Contractual Arrangements Between Residency Programs and HMOs

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Background. Although one out of seven health maintenance organizations (HMOs) is directly involved in graduate medical education (GME), either as an accredited sponsoring organization or through a contractual agreement with an academic medical center or teaching hospital to serve as an ambulatory rotation site, relatively little is known about the extent to which HMOs have provider contracts with faculty or residents of GME programs. Such provider contracts are not agreements to collaborate on the education of residents, but rather contractual arrangements under which individual physicians or groups (who happen to be residents or faculty) agree to provide services to HMO enrollees in return for some form of compensation.

Methods. In 1990, the Group Health Association of America conducted a survey of a sample of residency training programs in family medicine, internal medicine, and pediatrics to ascertain the extent to which (1) residents and faculty of residency training programs are participating physicians in HMOs; and (2) HMO enrollees are serving as the patient base for GME in ambulatory settings.

Results. Overall, 42% of the residency program respondents indicated that they contract with HMOs to provide services to enrollees. Nearly two thirds (64%) of family practice programs have provider contracts as compared with 28% of pediatrics programs and 24% of internal medicine programs. Provider contracts with independent practice associations are by far the most common, followed by group, network, and staff model contracts, in that order.

Conclusions. It is apparent that provider contractual arrangements between HMOs and primary care residency programs are quite common, especially in the area of family practice. These contractual arrangements have probably resulted in a more predictable and stable patient revenue base for residency programs. The long-term effects on provider practice styles and the financing of graduate medical education are less clear.

Key words. Health maintenance organizations; internship and residency; primary care; independent practice associations.

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There is growing concern that in many residency programs there is a failure to place adequate emphasis on training in ambulatory settings.[1] For the most part, funds to support graduate medical education (GME) are awarded to hospitals, and are generally used to support inpatient and specialty education.[2]

This situation is problematic for two reasons. First, efforts to contain hospital expenditures have resulted in reduced admissions and shorter lengths of stay for many conditions. Consequently, hospital-based programs fail to provide residents with adequate exposure to many clinical problems, and offer only limited opportunity for residents to observe and manage conditions over time.[3]

Second, increasing numbers of physicians are pursuing careers in office-based practice and are increasingly expected to manage a wide variety of health care problems. Between 1980 and 1985, the number of office-based physicians grew from 272,000 to 330,197, an increase of 21%, whereas the number of hospital-based physicians grew by only 1.7%, from 42,470 to 43,212, during the same period.[4] In the absence of adequate training in ambulatory settings, physicians are not being prepared to fully assume their responsibilities as primary care providers.

As residency training programs respond to pressures to place greater emphasis on ambulatory training, one authority has noted that "new partnerships" will be needed between traditional institutions involved in GME

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(eg, academic medical centers) and organizations in the community providing the majority of ambulatory services.[5]

Health maintenance organizations (HMOs) are likely to play an important role in this transition. At the close of 1990, there were 569 HMOs in the United States having a combined enrollment of about 36.5 million patients (approximately one in seven Americans).[6] It is estimated that about 45% of physicians are affiliated with an HMO,[7] and over 50% of medical groups contract with one or more HMOs to provide services.[8]

HMOs have a different medical practice "culture" from fee-for-service environments. HMOs are responsible for providing comprehensive services to a defined, enrolled population, and may place greater emphasis on the prevention and early detection of disease and health promotion.[9] HMOs frequently establish practice standards or guidelines, and have active peer review processes (ie, quality improvement and utilization review programs). Primary care physicians in an HMO generally share some of the financial risk for the costs of services in the form of bonuses, withholds, or capitation arrangements.[10]

In a recent survey of HMOs,[11] it was found that approximately 15% of HMOs either (1) are approved by the Accreditation Council for Graduate Medical Education to serve as a sponsoring organization for a residency program; or (2) contract with an academic medical center (AMC) or major teaching hospital to serve as an ambulatory rotation site. HMOs that are directly involved in GME through sponsorship or educational contracts are more likely to be staff and group model HMOs, older plans with an enrollment of 50,000 or more, and not-for-profit.

Although it is apparent that some HMOs sponsor GME or have contractual agreements with AMCs or teaching hospitals to serve as educational sites, relatively little is known about the extent to which HMOs have *provider contracts* with faculty or residents of graduate medical education programs. Such provider contracts represent an indirect form of HMO involvement in GME. For the most part, these provider contracts are not viewed by the HMO as an educational arrangement, but rather a contractual arrangement under which individual physicians or groups (who happen to be residents or faculty) agree to provide services to HMO enrollees in return for financial compensation.

There are case studies reported in the literature that attest to the participation of family practice residency programs in HMOs. Bradley and Gehlbach[12] reported on the involvement of the Duke-Watts family medicine program with two prepaid plans in 1983–1984, and the resultant changes in the clinic's patient mix, clinical practice profile, financial status, and educational programs. Curtis et al[13] describe the impact of an increase in prepaid patients on the clinical, administrative, and educational activities of the family practice center at the University of North Carolina.

To obtain more information regarding provider contracting between HMOs and the faculty or residents of GME programs, the Group Health Association of America in Washington, DC, conducted a survey of primary care residency training programs. The objectives of the survey were to ascertain the extent to which (1) residents and faculty of residency training programs are participating physicians in HMOs; and (2) HMO enrollees are serving as the patient base for GME in ambulatory settings.

Methods

During the summer of 1990, questionnaires were forwarded to a random sample of approximately one third of the 1056 accredited graduate residency training programs in family practice, internal medicine, and pediatrics in the United States. In the fall, a second mailing was sent to nonrespondents.

The questionnaire asked if there were provider contracts between the residency program and HMOs, and, if so, which types of HMOs were involved. The following definitions of model types are used by the Group Health Association of America: (1) *staff*—an organized prepaid health care system that delivers health services through a salaried group that is employed by the HMO unit; (2) *group*—an organized prepaid health care system that contracts with one independent group practice to provide health care services; (3) *network*—an organized prepaid health care system that contracts with two or more independent group practices to provide health services; and (4) *independent practice association* (IPA)—an organized prepaid health care system that contracts directly with physicians in independent practice, with one or more associations of physicians in independent practice, and/or with one or more multispecialty group practices (but the plan is predominantly organized around single solo-specialty practices to provide health services).

The overall response rate for the three specialties combined was 69%. For family practice, questionnaires were sent 128 (33%) of the 383 accredited programs, and 105 (82%) responses were received. Of the 429 accredited internal medicine programs, 137 (32%) were sampled and 85 (62%) responded. For pediatrics, 77 (32%) of the 244 accredited programs were surveyed and 47 (61%) responded.

Table 1. Residency Programs with HMO Contracts

	Family Practice (n = 105)	Internal Medicine (n = 85)	Pediatrics (n = 47)	All Program Respondents (N = 237)
Programs with HMO contracts (%)	64	24	28	42
Number of HMO contracts (% of program)				
1	36	55	38	40
2	25	20	15	23
3	9	0	15	8
4+	28	20	31	27
Do not know	1	5	0	2
HMO patients as proportion of program practice (%)				
<10%	34	60	38	40
11–20%	19	20	31	21
21–30%	15	5	0	11
31–40%	12	0	0	8
>40%	13	10	15	13
Do not know	6	5	15	7

Results

As shown in Table 1, 42% of the residency programs respondents indicated that they contract with HMOs to provide services to enrollees. Family practice residency programs were most likely to have provider contracts with HMOs; nearly two thirds (64%) have provider contracts as compared with 28% of pediatric programs and 24% of internal medicine programs.

Over one half of the residency training programs that contract with HMOs do so with more than one HMO. Contracting with multiple HMOs is more pronounced for family practice and pediatric residency programs than it is for internal medicine.

For the three specialty areas combined, about 40% of the respondents indicated that HMO patients constitute less than 10% of the program's total practice. Once again, however, internal medicine programs tended to be much less involved with HMOs. In about 60% of family practice programs and 46% of pediatric programs, as compared with about 35% of internal medicine programs, HMO patients constitute greater than 10% of the program's total patient practice.

Residency programs with HMO contracts generally follow the same geographic distribution as HMOs (Table 2). Over 50% of HMOs are located in the Midwest and Pacific/Mountain regions, and those two regions account for about 57% of the residency programs having contracts with HMOs. There are some important differences, however, across specialty areas. Family practice residency programs with HMO contracts are more likely to be located in the Midwest and less likely to be in the New England area than are either internal medicine or pediatric programs.

The contracts between residency programs and HMOs are of various model types. Forty-one percent of the respondents with contractual arrangements indicated that they contract exclusively with IPAs. The percentages of residency programs having contractual arrangements exclusively with group, network, and staff model HMOs are 18%, 9%, and 5%, respectively. Twenty-three per-

Table 2. HMO Penetration and Residency Programs with HMO Contracts, by Geographic Area (in percent)

Geographic Area	All HMOs* (N = 569)	All Residency Programs (N = 100)	Family Practice (n = 67)	Internal Medicine (n = 20)	Pediatrics (n = 13)
Midwest	29	38	42	30	31
Middle Atlantic	13	16	15	20	15
New England	8	8	3	20	15
Pacific/Mountain	22	19	18	25	15
South Atlantic	16	13	15	5	15
South Central	12	6	7	0	8

**From Group Health Association of America.*[6]

Table 3. Status of Physicians Responsible for Most Patient Encounters (in percent)

Status	Family Practice (n = 67)	Internal Medicine (n = 20)	Pediatrics (n = 13)	All Residency Programs (N = 100)
Resident	57	5	15	41
Faculty	30	70	62	42
Equally divided	13	15	23	15
No response	0	10	0	2

cent have contracts with more than one model type, and IPAs were represented in the majority of these arrangements. Four percent did not respond to the question. The distribution of contracts by model types is similar to the overall distribution of HMOs by model type. Of the 569 HMOs in the United States in 1990. 75 (13%) were group models, 61 (11%) staff models, 353 (62%) IPAs, and 80 (14%) networks.[6]

Family practice residency programs are more likely to have contracts with IPAs than are internal medicine and pediatrics programs. Sixty-nine percent of the family practice programs that have contractual arrangements have a contract with at least one IPA, as compared with 40% and 38% of internal medicine and pediatrics programs, respectively.

With regard to the method of payment for patient care services provided by residency programs as reported in 1990, in 49% of the residency programs with contractual arrangements, faculty or residents received capitation payments, in 30% faculty or residents were paid on a fee-for-service basis, and in 4% they received a salary. Respondents for the remaining 17% indicated that they had "other arrangements" or did not know the method of payment. Physicians in family practice programs were more likely to be paid on a capitation basis (54%) than were physicians in internal medicine (40%) or pediatrics (38%).

Table 3 provides information on the extent to which residents or faculty, or both, handle most patient encounters. The differences across specialty areas are quite pronounced: 57% of family practice programs respondents indicated that residents see the majority of HMO enrollees, as compared with 5% in internal medicine and 15% in pediatrics.

Discussion

As HMOs have become an integral component of the health care delivery system, they have also become woven into the fabric of graduate medical education. HMO involvement in GME is not limited to HMOs that are either accredited by the American Council on Graduate Medical Education (ACGME) to sponsor a residenc program or have a medical education contract with a AMC or teaching hospital to serve as an ambulator rotation site. It is apparent that HMOs are participatin extensively in GME through provider contracts wit faculty and residents

Family medicine programs are more likely to b involved with HMOs than are training programs i internal medicine or pediatrics; nearly two thirds of thes programs have provider contracts with HMOs, as com pared with approximately one fourth of pediatric an internal medicine programs. Family medicine program are also more likely to have provider contracts wit multiple HMOs, and HMO patients generally constitut a greater proportion of their total patient population.

Provider contractual arrangements are probabl more common in family practice because (1) family prac tice training programs place greater emphasis on trainin in ambulatory settings than do most other specialtie (over half of a family practice resident's time is spent i ambulatory medicine); and (2) about two thirds of a family practice resident's ambulatory experience involve the provision of longitudinal care in a family practic center.[14] Through relationships with HMOs, famil practice programs can gain access to an enrolled patien population having comprehensive insurance coverag (with only nominal co-payments for certain primary car services). In general, HMO delivery systems are struc tured to encourage continuity of care and to reinforce th central role of the primary care provider.

Family practice programs are also relatively young and community-based. Nearly all of the approximately 380 training programs were started during the 1970s,[14] a period of rapid expansion for the HMO industry as well.

The survey results also indicate that residency training programs involved with HMOs are most likely to have provider contracts with IPAs. This is not totally unexpected, as IPAs constitute 62% of all HMOs in the United States. The organizational structure of IPAs is probably also more conducive to the development of provider contracts with residency programs. In general, the participating physician network of an IPA is more decentralized; primary care services are provided in many different ambulatory settings; and participating physicians derive income from a variety of sources in addition to the HMO.

It is interesting to note that family practice programs are far more likely to have contractual arrangements with IPAs than are internal medicine or pediatrics programs. Once again, this may be explained in part by development patterns of both the family practice training programs and the HMO industry. Independent practice

associations are, on average, newer than other HMO model types; 95% are less than 15 years old.[6] When family practice programs were being established and seeking a patient base for teaching purposes, the IPA sector of the HMO industry was expanding rapidly and in need of primary care physicians.

The survey revealed much diversity in the types of provider contracts that exist between residency programs and HMOs. With regard to compensation, capitation is by far the most common method of payment (49%), but many programs are paid on a fee-for-service basis (29%). Capitation is somewhat more prevalent for family practice programs than it is for internal medicine or pediatrics, and this may be explained in part by the greater likelihood of family practice programs having contracts with IPAs. In the HMO industry overall, the use of capitation is more common in IPAs and networks than in staff and group models.[10]

It is also apparent that contractual arrangements between family practice programs and HMOs place greater emphasis on the role of the resident as primary care physician. In about 60% of the family practice programs having provider contracts with HMOs, residents are responsible for the majority of HMO patient encounters, as compared with 5% of internal medicine and 15% of pediatrics programs. This disparity may be attributable, in part, to family medicine's greater emphasis on ambulatory care training, and consequently the greater availability, experience, and perhaps independence of these residents in managing patients.

Summary

It is apparent that provider contractual arrangements between HMOs and primary care residency training programs are quite commonplace, especially in the area of family practice. For the most part, these relationships have not been formulated for purposes of graduate medical education, at least not explicitly. It is likely, however, that they are already having some impact on the residency experience.

At a minimum, these contractual arrangements have resulted in a more representative patient mix for educational purposes. Furthermore, in those residency programs with a significant proportion of their patient base drawn from HMOs, it is also possible that there has been an impact on practice styles. To the extent that HMOs place greater emphasis on the provision of preventive services and cost-effective care by promulgating sound practice quidelines and actively measuring and seeking improvements in these areas, the practice patterns of both residents and faculty should reflect these values.

HMO provider contractual arrangements have probably also contributed to a more predictable and stable patient revenue base for residency training programs. This survey did not elicit information on levels of compensation or on residency program costs, so it is not possible to ascertain whether current compensation levels provide any direct or indirect support for education and training. Unless a central mechanism is established in the US health care system to finance medical education, it will become increasingly important that methods be identified to equitably allocate education costs across all insurers, both public and private.

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