology ($68.02); chiropractic had the lowest cost per patient seen

Table I—Age and sex of 8980 rostered patients in a Health Service Organization, March 1984

	No. (and %) of patients		
Age, yr	Males	Females	Total
≤ 19	412	463	875 (9.7)
20–59	1732	2644	4376 (48.7)
60–79	1198	1800	2998 (33.4)
≥ 80	278	453	731 (8.1)
Total	3620	5360	8980 (100.0)

Table II—Number of visits to specialists, by patient age

	No. of visits		
Age, yr	Males	Females	Total
≤ 19	41	47	88
20–59	239	593	832
60–79	290	478	768
≥ 80	80	123	203
Total	650	1241	1891

Table III—Number of visits to specialists, by specialty

	No. of visits		
Specialty	Males	Females	Total
Surgery	233	414	647
Medicine	227	351	578
Chiropractic	63	118	181
Psychiatry	54	125	179
Dermatology	62	109	171
Obstetrics and gynecology	3*	105	108
Pediatrics	8	19	27
Total	650	1241	1891

*Probably visits by a female relative.

Table IV—Cost of visits to specialists, by specialty

	Cost, $		
Specialty	Males	Females	Total
Surgery	19 464	21 503	40 967
Psychiatry	9 278	28 097	37 375
Medicine	12 127	21 512	33 639
Obstetrics and gynecology	940	6 406	7 346
Dermatology	1 852	2 995	4 847
Chiropractic	1 230	2 216	3 446
Pediatrics	369	434	803
Total	45 260	83 163	128 423

Table V—Cost per patient seen of visits to specialists, by specialty

	Cost, $		
Specialty	Males	Females	All patients
Psychiatry	171.81	224.78	208.80
Obstetrics and gynecology	313.33	61.00	68.02
Surgery	83.54	51.94	63.32
Medicine	53.42	61.29	58.20
Pediatrics	46.13	22.84	29.74
Dermatology	29.87	27.48	28.35
Chiropractic	19.52	18.78	19.04
Average	69.63	67.01	67.91

($19.04). Although for all the specialties female patients had a higher number of visits than male patients, the cost per patient seen was higher for male patients, except for psychiatry and medicine.

The OHIP cost for direct provider services was $213 466, of which $85 043 (39.8%) was paid to the primary care group and $128 423 (61.2%) to the specialists. Even though the family physicians provided care to 8980 patients and saw 3723 of the rostered patients, and the specialists saw only 1891 of the latter patients, the specialty services accounted for 61% of the total direct physician costs. Thus, in the month studied the cost per rostered patient for direct primary care services was $9.47, whereas it was $14.30 for direct specialist services.

Discussion

Initially the patients in the practice had been asked to enrol in the roster as they visited their family physician. The rostered portion of the practice may therefore have included patients who made more frequent visits and were therefore sicker than the other patients in the practice. Furthermore, since the practice is located in a teaching hospital, it may attract patients requiring more specialty care, and medical students and residents may be more likely to refer patients to specialists. However, the number of rostered patients who are admitted to hospital is known through the HSO data, and our hospitalization rate was less than the average for our geographic region. It is therefore unlikely that these possible biases had much impact on the data.

Since we included both new referrals and follow-up visits to specialists, the numbers of visits to specialists were higher than those reported in previous studies,[4-6] which included only initial referrals. In addition, as the costs for physician services did not include such components as extra-billing, laboratory tests and roentgenography, it is likely that specialists generated considerably higher costs than those reported.

The family physician has an opportunity to control some of the costs of the Canadian health care system, especially in primary and secondary care. Family physicians decide not only how to manage patients but also usually the frequency and types of referrals that are to be made. In our study the costs varied among the specialties and between the sexes. If family physicians are to function as gatekeepers to the health care system they must become aware of the costs of referrals, especially since these costs are higher than those of primary care services. They can then begin to consider whether the costs of referrals can be reduced without affecting the quality of care to patients.

The HSO system allows physicians to track some of the costs of referrals. If analysed appropriately, these costs can be used to make decisions that will maximize the appropriate use of the health care system, to the benefit of all Canadians.

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