Knowledge of Patient's Method of Payment by Physicians in a Group Practice

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THE METHOD OF PAYMENT for a patient's medical care may influence the character of that care *(1-6)*. Such influence may be of particular significance when alternative payment methods are used simultaneously in one setting and the physician knows the method used by a specific patient. For example, some patients may pay their own bills, while the medical expenses of others are paid for them as indigents by a governmental agency or through a nonindigent prepayment arrangement for comprehensive care. For the care being given to be affected by the kind of payment, however, the physician providing that care, regardless of his own source of remuneration, would obviously, at the very least, need to know the method of payment.

We sought to determine whether physicians in a group practice at Marshfield, Wis., did in fact know how their patients paid for their care. In this clinic, fee-for-service self-payment and prepayment were simultaneously used, and also a small number of patients were covered by Medicare or Medicaid. The clinic's physicians are remunerated by salary, and after 4 or 5 years as members of the group practice, they all have equal salaries; annual surpluses are distributed to the physicians as bonuses. The study was part of a larger one undertaken to determine the impact of enrollment in a prepaid plan on utilization of ambulatory and inhospital services before and after implementation of the plan *(7)*.

Study Setting

The Marshfield Clinic, which has been in operation since 1916, is located in central Wisconsin. This group practice provides primary care to a population of nearly 48,000 in its immediate geographic area, and it also is a referral center for more than 1.5 million people who reside in northern Wisconsin and parts of Michigan and Minnesota. Only those living within the rural and semi-rural Greater Marshfield Area, however, are included in our substudy (see map).

In March 1971, the clinic introduced a prepaid plan (Greater Marshfield Community Health Plan - GMCHP) as a joint venture with St. Joseph's Hospital and the Wisconsin Blue Cross and the Surgical Blue Shield of Milwaukee. This prepayment arrangement was offered as an option for persons living in the primary care area. Some of the eligible persons enrolled in the plan; others chose to continue under their former arrangements, paying on a fee-for-service basis or as subscribers to various forms of health insurance. The remainder of the population was comprised of Medicare and Medicaid beneficiaries. At the time of our study, 36.1 percent of the clinic's patients were enrolled in the prepaid plan, 50.8 percent paid on a fee-for-service basis, 10.6 percent were under Medicare, and 2.5 percent were on Medicaid.

When the prepayment arrangement was introduced in March 1971, no routine procedures were established to inform physicians about their patients' methods of

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Robert Payne, who at the time of the study was director of the physician-assistant training program at the Marshfield Clinic, Marshfield, Wis., helped prepare the physician's assistants to serve as interviewers in the study. The clinic's physicians not only served as respondents, but also contributed to the study in other ways.

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paying for care. This omission was in accord with the clinic's expressed philosophy that physicians do not require this knowledge to give optimal care and that there should be no distinction in treatment based on method of payment. Financial matters are regarded as the responsibility of the clinic's financial office, not of the individual physician. Moreover, clinic spokesmen have declared that the clinic physicians do not in fact know the patients' methods of payment *(8,9)*.

If, however, some physicians at the clinic did know the method of payment of their patients, then, regardless of the clinic's philosophy, this knowledge might affect their provision of care. The aim of our substudy was to determine the extent of such knowledge, if it existed. The substudy was done as part of the larger one, on the assumption that results of the utilization study might be influenced if such knowledge should prove to be widely possessed. Which physicians had knowledge of the source of payments? How important did they think this knowledge was? Was possession of such knowledge influenced by specific characteristics of patients? These were the questions we set out to answer in the substudy.

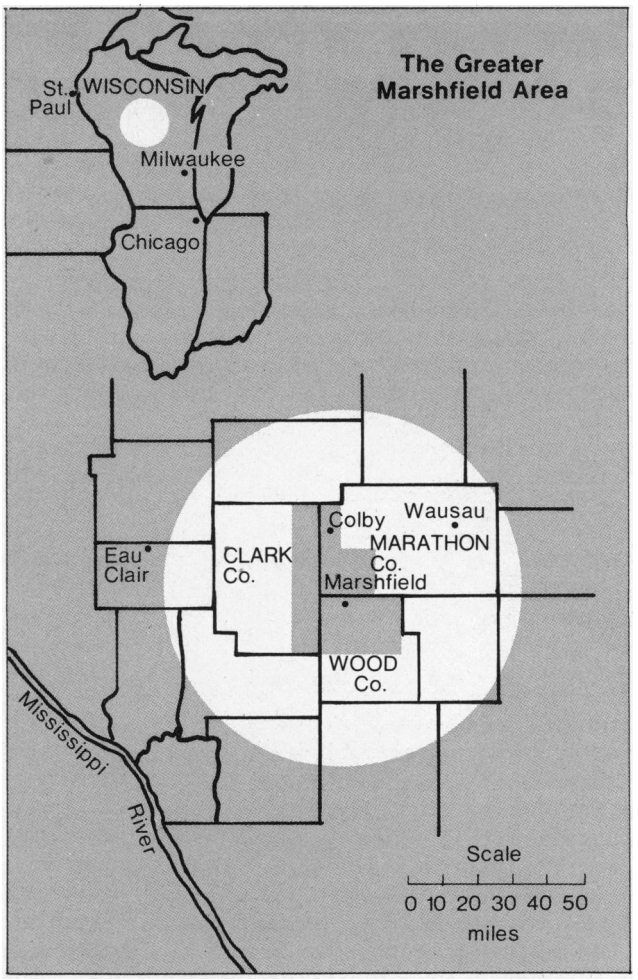
Methods

The substudy was necessarily restricted in scope. One day was randomly drawn as the time frame, and only patients who had seen physicians on that day were included. Even this number (702) was sharply reduced (to 198) on the basis of the specified criteria for inclusion in the study of both patients and physicians.

The criteria for inclusion of patients were:

1. Residence within the Greater Marshfield Area (only 327 of the 702 patients visiting the clinic on the substudy day met this criterion).
2. The visit had to be to a physician who was at the clinic on the day of the interview, August 21, 1973 (81 patients were eliminated by this criterion, leaving 246).
3. The visit had to be to a physician rather than to a dentist, psychologist, physical therapist, and so forth (only 198 of the 246 remaining patients met this criterion).

The 198 patients selected for the study saw 49 physicians on the substudy day, or considerably fewer than the 119 physicians who were on the Marshfield



Clinic medical staff. The number of physicians was reduced for the following reasons:

1. Twenty-three physicians were absent (on vacation, elsewhere on business, and so forth) on the substudy day, thus reducing the 119 to 96.
2. Fifteen physicians who were present on the substudy day were scheduled to be absent on the day of interview, thus reducing the 96 to 81.
3. Twenty physicians (for example, anesthesiologists, pathologists, and radiologists) do not ordinarily have contact with patients, and therefore were not seen by patients, reducing the 81 to 61.
4. Twelve physicians might have seen patients in the clinic on the substudy day, but were on call at the hospital, leaving 49 physicians to be included in the study.

The interviews were conducted by nine physician's assistants, who used a structured questionnaire. The clinic management sent a memorandum to all physicians in advance of the substudy to inform them that a research study would be conducted the following week. The physicians were interviewed in their offices at the clinic; all 49 responded. (A copy of the questionnaire and the memorandum will be supplied by Broida, upon request.)

The period of recall asked of the physician was short by design—only 5 days, but even this period was longer than was ideal. It could not be further shortened, however, because of administrative limitations (obtaining records and so forth). The first part of the questionnaire contained information about the patient that we obtained from the clinic records (name, age, sex, town of residence); this information was included to assist the physician in recalling the patient. After being provided with this identifying information, the physician was asked about the patient's method of payment. His answers were subsequently checked for accuracy against the clinic's source documents. The physician was also asked how long he had known the patient, place of employment of patient or patient's household head, and the physician's opinion of the usefulness for patient care of knowledge about the patient's payment status.

Results

Characteristics of the patients. The 49 physicians in the substudy reported that they did not know the payment status of about four-fifths of the 198 patients in the study (table 1). Moreover, even among the one-fifth whose status the physicians reported knowing, their knowledge was incorrect for an additional 3.5 percent. Thus, overall, the physicians knew the correct payment status for only about one in six (17.2 percent) of the patients about whom they were asked.

Table 1. Percentages of patients whose payment status physicians reported knowing, by patients' actual status

Actual payment status	Total number of patients	Physicians reported not knowing status	Physicians reported knowing status		
			Total	Knowledge correct	Knowledge incorrect
All patients	198	79.3	20.7	17.2	3.5
Prepaid	80	78.7	21.3	20.0	1.3
Fee-for-service	94	83.0	17.0	10.6	6.4
Medicare	21	66.7	33.3	33.3	.....
Medicaid	3	66.7	33.3	33.3	.....

The physicians knew the payment status of a somewhat higher proportion of the 80 prepayment patients in the substudy (21.3 percent) than of the 94 fee-for-service patients (17.0 percent). Also, the physicians' knowledge was more likely to be incorrect for the fee-for-service patients (they were wrong concerning 6.4 percent) than for the prepayment patients (incorrect information for 1.3 percent). Overall, the physicians had correct information concerning one-fifth of their prepaid patients and only one-tenth of their fee-for-service patients.

Smaller numbers of Medicare patients (21) and of Medicaid patients (3) were also included in the study. As might be anticipated, physicians reported that they knew the payment status of larger proportions of these patient groups (one-third in each case) than of the other three groups, and for all 24 patients their knowledge was correct. The proportions of these patients whose payment status was known, however, were lower than might be anticipated, given that these patients constituted the old and very poor.

Table 2. Percentages of patients whose payment status physicians reported knowing, by patients' sex and age

Sex and age group (years)	Total number of patients	Physicians reported not knowing status	Physicians reported knowing status		
			Total	Knowledge correct	Knowledge incorrect
All patients	198	79.3	20.7	17.2	3.5
Under 15	48	89.0	14.6	10.4	4.2
15–44	84	82.1	17.9	14.3	3.6
45–64	41	75.6	24.4	24.4	.....
65 and over	25	64.0	36.0	28.0	8.0
Males	93	80.6	19.4	14.0	5.4
Under 15	24	87.5	12.5	8.3	4.2
15–44	37	81.1	18.9	13.5	5.4
45–64	19	78.9	21.1	21.1	.....
65 and over	13	69.2	30.8	15.4	15.4
Females	105	78.1	21.9	20.0	1.9
Under 15	24	83.3	16.7	12.5	4.2
15–44	47	83.0	17.0	14.9	2.1
45–64	22	72.7	27.3	27.3	.....
65 and over	12	58.3	41.7	41.7	.....

The sex and age of patients apparently made a difference in the physicians' knowledge of their payment status (table 2). Thus, the physicians were somewhat more likely to report having this information about females (they had it for 21.9 percent) than about males (they had the information for 19.4 percent). They were also more likely to have the information about older patients. They had it for only 14.6 percent of patients under 15 years, but the comparable percentage increased steadily with age until the proportion was 36 percent for patients 65 years and older. Also, knowledge about payment status was less likely to be incorrect for females (incorrect for 1.9 percent) than for males (incorrect for 5.4 percent). The information was also more likely to be incorrect for patients 65 and over (8.0 percent) than for patients at all younger ages.

The length of time a physician had been caring for the patient was also relevant to his knowledge of payment status (table 3). The physicians reported they did not know the payment status of about three-fourths of the patients whom they had been taking care of for less than 1 year; this period may have been too short a time to acquire the information. They reported having this information concerning 50 percent of the patients they had been treating for 1 year, although it was incorrect

Table 3. Percentages of patients whose payment status physicians reported knowing, by number of years physicians had provided care

Years of care	Total number of patients	Physicians reported not knowing status	Physicians reported knowing status		
			Total	Knowledge correct	Knowledge incorrect
All patients	198	79.3	20.7	17.2	3.5
Less than 1	89	77.5	22.5	19.1	3.4
1	22	50.0	50.0	36.4	13.6
2 or more	46	80.4	19.6	19.6	.....
Physician did not remember	41	97.6	2.4	.....	2.4

Table 4. Percentages of patients whose payment status physicians reported knowing, by physicians' knowledge of patients' place of employment

Knowledge of place of employment[1]	Total number of patients	Physicians reported not knowing status	Physicians reported knowing status		
			Total	Knowledge correct	Knowledge incorrect
All patients ..	198	79.3	20.7	17.2	3.5
Physician reported knowing	38	47.4	52.6	44.7	7.9
Physician reported not knowing....	140	93.6	6.4	4.3	2.1
Not applicable[2] .	20	40.0	60.0	55.0	5.0

[1]Either of patient or of head of patient's household.
[2]Patient was retired or item was otherwise not applicable.

in a number of cases; they had the information for about one-fifth of those whom they had been treating for 2 years or more. The physicians could not recall how long they had been caring for 41 of the 198 patients and did not know the payment status for 40 of the 41.

The physician's reported knowledge of the place of employment of the patient or of the head of the household was also relevant to the physician's knowledge of the patient's payment status, as table 4 shows. For more than one-half (52.6 percent) of the patients whose physicians reported knowledge of their place of employment, the physicians also reported knowing the payment status, and in most of these instances (44.7 percent) their knowledge was correct. When the physicians reported not knowing the place of employment, in nearly all instances (93.6 percent) they also reported not knowing the payment status. When the question about knowledge of place of employment was not applicable (because the patient had retired or for other reasons—about 10 percent of the patients), the physicians reported knowing the payment status for 60 percent, and in almost all instances their knowledge was correct.

The reason for the patient's visit to the clinic—whether for an injury or for surgery, for an illness not associated with or not requiring surgery, or not for an illness (for example, for a physical examination or immunization)—made some small difference as to whether the physician reported knowing the patient's payment status (table 5). The physicians reported knowing the payment status for 24 percent of the patients whose visits were for an illness not associated with injury or not requiring surgery, for 17 percent of those whose visits were for injury or surgery, and for 15 percent of those whose visits were not for an illness. Similarly, the department of the clinic where the patient saw the physician was relevant. Physicians in medicine reported knowing the payment status of 24.6 percent of their patients, compared with 13.2 percent for physicians on the surgical service (table 6).

Table 5. Percentages of patients whose payment status physicians reported knowing, by reason for patients' visit to clinic

Reason for visit	Total number of patients	Physicians reported not knowing status	Physicians reported knowing status		
			Total	Knowledge correct	Knowledge incorrect
All patients ..	198	79.3	20.7	17.2	3.5
Injury and surgery	29	82.8	17.2	13.8	3.4
Other illness ...	117	76.1	23.9	18.8	5.1
Not for illness[1]	52	84.6	15.4	15.4	.....

[1]Visits for physical examination, immunization, and so forth.

Table 6. Percentages of patients whose payment status physicians reported knowing, by department of clinic where patients saw physicians

Clinic department	Total number of patients	Physicians reported not knowing status	Physicians reported knowing status		
			Total	Knowledge correct	Knowledge incorrect
All patients ..	198	79.3	20.7	17.2	3.5
Medicine	130	75.4	24.6	21.5	3.1
Surgery	68	86.8	13.2	8.8	4.4

Finally, the physicians in the survey were also asked, separately for each patient whom they saw, whether knowledge of how patients pay for care assists them in patient management. The question was phrased in general terms, but it was asked both with reference to each patient separately and on the questionnaire pertaining to that patient. Table 7 shows these data cross-tabulated by the physicians' reports of their knowledge of patients' payment status.

Table 7. Number of patients whose physicians reported that knowledge of payment status assists, or would assist, in their management, by physicians' knowledge of payment status

Physicians' assessment of value of knowledge	Physicians reported knowing status	Physicians reported not knowing status	Total
Knowledge would help	8	22	30
Knowledge would not help	[1]33	[2]135	168
Total	41	157	198

[1]Includes also 1 answer indicating physician did not know whether knowledge would help. [2]Includes also 12 answers indicating physician did not know whether knowledge would help.

For 30 of the 198 patients, the physicians reported that this knowledge assisted or would assist in patient management, while for the remainder (168 patients) they reported either that it did not or that they did not know whether it would. The "don't know" answer was

Table 9. Percentages of physicians reporting knowledge of patients' payment status, by department of clinic where patients saw physicians

Clinic department	Total number of physicians	Physicians' reports of knowledge		
		No knowledge (N = 25)	Some knowledge (N = 24)	Complete knowledge (N = 7)
All physicians .	49	51.0	49.0	14.3
Medicine	33	45.5	54.5	18.1
Surgery	16	62.5	37.5	6.2

Table 8. Frequency distribution of physicians, by number of patients about whose payment status they were asked and by number whose status they reported knowing

Number of patients about whom physician was asked[1]	Number of physicians queried	Number of patients whose payment status physicians reported knowing—															
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	10	5	⑤	...													
2	11	9	2	0	...												
3	6	2	2	0	②	...											
4	8	5	2	1	0	0	...										
5	6	2	3	0	1	0	0	...									
8	2	0	2	0	0	0	0	0	0	0	...						
9	1	1	0	0	0	0	0	0	0	0	0	...					
10	1	1	0	0	0	0	0	0	0	0	0	0	...				
11	1	0	1	0	0	0	0	0	0	0	0	0	0	...			
12	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	...	
15	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Total	49	25	18	1	4	0	0	0	0	1	0	0	0	0	0	0	0

[1]No physician saw 6, 7, 13, or 14 patients.
NOTE: (. . .)—not possible to have numbers in these cells; ⑤ and ②—these physicians reported knowing payment status of all patients about whom they were asked.

given for 13 patients. For 8 patients, the physicians both knew and thought the knowledge was of assistance. The physicians did not know the payment status of 135; nor did they think such knowledge would help. For 22 patients, the physicians reported that they did not know the payment status, but that this knowledge would be of assistance. For 33, they reported that they did not know the payment status or whether such knowledge would or would not be of assistance.

Characteristics of the physicians. The 49 physicians in the substudy were asked about the payment status of 198 patients, an average number of 4 patients per physician. The actual number, however, as table 8 shows, varied from 1 patient to 15 patients(10 physicians were asked about the payment status of only 1 patient, and 1 physician was asked about 15 patients). Twenty-five physicians reported that they did not know the payment status of any of their patients; 23 of these 25 were asked about no more than 5 patients. Even the physician who was asked about 9 and the one who was asked about 10 reported no knowledge of any of the patients' payment status.

Twenty-four physicians knew the payment status of at least 1 patient; 18 of these knew the status of only 1. Four physicians knew the payment status of three of the patients about whom they were asked, and one knew the status of eight. Only seven physicians knew the payment status of all patients about whom they were asked; five of these had been asked about one patient, and two had been asked about three patients.

Thus 25 of the 49 physicians reported they did not know the payment status of any of their patients; 24 reported knowing it for at least 1 or more patients; 7 reported knowing it for all of the patients about whom they were asked. These figures are shown in table 9, which also breaks these data down further in accordance with whether the physician was in the medical department or surgical service department. Very definitely, the proportions of physicians in the medical department who reported knowledge of the payment

Table 10. Frequency distribution of physicians, by number who were asked whether knowledge of payment status assists in patient management and by number of patients for whom physicians responded affirmatively

Number of patients about whom physician was asked[1]	Number of physicians queried	Number of patients for whom physicians responded affirmatively—															
		0[2]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	10	8	②	...													
2	11	9	1	①	...												
3	6	4	0	0	②	...											
4	8	7	0	1	0	0	...										
5	6	4	1	0	0	0	①	...									
8	2	2	0	0	0	0	0	0	0	0	...						
9	1	1	0	0	0	0	0	0	0	0	0	...					
10	1	1	0	0	0	0	0	0	0	0	0	0	...				
11	1	0	0	0	0	0	0	0	0	0	0	0	①	...			
12	2	2	0	0	0	0	0	0	0	0	0	0	0	0	...		
15	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	49	39	4	2	2	0	1	0	0	0	0	0	1	0	0	0	0

[1]No physician saw 6, 7, 13, or 14 patients.
[2]Both negative and "don't know" answers.
NOTE: (. . .)—not possible to have numbers in these cells; ② and ①—these physicians responded affirmatively for all patients about whom they were asked.

status of any of their patients was higher (54.5 percent) than the comparable proportion of physicians on the surgical service (37.5 percent). The proportion in medicine who reported knowledge of the payment status of all their patients (18.1 percent) was similarly higher than the proportion in surgery (6.2 percent).

Table 10 shows the responses (with the 49 physicians as the base for the tabulations) to the question as to whether knowledge of the payment status of patients assists physicians in patient management. (The responses, tabulated with the 198 patients as the base, are shown in table 7.) Again, the same question was asked about each patient separately and on the questionnaire pertaining to that patient. The actual number of patients about whom each physician was asked this question varied from 1 (10 physicians) to 15 (1 physician).

Thirty-nine of the 49 physicians responded negatively to this question for all patients about whom they were asked; the other 10 answered in the affirmative in reference to at least one patient. Seven physicians answered in the affirmative for all patients about whom they were asked; one of these physicians was asked about 11 patients.

Conclusion

If the health-maintenance organization becomes the predominant pattern in the delivery of health services in this country, that change is likely to be effected by superimposition of a prepayment plan on existing fee-for-service group practices, practices now found in fairly large numbers everywhere except in the Northeast and along the East Coast. Such a combination is essentially what has occurred in the Marshfield Clinic, and such an arrangement is likely to prove useful elsewhere. Before a prepayment plan can displace, or be displaced by, the traditional fee-for-service method of remunerating physicians in such group practices, both patterns may co-exist side by side for some time. In that situation, the physician's knowledge of the patient's payment status may affect the kind of care he provides. That is why we set out to investigate the extent of physicians' knowledge of the source of patients' payments for medical care. In Marshfield, at least, it seems clear that the physicians generally do not have such knowledge; nor do they think such knowledge would aid them in patient management. Since the physicians are on salary, their own income is not directly affected by the patients' methods of payment. Combining a prepayment plan with traditional fee-for-service reimbursement may be the only way to effect a successful transition to prepayment in group practice settings.

References

1. Glaser, W.: Paying the doctor. The Johns Hopkins Press, Baltimore, Md., 1970.
2. Roemer, M.: On paying the doctor and the implications of different methods. J Health Hum Behav 3: 4–14, spring 1962.
3. Marmor, J., and Thomas, D.: The politics of paying physicians: the determinants of government methods in England, Sweden, and the United States. Int J Health Serv 1: 72–78, February 1971.
4. Hogarth, J.: The payment of the physician. The Macmillan Company, New York, 1963.
5. Field, M.: The doctor-patient relationship in the perspective of "fee-for-service" and "third-party" medicine. J Health Hum Behav 2: 252–262, winter 1961.
6. Alexander, C.: The effects of change in method of paying physicians: the Baltimore experience. Am J Public Health 57: 1278–1289, August 1967.
7. Broida, J. H.: The impact of membership in an enrolled, prepaid population on utilization of health services in a group practice. Doctor of Science thesis. Johns Hopkins University, Baltimore, Md., 1974.
8. Lewis, R.: The Greater Marshfield Community Plan—a community experiment. Wis Med J 72: 17–24, June 1973.
9. Custer, G.: The Greather Marshfield Community Health Plan: a model for health maintenance organizations. Med Bull (of Marshfield Clinic and Marshfield Clinic Foundation) 4: 2–12, January 1972.

SYNOPSIS

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Physicians generally know how patients pay for their medical care. At the Marshfield Clinic, however, a group practice in Marshfield, Wis., physicians did not know the source of payment for the vast majority of their patients (79.3 percent). Also, even for the approximately one-fifth of the patients whose payment status they reported knowing, the information was incorrect for a small proportion. The patient's age and sex, length of time the physician had provided care, patient's place of employment, reason for patient's visit, and whether the physician was in the medical or surgical department apparently affected the physician's knowledge of the patient's payment status.

Twenty-five of the 49 physicians studied reported they knew the payment status of none of their patients about whom they were asked; 24 knew the status of at least one patient. Only one physician in seven, however, reported having this knowledge about all the patients about whom he was asked. Physicians in medicine were more likely than those in surgical subspecialties to know the patient's payment status. About one physician in five said such knowledge would be helpful for at least one patient; about one in seven said it would be helpful for all patients about whom they were asked.

The Marshfield Clinic physicians, who receive salaries, emphasize comprehensive care and increased access to care, rather than maximization of income. The clinic offers medical care to patients in a prepayment health plan while continuing to serve other patients on a fee-for-service basis. Arrangements like this may help ease the transition to prepayment if health-maintenance organizations become predominant in the delivery of health services in the United States.