

Health maintenance organization environments in the 1980s and beyond

by Ellen M. Morrison and Harold S. Luft

Throughout the past decade, health maintenance organizations (HMOs) were buffeted by dramatic regulatory and competitive changes. In this article, literature of the 1980s is reviewed to update our knowledge on the HMO industry and to suggest future research. The influence of intensified competition on these organizations and the determinants of market entry, expansion, and exit are examined. These organizations are now beginning to require copayments and deductibles and to offer point-of-service choice, while indemnity plans are developing sophisticated utilization management techniques. Given these significant structural changes, past distinctions among HMO, preferred provider organization and fee-for-service medicine must be replaced with a distinction between degree of provider choice and level of benefits.

Introduction

Organizations that combine the financing and delivery of health care (prepaid health plans) were in existence before the turn of the century. However, prior to the 1970s, prepaid health plans were few in number, small in size, and often struggled with organized medical groups and with public and legal opinions. When the term health maintenance organization was coined, followed by HMO-enabling legislation at the Federal level in 1973 and by grants and loans to new HMOs, prepaid health plans took a leap in legitimacy. These plans, representing a dramatic alternative to fee-for-service medicine, were envisioned by some analysts as agents of change that would introduce competition into the health care industry. HMOs were predicted to cover 40 million persons and to be available to 90 percent of the entire U.S. population by the late 1970s (Falkson, 1980). That prediction wildly overestimated both the pace and the form of HMO growth in the years to follow.

Today, 17 years after the passage of the HMO Act of 1973, these organizations cover approximately 15 percent of the total U.S. population and their availability and popularity are distributed unevenly across geographical areas and segments of the population. HMOs are often not available to the poor, the elderly, rural residents, and employees of small businesses, and they are not universally popular among individuals who have the

option of enrolling (Langwell et al., 1987; Freund and Neuschler, 1986; Feldman, Kralewski, and Dowd, 1989; Gruber, Shadle, and Polich, 1988; Ginsburg, Hosek, and Marquis, 1987; Welch and Frank, 1986). Many of the small prepaid plans that received Federal start up monies in the mid-1970s failed outright, while many others lingered only long enough to be subsumed by larger HMOs or insurance companies (Strumpf and Garramore, 1976; Kohrman, 1986a).

Even though HMO growth has fallen considerably short of expectations, HMOs have been significant agents of change. Specifically, physicians, employers, consumers, and entrepreneurs have reacted to and acted on the original HMO concept. In so doing, they have tailored HMOs into diverse organizational forms and have evoked competitive organizational responses from indemnity carriers. Now second and third generation alternative delivery systems present considerable competitive threat to the stability of established traditional HMOs.

The 1980s provided rapid and dramatic change for the health care industry. Regulatory and competitive pressures, in addition to rising costs and developing technologies pushed providers, payers, and consumers into new behaviors. Providers behaved more defensively and payers more aggressively, while consumers carried the burden of decreased public and private payer willingness to pay for health care services. HMOs, promoted a decade earlier as alternatives to fee-for-service medicine, faced increased competition from one another and from new alternatives. As we enter the 1990s, the effectiveness and efficiency with which these organizations serve both private and public enrollees are still at issue.

Syntheses of HMO-related research findings on the influence of intensified competition (including non-HMO competitors) and the determinants of market entry, expansion, and exit are presented in this article. In these two areas, we will provide background discussion of the issues, report on the scope and depth of completed research, and conclude with suggested avenues of new research.

In reviewing the literature and research, we have placed heavier emphasis on recent work, i.e., work completed after 1980 and in some cases after 1985. Our justification for this focused review is the dynamic nature of the managed care industry. Most research on competition in the 1980s predominantly sought to define and describe traditional HMOs (Luft, 1981), the characteristics and growth of alternatives (Gabel et al., 1986), and to describe the impact of competition, including HMOs, on hospital, community, and State costs (Christianson, 1980; Brown, 1981; Feldman et al., 1986; Luft, Maerki, and Trauner, 1986; Robinson and Luft, 1987). Alternative plans developed by both the HMO and fee-for-service sectors have posed competitive threats only within the past few years. Not enough time has elapsed for researchers to develop research questions, write grant proposals, conduct research, and draw conclusions (even preliminary ones) regarding the relationships between traditional HMOs and their new competitors. In fact, we have been unable to locate research projects addressing this issue. Our discussion in the following section relies more heavily on descriptive

This article was prepared under Health Care Financing Administration (HCFA) Cooperative Agreement No. 99-C-99169/5-02 with the University of Minnesota/University of Pennsylvania/Mathematica Policy Research Center and was originally presented in expanded form to a HCFA Technical Advisory Panel on Health Maintenance Organization Research on September 27, 1989.

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and historical research, routinely collected data sets, and the trade literature published by and for the health care industry.

Intensified competition

Sensitivity in the early 1980s by public and private payers to dramatically rising health care costs resulted in increased pressure on traditional providers to contain costs and on consumers to share more of the costs (Juffer, 1982; *Business Week*, 1983). Rising costs caused increased interest in HMOs for their cost containment potential (owing, for the most part, to their lower rates of hospitalization), even among employers who had previously avoided HMO involvement. Many employers for the first time began offering, and advocating, these organizations to their employees (Sapolsky et al., 1981; Anderson et al., 1985). Employees were not attracted, however, in large numbers to Staff or Group Model HMOs with restricted choice of physicians and hospitals (Louis Harris and Associates, 1980; Appel and Aquilina, 1982). Community physicians rejected the restrictions on their referral networks inherent in HMOs. HMOs had particular difficulties gaining enrollees and physician support in communities with a high proportion of solo practice physicians and consumers with established physician relationships (Boehm, 1976). HMO advocates responded by developing individual practice association (IPA) HMOs. In IPAs, patients can select from a list of community physicians whose participation in these plans represent a small percentage of their overall practice. This model allows patients more choice in selecting a physician. Physicians are allowed a wider network in which to refer patients than in traditional HMOs. IPAs require far less capital investment than do staff model plans because plan physicians continue to practice in their own offices. Popularity among consumers and low start-up costs resulted in IPA models becoming the fastest growing plan type. From 1980 through 1985, the number of IPAs increased from 97 to 181 plans or 87 percent, whereas other HMO models increased from 132 to 162 plans or only 17 percent (*InterStudy*, 1985).

The success of IPA models increased experimentation with varying levels of consumer and physician choice that eventually led to the introduction of preferred provider organizations (PPOs). PPOs, in general, offer the consumer a choice of full (HMO-like) coverage of ambulatory and inpatient care with a selected panel of providers combined with a limited (indemnity-like) range of coverage for out-of-plan use (Gabel et al., 1986). These plans are not regulated by the Federal HMO Act or by any State HMO mandates and are not required to offer the broad range of services or the community premium ratings mandated for federally qualified HMOs. Consumers typically enroll in the indemnity plan and are able to decide whether to use providers in or out of the plan (preferred providers) at the time of service. Enrollment counts, therefore, are very difficult to estimate, but plans have been growing steadily in physician, employer, and insurer participation.

The enhancement in consumer choice allowed by IPAs and PPOs mimics the freedom of choice—or, what

Feldman, Kralewski, and Dowd (1989) describe as, the freedom of “self-refer to a specialist”—found in traditional fee-for-service medicine. Overcoming the obstacles of restricted choice to consumer and physician acceptance has helped alternative delivery systems expand rapidly and consequently has resulted in reduced market share for indemnity carriers and Blue Cross and Blue Shield (BC/BS) plans (Traska, 1987a). In some markets the fee-for-service sector has responded by introducing utilization review and stringent cost-containment efforts (sometimes referred to as managed fee-for-service), as well as PPOs or more limited coverage, in order to be price competitive with prepaid plans.

The next step along the line of HMO evolution appears to be the introduction of “open-ended” or “hybrid” plans by established staff and group models, i.e., plans that offer consumers a choice of Staff, Network, IPA, and PPO options. Some plans have joint ventures with insurance companies to add an indemnity component, thereby becoming triple option plans (HMO, PPO, and indemnity). Joint ventures (with insurance companies) and subsidiaries that offer the full range of coverage and provider choice with varying degrees of associated premium and out-of-pocket costs make it even more difficult to distinguish between the organizations we used to know as HMOs and fee-for-service practices. Feldman, Kralewski, and Dowd (1989), in studying the changes in the mature HMO market of Minneapolis-St. Paul, conclude that the diversity within both fee-for-service and prepaid plans has blurred the distinctions between health plan types, thereby creating more of a continuum rather than separate categories. They suggest extreme caution in health services research that contrasts plan performance. Instead of comparing HMOs and PPOs with fee-for-service plans, Feldman, Kralewski, and Dowd recommend contrasting plans by their individual characteristics, such as coverage and openness of provider choice. We must realize that we have progressed beyond the Group Health versus Prudential era with the development of GroupCare and CareSpan, both products of a joint venture between Group Health and Prudential.

Open-ended and hybrid plans introduced by established HMOs serve to protect or to prevent erosion of the plans' market share and appear to be diverting consumer interest away from traditional plans. Hybrid plans are also being introduced by traditional fee-for-service providers and are influencing the loyalties of even established HMO members (Kenkel, 1988b; Oberman, 1988). For example, in 1985 BC/BS of Minnesota began offering a limited choice plan, Aware Gold. Although BC/BS had been consistently losing market share in Minnesota since the inception of HMOs, Aware Gold underbid other Twin Cities HMOs for Minnesota State employees and gained back much of BC/BS's lost market share. State employee HMO enrollment declined for the first time as employees selected Aware Gold enrollment. Nationally, enrollment in open-ended plans grew from 250,000 in 1986 to 702,648 by July of 1989. Enrollment in traditional HMOs, i.e., Staff, Group, and IPA models, has continued to increase overall, reaching 30.5 million by July 1989, but the pace of growth has slowed, with losses in some States offsetting gains in others (Traska, 1988a).

Increasing membership rolls, however, have not guaranteed financial stability. In 1987, the HMO industry as a whole lost \$692 million. Nearly three-fourths (179) of the 243 plans surveyed by National Underwriter lost money during the year (Kenkel, 1988b).

Competition from alternative plans is not the only reason for the HMO depression in growth. According to Gruber, Shadle, and Polich (1988), three factors heavily influenced the 1987 slowdown in HMO enrollment:

- Increased competition from other health care organizations and products (e.g., PPOs and triple option plans).
- Difficulties plans faced in responding to employers' demands for experience-rated premiums.
- Purchasers' frustrations in not receiving group-specific data on cost, use, and quality.

To expand on the last point, many employers are suspicious of HMOs' ability to provide cost-effective, quality care. These employers are beginning to demand proof from HMOs that their premium increases reflect true cost increases rather than a shadowing of indemnity plan premiums, i.e., pricing premiums slightly less than competing indemnity plans, and that HMOs are not the recipients of favorable selection by young, healthy employees (Luft, Trauner, and Maerki, 1985).

The losses of 1987 were not confined to small or freestanding HMOs, for some large HMOs and HMO-hospital chains also showed financial losses (Kenkel, 1988b). This was the first year Maxicare, one of the largest for-profit, multi-State HMOs, began revealing financial difficulties (losses of \$225 million on total revenues of \$1.8 billion) that resulted in the resignation of its top management, legal action from physicians regarding financial practices, and eventually the plan's bankruptcy in the spring of 1989 (Kenkel, 1988a and 1988c; Gardner, 1988; Larkin, 1989).

Bankruptcy of plans all over the country appears to be in its second generation. In the mid-to-late 1970s, plans that had received Federal startup grants and loans discovered the difficulties of acquiring and maintaining Federal qualification and in managing the actuarial and service delivery components of their plans (Strumpf and Garramore, 1976). In the first generation of plan failure, many hospitals considering HMO contracts viewed small or newly established HMOs with suspicion, concerned that these plans would go belly up, leaving the hospitals with uncollectables (Anderson et al., 1985). The second generation of bankruptcies more often takes large, established plans as victims, the smaller plans being more susceptible to acquisition than to Chapter 11 (Traska, 1987b).

Market entry, expansion, and exit

As with other organizations that either deliver or finance health care, HMOs describe their markets in at least two ways: geographical markets and payment markets. In the academic and popular literature on HMO market entry, expansion, and exit, generic differences have surfaced based on payment markets, i.e., private versus public sources of payment. The issues for HMOs seeking to enroll employees (private) are significantly

different than those facing HMOs considering Medicare or Medicaid contracts (public).

Employee private markets

Descriptive history

Prior to 1970, prepaid plans (later called HMOs) were developed primarily by two different groups: physician or consumer activist groups attempting to provide high-quality, comprehensive care to their communities, e.g., Group Health Cooperative of Puget Sound and Group Health of Minnesota, and employers attempting to provide basic health care services to their workers, e.g., Kaiser Steel and Health Insurance Plan of Greater New York (Uphoff and Uphoff, 1980). Plans did not select the environments in which they would operate in these early days before communities became markets. Rather, the community or the work site was a critical element in a plan's formation. The consumer-founded plans were located in their communities of origin, and employer-based plans were located near the employer's site so that workers could minimize time lost from work. In 1970, approximately two-thirds of all plans were located in the West—Arizona, California, Colorado, Hawaii, Oregon, and Washington. California alone had 16 plans or 43 percent of the national total. The Midwest and the East each had five HMOs, and the South had one in Missouri (Gruber, Shadle, and Polich, 1988).

Since the early 1970s, both the Federal Government and the private sector have played significant and often complementary roles in providing information and incentives for HMO market entry and expansion. The Federal Government has acted as an industry advocate, providing HMOs with financial, regulatory, and generalized public relations support. The HMO Act of 1973 made available \$50,000 in feasibility grants, \$125,000 in planning grants, and other initial development monies of up to \$1 million to qualified HMOs (Birnbau, 1976). In fact, from 1974 when the Federal assistance programs began until their termination in 1981, the Federal Government invested approximately \$200 million in HMO development (Lewis, 1981; Office of Health Maintenance Organizations, 1984).

Private sector market entry was encouraged by the 1976 Amendments to the HMO Act, which liberalized the Federal qualification requirements and mandated employers of 25 workers or more to offer (if approached) a locally available, federally qualified plan. The 1988 Amendments to the HMO Act dramatically alter the privileges and responsibilities of federally qualified plans. For example, the amendments end the ability of HMOs to mandate employer participation, effective October 24, 1995, and to receive equal dollar employer contributions, but relax requirements on community rating of premiums, measurements of fiscal stability, consumer participation in governing boards, and coverage of out-of-plan use by enrollees (McDermott, Will and Emery, 1988; Hewitt Associates, 1988).

Private industry has also served as an advocate for the HMO industry in addition to its substantial role as a founder and a payer. Leaders from diverse industries in Minneapolis-St. Paul donated time and resources in the

early 1970s to the Twin Cities Health Care Development Project, a critical agent in HMO acceptance (Anderson et al., 1985). In 1978, a private sector-Federal Government partnership, the National Industry Council for HMO Development, promoted HMO market entry and expansion in 61 targeted urban areas (Office of Health Maintenance Organizations, 1979).

A few large private organizations were heavily involved in prepaid plan development before the HMO Act of 1973, and private investment has continued to provide the majority of capital for HMO development. Prior to the implementation of Federal assistance programs in 1974, it is estimated that private industry invested \$784 million in prepaid plans (Lewis, 1981). From 1974 through 1983, another \$1 billion investment is estimated to have taken place (Office of Health Maintenance Organizations, 1984). In 1983, Wall Street began to favor the HMO industry, and many not-for-profit HMOs changed their status to for-profit. Plans have continued to change status through the decade in order to raise capital for expansion and to meet statutory net worth requirements mandated at the State level (Gruber, Shadle, and Polich, 1988).

The primary role of the private sector in HMO development has been that of a payer of employee health benefits. Rising health benefit costs in the private sector increased business involvement in HMOs in the early 1980s. Business promotion of HMOs was not in the form of subsidies or low-interest loans but in the form of interested customers representing blocs of potential enrollees.

Research

In reviewing the published and ongoing research on HMO market entry and expansion in the private sector, we found a few indepth case studies and comparative studies, and several descriptive analyses (using secondary data sources) of factors associated with HMO development and growth. Most of these studies use old data from 1966 to 1980. Although the methods are not consistent across studies, researchers consistently report that HMO market entry has been more common in densely populated, growing areas and in communities with higher percentages of white, middle-income, educated, white collar, liberal, young, and mobile citizens who are covered by health insurance (Berki and Ashcraft, 1980; Luft, 1981; Goldberg and Greenberg, 1981; Morrisey and Ashby, 1982). Studies also show that State-level legislation has had no significant effect on HMO market entry (Goldberg and Greenberg, 1981; Morrisey and Ashby, 1982). Opposition from organized medical groups and individual physicians has hindered HMOs' abilities to gain a toe-hold in some communities (American Medical Association, 1979; Morrisey and Ashby, 1982; Anderson et al., 1985; Rosenbach, Harrow, and Hurdle, 1988). Even as recently as 1985, little evidence of universal acceptance of HMOs by physicians was available. In a published analysis of the "Physicians' Practice Costs and Income Survey, 1983-85," Rosenbach, Harrow, and Hurdle (1988) report that, although approximately one-third of all physicians participated in one or more plans (ranging from

18 percent of general practitioners to 46 percent of medical subspecialists), only 19 percent received income from prepaid sources, averaging \$5,275 per physician. This discrepancy arises from the growth of IPAs, PPOs, and open-ended HMO plans. These plans recruit physicians to sign up as available providers but pay them only if they provide services to plan members. Physicians responding to this survey who had not signed up perceived joining a prepaid plan as a loss of independence.

The conclusions of the 1982 Morrisey and Ashby study appear to be supported by prior research and by a few more recently completed studies that show:

- Factors influencing market entry are different from those influencing market share (expansion).
- Physicians play an important role in both the establishment and the growth of HMOs.
- Once an HMO is established in a community, physician and hospital bed supply are largely irrelevant to continued growth.
- Demand characteristics like search costs, income, and demographics (especially race) account for many of the differences in HMO market share.

Strumpf and Garramore (1976) analyzed reasons for the termination of 37 projects funded before and 29 projects funded after the signing of the HMO Act. Of the projects funded before the Act, HMOs sponsored by community organizations and hospitals had the highest failure rate. The most frequent causes were insufficient commitment of sponsors, lack of management capabilities, and insufficient commitment of the HMO staff, although primary causes differed by sponsorship (e.g., medical group practices, IPAs, community organizations, hospitals, and medical schools). Insufficient commitment of sponsors was also a major reason for the termination of projects funded after the signing of the Act. However, two additional reasons appeared: lack of understanding by grantees (HMOs) of the goals and objectives of the HMO Act and their failure to supply the feasibility reports required by the regulations and guidelines of the Act.

We have only been able to locate two recent studies of HMO market entry and/or exit. The first study is described in a 1988 unpublished report by Horgan, Larson, and Schlesinger of Brandeis University that chronicles HMO growth and diffusion in U.S. metropolitan areas from 1976 to 1986. The authors report that from 1978 through 1984 HMOs entered 65 metropolitan markets that had no previous HMO experience. From 1984 through 1986, an additional 38 new markets were entered. Eighty percent of the new markets during this time of accelerated growth were small to medium-size communities with 100,000 to 500,000 in population. The introduction of new plans into existing markets, those with at least one plan already in operation, is still more common in metropolitan areas with more than 1 million in population, and the larger (10 or more plans) and medium-size (5 to 9 plans) markets are more likely to receive new entrants than are the smaller existing markets (less than 4 plans).

The second study, being funded by the Agency for Health Care Policy and Research, is conducted by Wholey, Christianson, and Sanchez at the University of

Arizona. In an article to be published, they argue that as the Federal Government reduces its oversight activities with respect to HMOs and as more HMOs face insolvency, State regulations will become more important to HMO market entry and exit (Wholey, Christianson, and Sanchez, in Libecap, ed. to be published). Data from this ongoing study will address the relationships among State regulations, community characteristics, and plan characteristics on market entry and exit (Wholey, 1988).

We have located only one study that records the growth of multi-State plans—the much-cited Gruber, Shadle, and Polich (1988) completed at InterStudy. We have found no studies that examine the impact of sponsorship, i.e., multi-State plans, insurance companies, and hospital systems, on first or subsequent market entries. Information reported in the trade literature shows that by 1986 multi-State companies accounted for 44 percent of HMO enrollment in the United States (Kohrman, 1986b). From this source, descriptions of industry shake-outs, e.g., bankruptcies and consolidations (Kohrman, 1986a; Traska, 1988b), and updates on the status of provider-sponsored HMOs are also available. Recently completed research on hospital systems by Shortell, Morrison, and Friedman (1990) at Northwestern University describes the awkward courtships, shotgun marriages, and resentful annulments of some large hospital systems and their managed care subsidiaries or joint ventures. However, no systematic research has similarly addressed the role of HMO sponsorship in the match of a prepaid plan with its selected market.

Public sector risk contracting

Descriptive history

Historically, the Federal Government's involvement in HMOs has been that of an employer and a payer. As an employer, its Federal Employee Health Benefits Program has long offered HMOs as enrollment options and is the largest source of enrollees for many of these plans. The Federal Government is exempt, however, from the HMO Act. For example, Government Agencies cannot be mandated by HMOs. The major focus of Federal health care policy related to HMOs has been the Government's role as a payer, i.e., in the Medicare and Medicaid programs, and here the history is relatively brief.

Medicare

Although HMOs have had the legal ability to contract with the Federal Government to provide services to Medicare beneficiaries since the program's inception in 1965, they were not attracted to the Government's options for payment. The choices, i.e., risk contracts, cost contracts, and health care prepayment plans, were all retrospective and cost based. Only one HMO, Group Health Cooperative of Puget Sound, had a contract under Section 1876 of the Social Security Act, which allowed a risk contract requiring the HMO to share savings with the Government but to absorb all losses. In 1978, 29 organizations responded to a request for proposal (RFP) from the Health Care Financing Administration (HCFA) to solicit demonstrations involving more even-handed

prospective risk capitation contracts. Seven demonstration projects were funded, with five having developed operational contracts, enrolling approximately 30,000 Medicare beneficiaries by 1981 (Galblum and Trieger, 1982). In 1982, 52 plans in 20 States successfully responded to another HCFA RFP that would later be called the National Medicare Competition (NMC) demonstration. Research findings from the NMC demonstration are described in the following section.

The turning point in Federal involvement on a grand scale was the passage of the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982, implemented in 1985. True risk contracts were authorized by TEFRA, including prospective reimbursement not later adjusted for actual cost (Gruber, Shadle, and Polich, 1988). The legislation also allows competitive medical plans, i.e., plans that do not meet the requirements to become federally qualified HMOs, to enter into risk contracts. TEFRA succeeded in dramatically boosting plan participation in risk contracts. As a result, HMO enrollment of Medicare beneficiaries increased from 262,000 in 1985 to 990,000 in April 1988 (Gruber, Shadle, and Polich, 1988).

Unfortunately, this brief history has been plagued by one large and well-publicized case of fraud and abuse and by ongoing controversy over the method used by HCFA to determine payment to HMOs holding risk contracts. The case of fraud involved Miami-based International Medical Centers, Inc. (IMC), which in 1987 had more Medicare beneficiaries enrolled in its risk contract program than did any other plan in the country. From 1984 through 1987, IMC received numerous inquiries from the Florida Department of Insurance, the U.S. General Accounting Office (GAO), and HCFA concerning questionable financial and administrative practices, poor quality of care, and improper enrollment procedures. Finally, following the indictment of the HMO's president on charges of bribery, obstruction of justice, and conspiracy, HCFA canceled IMC's risk contract on May 1, 1987 (Baldwin, 1987).

A risk contractor's level of payment is 95 percent of the average adjusted per capita cost (AAPCC) for the area. The AAPCC is derived from the U.S. per capita cost for beneficiaries based on their age, gender, and disability status adjusted for local area utilization patterns and the mix of Medicare beneficiaries in the HMO (Group Health Association of America, 1989). Low AAPCC rates have discouraged HMOs from seeking or maintaining risk contracts (Traska, 1988c), especially following the retroactive 1 percent cut in payments to contractors following the passage of the Gramm-Rudman legislation. Whereas, HMOs and Polich, Iversen, and Oberg (1988) recommended increasing the Medicare capitation rate, GAO in studying Florida Medicare demonstrations recommended that the capitation rate be reduced in order for the program to realize cost savings (U.S. General Accounting Office, 1986). GAO reported that biased selection of healthier elders into risk plans resulted in an overestimation of the capitation rate (Ready, 1989).

One of the critical issues behind the AAPCC controversy is that the rate does not adequately adjust for case mix (Thomas and Lichtenstein, 1986). To address this problem, researchers at Boston and Brandeis

Universities have developed a new methodology, known as the Diagnostic Cost Group, which uses specific prior hospitalization data to adjust the AAPCC (Group Health Association of America, 1987). A demonstration of the diagnostic cost group methodology is under way.

Medicaid

In contrast to its Medicare role as the primary payer, the Federal Government's role in the Medicaid program is to provide support to State and locally funded and administered programs. The amount of Federal support received by each State is determined by a complex formula based on multiple factors, including the State's wealth. Individual States have the flexibility to develop programs and services, set eligibility criteria, and determine benefit levels. From the time of Medicaid's inception until 1981, States, under Section 1115 of the Social Security Act, could apply to HCFA for waivers to experiment with and to evaluate different payment and service delivery mechanisms. Under a section 1115 waiver, requirements for Medicaid programs such as eligibility definitions, statewideness and the amount, duration, and scope of services could be relaxed or waived (Freund and Hurley, 1987). Prepaid programs operating under a waiver were required to conform to Federal qualification standards and were not permitted to enroll more than 50 percent of Medicaid and Medicare beneficiaries. Even though most State Medicaid programs were familiar with the HMO concept and knew that section 1115 waivers offered greater flexibility in risk sharing than did the Medicare contracts of the same time, i.e., prior to TEFRA of 1982, relatively few programs were in operation by 1981. Eighteen States had operational plans, but only seven had more than two. Only California with 13 operational plans and 47 percent of the total U.S. enrollment in Medicaid prepaid plans (132,079 out of 281,926) could have been considered actively involved in Medicaid prepaid contracting by 1981 (Freund and Neuschler, 1986; Freund and Hurley, 1987).

One year prior to TEFRA having opened the door to true risk contracting for Medicare, the Omnibus Budget Reconciliation Act (OBRA) of 1981, Public Law 97-35, allowed States more choices in developing alternative financing and delivery mechanisms in their Medicaid programs. OBRA permitted States to establish their own qualification standards and prepaid plans to enroll up to 75 percent Medicaid and Medicare beneficiaries. Section 1915(b) of OBRA allowed States to develop primary care management systems, select providers based on cost effectiveness, limit freedom of choice of provider, modify payment arrangements with selected providers, and offer clients incentives to join selected provider organizations (Freund and Neuschler, 1986; Freund and Hurley, 1987).

To stimulate greater experimentation in this area, HCFA in 1982 solicited bids from States for managed care demonstration projects. Six States (California, Florida, Minnesota, Missouri, New Jersey, and New York) received waivers. The plans were implemented between June 1983 and September 1987 and differed from one another by type of enrollment (mandatory versus voluntary), organizational structure

(contracts with physicians, hospitals, primary care organizations, prepaid plans, or intermediaries), eligible populations, e.g., categorically needy, medically needy, and Aid to Families with Dependent Children, participating providers, and mechanisms for provider payment. Three of the four proposed modules of the Florida plan were never implemented as demonstrations (Freund et al., 1989). The sites with the largest and the smallest enrollment (Monroe County, New York, with an estimated maximum of 41,300 and Itasca County, Minnesota, with an estimated maximum of 3,441) mandated beneficiaries to enroll in a capitated plan but allowed enrollees to choose their provider.

In addition to Medicaid competition demonstrations, following OBRA 1981, many States received section 1915 waivers and have implemented both competitive (voluntary enrollment) and noncompetitive (mandatory enrollment) plans. Neuschler and Squarrel (1985) characterize waiver plans along three dimensions: financial incentives, organizational arrangements, and recipient participation. The estimated nationwide enrollment in Medicaid prepaid plans as of June 1986 was 840,849. California still leads in terms of enrollment size, with an estimated 218,475 enrollees, but Wisconsin with 124,642 enrollees and Arizona with 119,237 enrollees have increased their enrollments at a faster pace since the passage of OBRA 1981. Arizona is particularly noteworthy because of its mandatory statewide prepaid program, Arizona Health Care Cost Containment System (AHCCCS), the State's first Medicaid program, implemented in 1982. Although there exists no single definition of managed care to which plans conform, all programs share the following characteristics:

- Limitations on freedom of choice of provider.
- Attempts to modify patient utilization patterns through the coordination of service delivery.
- Financial incentives and risk sharing to alter physician behavior and/or encourage formation of new organizational entities (Freund, 1987).

Research

Medicare

The adequacy of the AAPCC rate to accurately predict the expenses of Medicare beneficiaries in general within different counties and HMO risk contract enrollees in particular has been the major focus of research on HMO entry into Medicare markets.

Adamache and Rossiter (1986) attempted to predict the likely response of HMOs to the 1982 TEFRA legislation (implemented in April 1985) by observing differences between HMOs that attempted to enter the Medicare program under the earlier NMC demonstration and those that did not. They found that among 40 HMOs the single most important predictor of HMO market entry into the NMC demonstration was a high county AAPCC rate for both Part A and Part B. Also, HMOs with prior experience in serving Medicare patients and federally qualified HMOs were more likely to enter the Medicare market. The markets where HMOs chose to enter into risk contracts were on average larger in total population,

and in the proportion of population 65 years of age or over. They also found no significant relationships between organizational characteristics, i.e., profit status, size, hospital ownership status, years of operation, model type, service use, cost experience and financial status, and NMC market entry.

HCFA selected 27 nonprofit, federally qualified HMOs for demonstration periods ranging from 9 months to 2½ years, terminating from April 1, 1985, through June 30, 1985. Investigators at Mathematica Policy Research and the Medical College of Virginia were awarded a HCFA contract to evaluate the 26 plans that were operational in 1984 (Langwell et al., 1987). Findings by Langwell et al. supported those of Adamache and Rossiter regarding the importance of the AAPCC rate in a plan's decision to pursue the NMC demonstration. The investigators documented the market entry strategies of the participating plans (both in product design and marketing approaches), cost sharing and benefits of the plans, and their utilization and financial performance. The integration of caution and planning on market entry (including the avoidance of low AAPCC rate counties), and sound service and financial practices during the demonstration period, resulted in positive financial outcomes for most of the participating plans.

Marshfield Clinic, a plan that did not survive an earlier Medicare capitation demonstration, was the object of a case study by Nycz et al. at the Marshfield Medical Research Foundation (Nycz et al., 1987). Despite increasingly stringent utilization review during the course of the demonstration, the Marshfield Clinic's aggregate losses exceeded \$3 million during its 28 months of operation. Nycz et al. conclude that an inadequate AAPCC rate was at the heart of the demonstration's failure.

Medicaid

To date, the focus of research on Medicaid prepayment plans has been on the formal evaluations of the Medicaid competition demonstrations and of the AHCCCS program. These evaluations, though thorough, do not provide insight into incentives or barriers to market entry by plans choosing to serve a Medicaid population. Although OBRA 1981 relaxed the restrictions on the level of participation of non-Medicaid and Medicare enrollees, plans are currently required to have no more than 75 percent public enrollment. Langwell (1990) argues that many plans operating under a section 1915 waiver may have only a small percentage of public enrollees, i.e., having Medicare and Medicaid as minor lines of business. Unlike participation in a Medicare risk contract, plans participating in Medicaid programs do not face uniform payment policies. The flexibility given to States (and in some cases, counties) under the waiver results in a complicated variety of incentives and barriers to market entry that has yet to be studied.

Issues for future research

In 1990, the U.S. health care marketplace mirrors in many ways the diversity of the domestic retail trade

market—multiple competing products offering a combination of cost and quality trade-offs (quality used here means level of coverage and choice of provider), leaving consumers (both payers and patients) responsible for choosing the desired product. Because the product is health care services, not automobiles or designer fashions, political and ideological issues complicate market analogies. To better understand the system as it is and will be in the future, and the potential role for both public and private payers, three levels of research and demonstration are suggested: organization level, community level, and system level.

Organization level

As the HMO market continues to mature, diversity within plans, competitive responses from the fee-for-service sector, and consolidation or joint ventures will eventually make the distinction between HMO and fee-for-service organizations obsolete (Feldman, Kralewski, and Dowd, 1989). Two approaches could be used to conduct research in this area: a broader perspective that will study, for instance, performance differences, e.g., financial stability, patient outcomes, and consumer satisfaction, between diverse and narrow model organizations at the parent organization level and a more plan-specific perspective that will study performance differences by sets of plan characteristics, e.g., choice of provider and breadth of services covered.

Both approaches require more refined definitions and descriptions of plan types, administrative features, and enrollment populations than are currently available from routinely collected data sets. National data collection efforts, e.g., InterStudy and GHAA surveys, will be less meaningful as organizations continue to evolve by adding, dropping, and changing features of their plans (Feldman, Kralewski, and Dowd, 1989). Some traditional HMOs are beginning to resemble indemnity plans by adding deductibles and copayments, while fee-for-service practices are introducing managed care by offering a limited choice product for a lower premium. Will these plans be counted as HMOs or as fee-for-service practices (and therefore not counted)? Further, descriptions of plan features can be considered proprietary and too time-consuming to describe for a mail survey, and fee-for-service plans that do not consider themselves part of the HMO industry will have little incentive to complete a survey for InterStudy or GHAA.

Data from organizational case studies and comparative studies across plans and organizational types will allow researchers to analyze the relationships between organizational characteristics and performance. In addition to performing studies across plans with a variety of patient and payer mixes, we suggest that studies be undertaken in a variety of environments, e.g., across States with different levels of HMO and insurance industry regulation and across communities with different competitive alternatives, provider supply, and demographic characteristics.

Community level

Community factors can play a large role in the form and success of HMOs. For example, the grass-roots, consumer-oriented, and legislatively progressive Minneapolis-St. Paul spawned HMO growth early and continues to provide the nation with a model for competition in health care services. At the same time, the conservative, neighborhood-oriented Chicago, whose first HMO was formed 2 years before Minneapolis' first plan (1955 versus 1957), has only in the past several years become what industry experts would call a price competitive market. Community-level case studies and comparative studies can provide data on the historical, demographic, regulatory, and competitive variables that influence the types of plans that develop, e.g., narrow-versus broad-range options, the plan's stability over time, and its ability and desire to serve Medicaid and Medicare beneficiaries. It may also be helpful to examine contrasts in performance across geographical areas within a State, e.g., Rochester versus New York City or San Jose versus San Diego, in order to hold constant regulatory factors (Butler et al., 1980).

System level

The diversity of prepaid and fee-for-service plans (a result of regulatory and competitive factors) could discourage a Federal or State payer who seeks a uniform level of payment for a uniform set of services. Alternately, this diversity could be considered a first and important step toward a national health system that will be flexible enough to meet the needs of a diverse set of payers and consumers (Enthoven and Kronick, 1989a and 1989b). States that have illustrated growth in competitive diversity, e.g., California and Minnesota, and those that have conducted successful State-level payment demonstrations in the past, e.g., Arizona and New Jersey, might be selected as demonstration sites for system-level changes in the delivery and financing of health care services. A Canadian model adaptation (Evans et al., 1989) or consumer choice model (Enthoven and Kronick, 1989a and 1989b) could be tested with different models in various States.

System-level demonstrations, in conjunction with research at the organization and community levels will provide vital information about the influence of regulation and competition on the performance of health plans. In all three levels of research and demonstration, financial performance, diagnosis-specific and general health outcomes, patient acceptance, understanding and satisfaction, and organizational and political factors faced by plans will need to be measured (Langwell, 1990).

Summary and conclusion

The academic research and trade literature available on HMOs in this decade are extensive, however, many questions have yet to be answered and more have to be asked. In the area of competitive effects on HMOs, we are faced with dramatic changes in both fee-for-service and alternative delivery organizations in choice of

provider and scope of benefits. We must find ways to classify organizations and plans that allow us to document growth and outcomes while not placing organizations in artificial categories, e.g., HMO, PPO, and fee-for-service.

In examining the determinants of market entry and exit, we have found that financial incentives, particularly a large enrollment base and tax benefits in the private sector and Federal and State payment generosity in the public sector, are key issues in determining market entry in the current environment. We know little about the factors that reduce market exit in either the private or public sector and even less about the motivating factors for entry into the Medicaid market.

Acknowledgments

We thank Ronald Deacon and Sidney Trieger of the Health Care Financing Administration, Kathryn Langwell of the Congressional Budget Office, and the following technical advisory panel members for their discussion and review: Jon Christianson, Peter Fox, Marsha Gold, Joseph Newhouse, Mark Schlesinger, Frank Sutton, and Peter Welch. We also extend our gratitude to the faculty and fellows of the Institute for Health Policy Studies for their helpful comments on content, structure, and form.

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