

GAO

Report to Congressional Committees

September 1994

MEDICARE

Changes to HMO Rate Setting Method Are Needed to Reduce Program Costs



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United States
General Accounting Office
Washington, D.C. 20548

**Health, Education, and
Human Services Division**

B-251657

September 2, 1994

The Honorable Samuel Gibbons
Acting Chairman
The Honorable William Archer
Ranking Minority Member
Committee on Ways and Means
House of Representatives

The Honorable John Dingell
Chairman
The Honorable Carlos J. Moorhead
Ranking Minority Member
Committee on Energy and Commerce
House of Representatives

The Honorable Daniel P. Moynihan
Chairman
The Honorable Robert Packwood
Ranking Minority Member
Committee on Finance
United States Senate

This report responds to provisions in the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508) and the Omnibus Budget Reconciliation Act of 1987 (P.L. 100-203) that require us to study the payment system used by Medicare's risk contract program for health maintenance organizations (HMO). We include recommendations to the Administrator of the Health Care Financing Administration that could ultimately make the program more cost-effective.

We are sending copies of the report to the Secretary of Health and Human Services, the Administrator of the Health Care Financing Administration, and other interested committees and parties. We also will make copies available to others on request.

This report was prepared under the direction of Jonathan Ratner, Assistant Director, and Scott Smith, Assistant Director, Health Financing and Policy Issues. If you or your staff have any questions about this report, please call Scott Smith on (202) 512-7119. Major contributors to this report are listed in appendix VI.

Sarah F. Jaggard
Director, Health Financing
and Policy Issues

Executive Summary

Purpose

During the 1980s, the per capita costs of providing health care to the elderly under the government's Medicare program increased 59 percent, even after adjusting for inflation. Searching for ways to reduce this cost spiral, the Congress has allowed Medicare to contract with health maintenance organizations (HMO) under an alternative payment system. Under the Medicare program, beneficiaries have traditionally been served by individual physicians and other providers, who were reimbursed for each allowable service. However, this fee-for-service payment method can create incentives for overuse of medical care, because providers could increase their incomes by encouraging greater use of services. By contrast, HMOs receive an up-front fixed monthly fee (sometimes called a capitated rate) for each beneficiary's care, instead of a fee for each service. Because payments are not related to service use, this payment method does not encourage overuse of health care services and could create cost savings in the Medicare program.

Although the Congress anticipated that HMOs would save money for the Medicare program, government researchers and outside analysts have claimed that providing services to Medicare beneficiaries through HMOs can be more expensive than fee-for-service care. According to these analysts, beneficiaries enrolled in Medicare HMOs are healthier (and less costly to care for) than beneficiaries in the fee-for-service sector, and Medicare's payments to HMOs do not fully reflect these differences in costs. In addition to this problem, industry representatives and other analysts have charged that Medicare's payment rates are too low in some areas and exhibit unjustifiably wide variation across geographic boundaries.

The Congress asked GAO to examine Medicare's HMO rate setting methodology to assess the existence and magnitude of these problems and to review proposed solutions. Specifically, this study reviews the impact of favorable selection and rate variation on the ability of the Medicare risk contract program to provide cost savings.

Issues concerning appropriate rate setting and risk adjustment are also central to current efforts to reform the nation's health care system. The Medicare risk contract program shares several features with those systems proposed under health care reform—for example, the use of capitated payments and the need for risk adjustment. Nonetheless, these proposals differ from the Medicare risk contract program in several important respects—most notably, health care reform would include people under 65, who have very different health care needs from the Medicare

population. GAO will discuss these and other differences and examine their consequences in a forthcoming report.

Background

Hoping to take advantage of the potential cost savings associated with HMOs, in 1982 the Congress created the Medicare risk contract program. Under this program, HMOs are paid a flat fee for each Medicare beneficiary enrolled. The law sets this fee at 95 percent of the estimated average cost to Medicare of treating the patient in the fee-for-service sector. The Health Care Financing Administration (HCFA), which oversees the Medicare program, calculates these payment rates by following a three-step process:

- First, HCFA calculates the projected Medicare expenses for the average beneficiary in the next year—the base rate.
- Second, HCFA adjusts the base rate for variations in medical costs among counties—the geographic adjustment.¹ The result, multiplied by 0.95, is called the adjusted average per capita cost (AAPCC).
- The final step is the risk adjustment, when HCFA adjusts the AAPCC for enrollees' demographic characteristics—age, sex, Medicaid eligibility, and whether or not the enrollee is in an institution such as a nursing home—to arrive at a capitation rate for each HMO.

Payment rates are subjected to this risk adjustment in an attempt to prevent risk contract HMOs from benefiting from favorable selection.² Favorable selection occurs when HMO enrollees are healthier, and therefore less costly to care for, than enrollees in the fee-for-service sector. By adjusting payments for demographic characteristics, HCFA tries to set payment rates that reflect differences in the cost of treating HMO enrollees versus fee-for-service beneficiaries.

The risk contract option remains a relatively small part of the Medicare program. Although approximately 100 HMOs participated in the program in 1993, the Medicare risk contract program treats only about 5 percent of Medicare beneficiaries, accounting for an estimated \$7.2 billion in budget outlays for fiscal year 1993. Most of these beneficiaries live in a few major markets in large cities such as Los Angeles, Miami, and Minneapolis.

¹At this point, HCFA adjusts the expected Medicare costs to a fee-for-service basis by subtracting the enrollment and reimbursement for Medicare HMO enrollees.

²Administrative means, as well as risk adjustment, are in place to reduce favorable selection. For example, risk contract HMOs are required to accept all Medicare beneficiaries who wish to enroll, except hospice patients and beneficiaries with end-stage renal disease.

Results in Brief

The Medicare risk contract program has not achieved its goal of reducing Medicare costs, because HCFA's rate setting methodology and administrative controls have proven insufficient to prevent HMOs from benefiting from favorable selection. Numerous independent and HCFA-sponsored research studies have demonstrated that HMO enrollees tend to be healthier than beneficiaries who remain in the fee-for-service sector. Because the healthier HMO enrollees are more than 5 percent cheaper to care for than comparable fee-for-service beneficiaries, HCFA paid HMOs more for beneficiaries' treatment than it would have spent had those same beneficiaries remained in the fee-for-service sector. In light of these research findings, HCFA's administrator has recognized the need for change in the current rate setting methodology.

Responding to the problem of favorable selection, researchers have proposed a number of alternative risk adjustment methods. Each of these alternative methods—unlike HCFA's current system—measures the health status of enrollees. Although none of these proposals has emerged as the definitive alternative to HCFA's methodology, any one of several available proposals would probably improve the current system. Of the 10 alternative risk adjustors GAO reviewed, 4 are most likely to reduce favorable selection and allow Medicare to achieve cost savings under the risk contract program.

The Medicare risk contract program faces difficulties not only with risk adjustment, but also with constructing the base payment rate to which these risk adjustments apply. Payment rates to HMOs vary substantially—and unjustifiably—across the country. This rate variability stems not from the risk adjustment process, but from the statutory linkage between local fee-for-service expenditures and HMO payment rates. Local expenditures reflect variations in both the price of medical services and the utilization of services by the local Medicare population. If local fee-for-service prices and/or utilization rates are inappropriately high, then local HMO payment rates will also be excessive.

The wide variation in HMO payment rates is reflected in uneven participation in the Medicare risk contract program. In some areas of the country, generous payment rates have induced many HMOs to enter the market. In other areas, however, lower payment rates have discouraged HMOs from participating in the Medicare program, thereby limiting Medicare beneficiaries' access to an HMO option. Although researchers and policy analysts have suggested several alternative rate setting methods,

evidence is insufficient to assess the impact of any of these proposals on Medicare costs and on HMO participation in the risk contract program.

Principal Findings

HMOs Experience Favorable Selection Under HCFA's Current Rate Setting Method

Under HCFA's current rate setting method, HMOs have a strong financial incentive to attract the healthiest possible Medicare clientele. When a relatively healthy Medicare patient joins an HMO, the HMO will provide less treatment than for the average patient, but HCFA's capitated payment for that person will not fully reflect the lower expected costs. In addition, as more healthy beneficiaries join HMOs, the Medicare fee-for-service population on average becomes sicker, driving up Medicare's average cost of treating fee-for-service patients. When this average cost rises, so does the capitation rate HCFA pays to risk contract HMOs.

Favorable selection could come about in two ways: (1) if Medicare beneficiaries enrolling in HMOs are healthier than those remaining in the fee-for-service sector and (2) if beneficiaries leave risk contract HMOs and return to fee-for-service medicine when they become ill. These enrollment and disenrollment patterns, which are at the root of favorable selection, can arise either through the actions of an HMO or the actions of a patient. So long as HCFA's capitation rate does not fully reflect the cost differences of treating healthier rather than sicker populations, HMOs can benefit from favorable selection.

Extensive academic research has found that risk contract HMOs do benefit from favorable selection. For example, a HCFA-contracted study of favorable selection in the risk contract program³ found that 54 to 63 percent of Medicare HMOs in 1990 experienced favorable selection, while the rest experienced neutral selection; no HMO experienced adverse selection.⁴ Overall, researchers estimate that HCFA's payments to risk contract HMOs were from approximately 6 to 28 percent higher than the

³See Mathematica Policy Research, Inc., Biased Selection in the Medicare Risk Contract Program (Sept. 21, 1990).

⁴Neutral selection implies that the HMO's Medicare beneficiaries were, on average, no sicker or healthier than Medicare beneficiaries in the fee-for-service sector. Adverse selection would occur if an HMO's enrollees were, on average, more costly to treat than the average comparable enrollee in the fee-for-service sector.

costs of treating those same patients in the Medicare fee-for-service sector.⁵

These cost increases to HCFA do not necessarily correspond to increased profits for risk contract HMOs. Although favorable selection contributes to HMO profits, it does not guarantee that participating HMOs will be profitable. Most HMOs in the risk contract program are profitable, but fewer HMOs are participating in the program than in 1987. A number of factors contribute to HMOs' profitability from the risk contract program, and favorable selection is only one of these. (For example, risk contract HMOs must incur marketing and administrative costs to participate in the program.) Therefore, losses to both the HMOs and HCFA can occur simultaneously.

No Risk Adjustor Is Best, but Several Could Improve the Current System

In response to the prevalence of favorable selection in the Medicare risk contract program, researchers and industry experts have urged HCFA to include a measure of health status, along with demographic factors, in its risk adjustment methodology.⁶ Analysts have examined a number of health status measures, each designed to reduce HMOs' incentives to enroll only relatively healthy Medicare beneficiaries. These proposals can be judged according to a number of generally accepted operational criteria. For example, a good risk adjustor would be inexpensive to administer, would reduce favorable selection, would create incentives for HMOs to provide appropriate care, and would not be subject to manipulation by participating HMOs. However, no risk adjustor is likely to exhibit all these positive traits because there are trade-offs among these criteria. For example, a more complex risk adjustor may be more successful in reducing favorable selection, but may do so only at a high administrative cost.

We used these criteria to evaluate competing risk adjustment solutions. However, no one risk adjustment method has emerged as the definitive alternative to the current system. Because research evidence is incomplete, the qualitative differences among adjustors can be determined, but the magnitude of those differences cannot be measured precisely.

Despite these difficulties, four of the ten adjustors GAO examined were clearly superior to the others, as well as to the current system. One of

⁵For a summary of this research, see Mathematica Policy Research, Inc., The Impact of the Medicare Risk Contract Program on the Use of Services and Costs to Medicare (Dec. 3, 1992).

⁶Researchers' recommendations to HCFA to include a health status adjustor date as far back as 1982.

these adjustors—clinical indicators—would adjust capitation rates for the presence or absence of a particular chronic health condition (such as heart disease, stroke, or cancer). Two other promising clinically based risk adjustors include information not only on whether a beneficiary has a specific condition but also on the severity of the illness. In the fourth approach, HMO capitation payments would be linked to beneficiaries' own views of their physical and emotional health.

Improvements in Risk Adjustment Will Be Insufficient to Remedy Problems With Current Payment System

Because risk adjustment does not affect the base rate, improving the risk adjustment methodology will not correct the problems associated with what many industry experts believe are unjustifiably wide variations in HMO payment rates. Because these base payment rates are constructed from Medicare fee-for-service expenditures, HMO capitation rates reflect both access problems in some geographic areas and inefficient medical practice patterns in others. For example, in a rural county where Medicare beneficiaries have poor access to care, their low utilization will be reflected in low HMO base payment rates. Similarly, if Medicare fee-for-service beneficiaries in another county tend to use more services, their high utilization will increase HMO payment rates. As a result, payment rates in some areas are too low to induce participation in the risk contract program, but in other areas payment rates are too high for Medicare to fully realize the potential cost savings generated by capitated payments.

Recognizing these problems, researchers and HMO industry representatives have proposed a number of alternatives for determining base payment rates under the risk contract program. For example, several analysts have suggested setting Medicare HMO payment rates through competitive bidding, and others have supported changing HCFA's rate setting formula to raise the lowest rates or reduce the highest ones. However, research evidence is insufficient to determine whether any of these proposals would improve the current system.

Recommendations

Because current knowledge of risk adjustment is limited, no single risk adjustment method has emerged as the best solution for the Medicare risk contract program. However, researchers agree that change is necessary if the program is to achieve Medicare cost savings.

HCFA has sponsored substantial research documenting the extent of favorable selection, and the agency has also supported research on alternative risk adjustment methods. In view of the potential cost savings

from improved risk adjustment, GAO recommends that the Administrator of HCFA

- extend the agency's research and demonstration agenda to include work on the four risk adjusters that GAO believes have the greatest merit (see p. 33) and
- conduct preliminary research on payment methodologies that could replace the reliance on fee-for-service reimbursement to determine base payment rates for HMOs (see p. 42).

Agency Comments and GAO Evaluation

HCFA provided written comments on a draft of our report. (See app. IV.) In its overall comments, HCFA emphasized its continuing and ongoing research on several risk adjustment approaches. HCFA also stated that opportunities for risk adjustment demonstration projects are limited by the voluntary nature of demonstrations. GAO agrees that interpreting results can be more difficult when demonstrations must be limited to voluntary participants, because the health plans that are most willing to participate may differ from the HMOs that are more reluctant. GAO recognizes this feature in its recommendation that HCFA design demonstrations that encourage HMO participation, especially by ensuring that HMOs do not suffer financially by participating in a demonstration program. GAO believes that well-designed demonstrations are necessary because they provide the only mechanism for incorporating actual experience into evaluations of new risk adjustment methods.

HCFA also pointed to provisions in the proposed Health Security Act that are aimed at improving the Medicare risk contract program. GAO agrees that these provisions might improve the risk contract program but believes that the potential effectiveness of these measures cannot yet be determined.

Finally, HCFA disagreed with GAO's decision to describe the cost impact of favorable selection by using a range of research estimates, rather than the most recent study. Although this study was carefully researched, GAO believes that no single study provided a definitive estimate. Reporting the range of research estimates conveys a perspective on the uncertainty surrounding estimates of the cost impact of favorable selection.

HCFA also provided technical comments, which were incorporated as appropriate. Technical comments related to substantive matters are presented in appendix IV, with GAO's evaluation.

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Abbreviations

AAPCC	adjusted average per capita cost
ACG	Ambulatory Care Group
ACR	adjusted community rate
CCI	Clinical Complexity Index
DCG	Diagnostic Cost Group
ESRD	end-stage renal disease
FFS	fee-for-service
HCFA	Health Care Financing Administration
HHS	Department of Health and Human Services
HMO	health maintenance organization
IPA	independent practice association
OPHCOO	Office of Prepaid Health Care Operations and Oversight
PACS	Payment Amount for Capitated Systems
TEFRA	Tax Equity and Fiscal Responsibility Act of 1982
USPCC	United States per capita cost

Introduction

Over the past decade, Medicare has looked to health maintenance organizations (HMOs) to provide cost savings compared to fee-for-service care. In a traditional fee-for-service system, the provider is paid for each service rendered to the patient—the more services, the greater the payment received. This fee-for-service payment method gives providers an incentive to provide more services and thus to increase costs. By contrast, a capitated payment system, like the one used in the Medicare risk contract program, creates incentives for cost reduction. Under a capitated payment system, an HMO is paid an up-front fee (sometimes called a capitation rate) for each person enrolled in the HMO, regardless of the services that patient uses. Because payment is made per person, not per service, HMOs have an incentive to reduce treatment that is unnecessary or of marginal benefit. Today, some policymakers and analysts view Medicare's HMO alternative as promising; others, reviewing the history of Medicare's experience with HMOs, view it as a disappointment. The pivotal issue in this debate is whether or not Medicare's risk contract program can save federal dollars by providing Medicare benefits through HMOs, while ensuring that Medicare beneficiaries receive quality care.

Medicare and the Risk Contract Program

Medicare is a federal program (authorized effective July 1, 1966, by title XVIII of the Social Security Act) that assists most elderly aged 65 or older and certain disabled people in paying for their health care. The program is administered by the Health Care Financing Administration (HCFA), under the Department of Health and Human Services (HHS). It provides two basic forms of protection:

- **Part A, Hospital Insurance**, is financed primarily by social security payment taxes and covers inpatient hospital services, post-hospital care in skilled nursing facilities, hospice care, and care in patients' homes.
- **Part B, Supplemental Medical Insurance**, is a voluntary program financed by enrollee premiums (25 percent of total costs) and federal general revenues. It covers physician services and a variety of other health care services, such as laboratory and outpatient hospital services.

The History and Goals of the Medicare Risk Contract Program

Congressional interest in the cost-saving potential of HMOs dates from the Social Security Act Amendments of 1972 (P.L. 92-603). This law authorized prepayments to HMOs that provide health care services to Medicare beneficiaries. Under the 1972 law, if an HMO's costs were less than its capitation payments, it was required to share these profits with Medicare. In addition, an HMO's profits from this program were capped at 10 percent

of its total payment from HCFA. If an HMO's costs exceeded its payments from Medicare, it had to absorb the loss or carry it over to offset future profits from its Medicare business. Because an HMO's profit potential was limited, while its exposure to losses was unlimited, only a few HMOs contracted with Medicare under this arrangement.

The Congress modified the Medicare reimbursement method in 1982, creating the Medicare risk contract program.⁷ For each HMO Medicare patient, the law mandates that risk contract HMOs be paid a capitation rate equal to 95 percent of the average cost of treating the patient in the fee-for-service sector. HCFA estimates this average cost of fee-for-service care and sets the HMO payment rate. In addition, the Congress eliminated the 1972 law's requirement that an HMO's Medicare profits be completely shared with HCFA. Instead, HMOs were permitted to retain all profits up to the level earned on their non-Medicare business—known as the adjusted community rate (ACR).⁸ Despite the increase in allowed HMO profits, the Congress anticipated that this payment mechanism would result in a 5 percent savings to Medicare for each HMO patient, because HMOs would be paid 95 percent—not 100 percent—of the average cost of treating the patient in the fee-for-service sector.⁹

While the primary goal of the risk contracting program is to reduce Medicare expenditures, some current and former HCFA program officials have suggested that HMOs can offer additional advantages to Medicare beneficiaries. According to these officials, managed care may improve the quality of patient care because one primary doctor coordinates the provision of all services. In addition, some Medicare program officials believe that Medicare beneficiaries should have the choice of receiving care through either a fee-for-service plan or an HMO—an option often available in the private sector. HMOs may also provide Medicare beneficiaries with more benefits, and copayments or deductibles lower than those offered by traditional indemnity plans. Patients may be

⁷These changes are contained in section 114 of the Tax Equity and Fiscal Responsibility Act (TEFRA) (P.L. 97-248).

⁸If the HMO's estimated profit rate on its Medicare risk contract exceeds the estimated profit on its non-Medicare business, the plan must use the excess funds to provide added benefits or reduced copayments or deductibles for enrolled Medicare beneficiaries, refund the excess to HCFA, or contribute to a benefit stabilization fund.

⁹To gain experience with HMO risk-based reimbursement and other aspects of Medicare contracting with HMOs, HCFA contracted with 34 HMOs to operate demonstration projects between 1980 and 1984. In May 1984 HHS published proposed regulations to implement the TEFRA HMO amendments, and in January 1985, HHS issued the final implementing regulations, which became effective on February 1, 1985.

attracted by an HMO's coordination of specialty and primary care and its reduction in claims paperwork.

The Medicare risk contract program now treats about 5 percent of Medicare beneficiaries, accounting for an estimated \$7.2 billion in budget outlays for fiscal year 1993. Most of these beneficiaries live in a few major markets in large cities such as San Francisco, Los Angeles, Miami, and Minneapolis. One hundred four HMOs were participating in the program as of August 1993, down from a high of 157 in 1987.¹⁰ As of August 1993, 26 states had HMOs with Medicare risk contracts.

The HMOs in the Medicare risk contract program differ in their organizational structures. Staff-model HMOs, for example, hire physicians directly, whereas group-model HMOs contract with one or more large physician group practices. Other HMOs are formed from individual practice associations (IPA),¹¹ or networks of independent physicians that may contract with HMOs but may also serve non-HMO patients covered by other insurance. Therefore, fee-for-service Medicare beneficiaries who join a staff- or group-model HMO will usually be required to select new providers, whereas Medicare beneficiaries who join an IPA-model HMO may be able to continue with their current providers.

HCFA Offers Three Other Types of Contracts to Medicare HMOs

The risk contract program is HCFA's largest HMO program, accounting for 67 percent of those Medicare beneficiaries enrolled in HMOs.¹² In addition to risk contracting, however, HMOs can also serve Medicare patients through three other contracting arrangements, each of which puts the HMO at less financial risk for Medicare beneficiaries' care.

- Under a cost contract, HCFA pays HMOs for the actual service and administrative costs of caring for Medicare beneficiaries in the plan. However, under these cost contracts, unlike risk contracts, beneficiaries are free to seek care outside of the plan at Medicare's expense.
- Health Care Prepayment Plans pay HMOs on a cost basis for physician and other outpatient services only.

¹⁰Some of this decline in the number of participating HMOs may have been associated with corporate mergers in the HMO industry.

¹¹IPAs may also be called independent practice associations.

¹²As of March 1993, approximately 54 percent of all Medicare HMOs were risk contractors, 13 percent were cost contractors, and 33 percent were Health Care Prepayment plans.

- A few so-called “social HMOs” provide integrated health and long-term care services on a prepaid capitated basis. The capitation rate is the sum of 100 percent of average fee-for-service costs plus monies from Medicaid.¹³

Enrollment in the Risk Contract Program

Medicare beneficiaries can join an HMO with a Medicare risk contract only if they are enrolled in Part B of Medicare,¹⁴ if they live in the HMO’s service area, and if the HMO is accepting new members. With the exception of patients with end-stage renal disease (ESRD) and hospice patients,¹⁵ risk contract HMOs may not refuse enrollment to a Medicare beneficiary because of a medical condition. Risk contract HMOs are required to hold at least one 30-consecutive-day open enrollment period each year to enroll additional Medicare members.¹⁶ Medicare beneficiaries may disenroll from a risk-contract HMO at any time by submitting a signed and dated request for disenrollment to the HMO or to a Social Security office.

To participate in the Medicare risk contract program, HCFA requires HMOs to meet federal qualification requirements or meet another, less stringent list of federal standards. Among other requirements, HMOs must be fiscally sound, have a minimum of 5,000 members (Medicare and non-Medicare combined),¹⁷ and participate in a quality assurance program. In addition to these requirements, HCFA reviews risk contract HMOs’ Medicare-related marketing material to ensure that it is not misleading.

Several offices within HCFA have responsibility for the Medicare risk contract program. Within HCFA’s Office of Managed Care, the Office of Coordinated Care Policy and Planning develops national policies and objectives for the development, qualification, and ongoing compliance of HMOs, and develops and implements programs to encourage greater access of federal Medicare beneficiaries to HMOs. Another division of the Office of Managed Care, the Office of Prepaid Health Care Operations and Oversight (OPHCOO), determines which HMOs meet the standards for certification as federally qualified HMOs and provides operational policy direction for the

¹³Medicaid is a government program that provides health care (including long-term care) to persons with low income.

¹⁴Most U.S. citizens aged 65 and over are automatically enrolled in Part A of Medicare. However, individuals may elect not to enroll in Medicare Part B.

¹⁵A Medicare beneficiary who has ESRD and who previously belonged to a risk contract HMO may remain with that HMO upon becoming eligible for Medicare.

¹⁶Some HMOs who have reached their enrollment capacity are allowed to forgo the annual enrollment period.

¹⁷Rural plans are required to have only 1,500 members (Medicare and non-Medicare combined).

program. In addition, working with HCFA's 10 regional offices, OPHCOO administers Medicare risk, cost, and Health Care Prepayment Plan contracts. The regional offices also (1) review any HMO marketing materials that were not reviewed by OPHCOO at the time an HMO submitted its contract; (2) monitor enrollment and disenrollment; (3) conduct on-site performance reviews; and (4) provide technical assistance to participating health plans.

HCFA's Office of the Actuary calculates the AAPCC rates annually. The Bureau of Data Management and Strategy develops, implements, and maintains the computer software necessary to calculate and generate payments to HMOs under the risk contract programs. Specifically, it translates rates from the Office of the Actuary into HMO monthly payments. In addition, the Health Standards Quality Bureau within HCFA is responsible for quality of care reviews on contracting HMOs. Lastly, the Office of Research and Demonstrations awards contracts to outside researchers and conducts internal research on HCFA's programs.

How HCFA Computes HMO Payments in the Risk Contract Program

In accordance with its legislative mandate, HCFA pays Medicare HMOs based on local fee-for-service costs. The AAPCC is central to HCFA's method of computing HMO payments. The AAPCC represents an actuarial projection of what Medicare would have paid had the beneficiary remained in traditional fee-for-service Medicare.

HCFA recalculates HMO payment rates every calendar year. First, based on historical spending data on Medicare costs, HCFA's Office of the Actuary projects per capita costs for the nation. This national estimate is known as the United States per capita cost, or USPCC. These projections take account of expected inflation, changing utilization patterns, and changes in the Medicare program.¹⁸ HCFA calculates separate cost figures for Medicare Part A services and Part B services for the aged, the disabled, and people with ESRD.

¹⁸For example, in 1983, Medicare introduced the Prospective Payment System, which changed the way Medicare pays for hospital care, and in 1992 Medicare implemented the Resource Based Relative Value Scale system for setting physician rates. Because USPCC calculations are based largely on historical experience, HCFA must adjust its cost projections to account for these changes in Medicare fee-for-service payments.

Second, HCFA adjusts the USPC for geographic differences in Medicare expenditures.¹⁹ Through this process, HCFA determines county-specific Medicare expenditures for Part A and Part B services for the elderly and the disabled. A state-specific rate cost estimate is calculated for ESRD patients.²⁰

Third, the county-specific cost estimate is then adjusted for the following demographic factors—age, sex, institutional status, and Medicaid status—to arrive at a county-specific HMO payment rate, of which Medicare will pay 95 percent. To determine the payment amount for each prepaid plan, HCFA applies these same demographic adjusters to each enrollee in the plan.²¹ For example, under this system an HMO receives a higher capitation rate for an 80-year-old man than for a 65-year-old man living in the same county, and will receive different capitation rates for two 80-year-old men who live in different counties.

Favorable Selection Could Reduce Cost Savings

Using these four demographic factors, HCFA adjusts HMO payments to reduce the potential for favorable selection. Favorable selection occurs when HMO enrollees are healthier on average than those beneficiaries remaining in the fee-for-service sector, and this difference in health status is not fully reflected in the payments the HMO receives. Unless HMO payments are adjusted for beneficiaries' health status, HMOs will have an incentive to enroll only those patients expected to have lower-than-average health care costs. If favorable selection exists, HMOs will be paid more for providing enrollees' care than that care would have cost in the fee-for-service sector; that is, favorable selection can increase Medicare's costs. Despite HCFA's current payment adjustments, critics have charged that favorable selection persists in the Medicare risk contract program.

¹⁹To ensure that the data for the AAPCC calculations are complete, HCFA bases the USPC calculations on data from 3 years previously. Because HCFA uses a 5-year moving average of fee-for-service claims data to derive the county-specific cost from the USPC, data as old as 8 years can affect the final AAPCC figures.

²⁰At this point, HCFA adjusts the expected county costs to a fee-for-service basis by removing the reimbursement and enrollment attributable to Medicare HMO enrollees.

²¹One hundred twenty-two "rate cells" constitute Medicare capitation for each county. Ten HCFA-defined age groups are multiplied by Medicare's two parts (Part A and Part B), which are in turn multiplied by two (for the two sexes), for a total of 40 groups. There are therefore 40 institutionalized cells, 40 non-institutionalized/Medicaid cells, and 40 non-institutionalized/ non-Medicaid cells. HCFA adds 2 rate cells for ESRD patients to these 120 cells, which yields 122 rate cells for each county.

Objectives, Scope, and Methodology

This report responds to two congressional mandates—section 4017 of the Omnibus Budget Reconciliation Act of 1987 (P.L. 100-203) and section 4204 of the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508). These mandates required GAO to (1) describe the rate setting methods used in the current Medicare risk contract program, (2) evaluate the success of the current system in reducing Medicare costs, and (3) evaluate the potential of alternative HMO rate setting methods to improve on the current system.

We limited our review to evaluating HCFA's current rate setting methodology and possible alternatives. We did not evaluate the quality of care provided by Medicare risk contract HMOs. We did not examine the accuracy of the data used by HCFA in the current program, nor did we evaluate the program's administration or HCFA's internal controls.

To evaluate the current rate setting methodology, to develop criteria for evaluating risk adjusters and alternative payment systems, and to assess the evidence on selection bias, we surveyed the extensive academic literature on these subjects and interviewed researchers. (See the bibliography at the end of this report.) To obtain information on the current rate setting methodology and the risk contract program in general, we interviewed HCFA officials in the Office of Prepaid Health Care Operations and Oversight, the Bureau of Data Management and Strategy, the Office of Research and Demonstrations, the Office of the Actuary, and the Boston and Seattle HCFA regional offices. To evaluate how the program affects Medicare beneficiaries, we interviewed representatives of a Medicare beneficiary advocacy group headquartered in Los Angeles.

To understand how the risk contracting program affects HMOs, we interviewed officials from 2 HMO trade associations and representatives from 14 HMOs. These HMOs had risk contracts in several states: California, Florida, Maryland, Massachusetts, Minnesota, Oregon, Washington, and Wisconsin. The HMO officials we interviewed represented a range of organizational structures and HCFA payment rates, including two HMOs that dropped out of the risk contracting program. A number of the HMOs we interviewed have participated in the risk contract program since its beginning.

We conducted our analysis from January 1993 to April 1994 in accordance with generally accepted government auditing standards.

HCFA's Current System Is Unable to Prevent Favorable Selection From Increasing Medicare Costs

Because the payments they receive do not vary with the amount of services used by the beneficiary, Medicare risk contract HMOs have strong incentives to enroll only those beneficiaries who will not require costly services. If HMO enrollees are healthier and therefore less costly to treat than their fee-for-service counterparts, and this difference in health status is not reflected in an HMO's payments, favorable selection results. Despite HCFA's administrative controls, and despite payment adjustments based on the age, sex, Medicaid eligibility and institutionalized status of HMO enrollees, favorable selection has persisted in the Medicare risk contract program. This favorable selection has resulted in increased costs for HCFA, compared to what HCFA would have spent for HMO beneficiaries' care in the fee-for-service sector.

Favorable Selection Can Arise in Capitated Payment Systems

Because payment is made per person, and not per service, HMOs have an incentive to reduce treatment that is unnecessary or of marginal benefit.²² These cost-reduction incentives, however, come with an important qualification: unless payments are adjusted for differences in individuals' health, insurers will have an incentive to enroll only those patients who are expected to have relatively low health care costs, and to discourage enrollment by patients who are expected to have greater health care needs. This problem, known as selection bias, biased selection, or favorable selection, can reduce or eliminate the potential cost savings arising from a capitated payment system.

Favorable selection can come about in two ways: (1) if Medicare beneficiaries enrolling in HMOs are healthier than those remaining in the fee-for-service sector and (2) if beneficiaries leave managed care organizations and return to fee-for-service medicine when they become ill. These enrollment and disenrollment patterns, which are at the root of favorable selection, can arise either because of the actions of the HMO or because of the actions of the patient. For example, HMOs can encourage favorable selection by marketing in settings such as shopping malls or senior fairs, which cater to more mobile and healthy seniors. However, patient choice can also result in favorable selection; for example, sicker patients are more likely to have a long-term relationship with a particular physician, and may be less willing to surrender their free choice of

²²These incentives could also lead HMOs to reduce medically necessary treatment. Studies of quality in the Medicare risk contract program have concluded that Medicare HMOs generally provide equal or better-quality care compared with the fee-for-service sector, although a few HMOs may provide lower-quality care.

provider to join an HMO.²³ We did not evaluate the extent to which favorable selection arises from patient, provider, or HMO actions.

To Reduce Favorable Selection, HCFA Uses Administrative Controls and Risk Adjustment

In general, there are two ways of countering favorable selection: administrative means and risk adjustment. Administrative means aim to curb those HMO behaviors that can fuel favorable selection. HMOs could potentially exert at least partial control over their patient mix by refusing enrollment because of a patient's preexisting medical condition. When these exclusions are prohibited—as they are in the Medicare risk contract program—plans have less opportunity to select healthier enrollees. Similarly, HMOs can design their packages to include services attractive to healthier individuals, such as wellness programs, and to limit benefits, such as prescription drug coverage, that appeal to those with chronic conditions. By standardizing benefits or mandating a minimum benefit package, employers or health plan regulators can limit a health plan's ability to design benefit packages that maximize the opportunities for favorable selection.

Instead of affecting HMOs' actions directly, risk adjustment represents an attempt to affect HMOs' actions indirectly, by altering the incentives HMOs face to enroll healthier persons. By paying HMOs a larger fee for a potentially sicker enrollee, the payer compensates the HMO for the greater anticipated health needs of that enrollee.²⁴ For example, through an age-based risk adjustment, HMOs can receive greater payments for enrolling older people (who generally use more medical services), or through a disease-based risk adjustor, HMOs could receive greater payments for treating people with specific chronic conditions (such as cancer or diabetes). Therefore, a perfectly accurate risk adjustment mechanism would make it equally financially advantageous for an HMO to enroll a sicker person or a healthier person. Such a perfectly accurate risk adjustor is probably not obtainable, however, for it would necessitate a prohibitively expensive data collection effort.

Neither administrative means nor risk adjustment is likely to eliminate favorable selection entirely, because favorable selection can result from

²³However, some physicians, who belong to IPA-model HMOs, may see both fee-for-service and HMO patients. Patients' willingness to join an HMO may be increased if they can use the same doctor in the IPA as in the fee-for-service sector. We might, therefore, theoretically expect to find less favorable selection in an IPA-model HMO than in a staff-model HMO. However, the evidence on this issue is inconclusive.

²⁴Although the payment the HMO receives depends on the patient's health status, the patient's health insurance premium does not.

patient choice as well as from HMO behavior. For example, administrative means cannot prevent the favorable selection that may arise when sicker Medicare beneficiaries, who have stronger ties to fee-for-service physicians, are reluctant to join an HMO. Similarly, risk adjustment can reduce, but is unlikely to eliminate, HMOs' incentive to seek healthier Medicare beneficiaries. As long as the HMO has more information on its enrollees than the payer, the HMO will have the opportunity to discriminate among enrollees based on health status.

HCFA uses both administrative means and risk adjustment in the Medicare risk contract program. HCFA administrative requirements are designed to detect and deter favorable selection. In addition to generally prohibiting HMOs from excluding Medicare beneficiaries because of medical conditions, the agency monitors HMO marketing materials and practices. HCFA also surveys recent HMO disenrollees to determine their reasons for leaving the HMO. In these surveys, HCFA administrators often look to see if Medicare beneficiaries move repeatedly from one HMO to another or if beneficiaries disenroll from an HMO in response to changes in health status.²⁵

HCFA couples its administrative efforts with a risk adjustment strategy in order to reduce HMOs' incentives to seek healthier Medicare beneficiaries. HCFA pays each HMO different capitated rates for each enrollee, based on the beneficiary's age, sex, Medicaid eligibility, and institutional status.²⁶ For example, because older Medicare beneficiaries generally need more care, rates for HMO enrollees aged 85 and older are 1.4 to 2.0 times the rates paid for otherwise comparable enrollees aged 65 to 69.

Favorable Selection Persists in the Medicare Risk Contract Program

Despite HCFA's administrative controls and risk adjustment efforts, independent researchers have confirmed that Medicare HMOs experience favorable selection, increasing HCFA's costs. These studies have established that Medicare beneficiaries are healthier than their fee-for-service counterparts, and therefore the cost of treating these beneficiaries is less than 95 percent of the cost of treating the typical fee-for-service beneficiary. However, researchers' estimates of the magnitude of these

²⁵Under current law, HCFA cannot limit favorable selection by restricting disenrollment—that is, HCFA cannot “lock in” beneficiaries by refusing to allow them to leave an HMO before a specific amount of time has passed. (For example, federal employees are allowed to change their health plan only once a year, unless there is a change in family composition.) Such regulations would also have strong disadvantages, however. Not only could disenrollment restrictions “lock in” beneficiaries to low quality HMOs, but they could discourage beneficiaries from joining HMOs.

²⁶Medicare HMOs are also paid separate rates for disabled beneficiaries and beneficiaries with ESRD.

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cost differences varied. According to these independent studies, costs under the risk contract program were approximately from 5.7 to 28 percent higher than Medicare would have spent had those beneficiaries remained in the fee-for-service sector.²⁷

Not all HMOs benefit from favorable selection, however. A recent comprehensive evaluation of biased selection in the Medicare risk contract program found that 54 to 63 percent of Medicare HMOs enjoyed favorable selection, and the remainder experienced neutral selection; the study found no evidence that any plan suffered from adverse selection (that is, no plan had sicker patients overall than the fee-for-service sector).²⁸

Although earlier studies of favorable selection were criticized on methodological grounds, more sophisticated work has continued to show widespread favorable selection in the Medicare risk contract program. Similarly, while some speculated that favorable selection might decrease as HMOs gain a larger share of the Medicare market and fewer seniors remain in the fee-for-service sector, research on areas with high HMO market penetration has not supported this conjecture.²⁹ Therefore, in the absence of changes in the risk contract program, favorable selection can be expected to persist.

Favorable Selection Exists
Despite Regression to the
Mean

Early studies of favorable selection were criticized for failing to account for statistical regression to the mean. Regression to the mean could occur in this context if HMO enrollees were very healthy at the time of their initial enrollment, but over time their unusual good health faded. To the extent that health is determined by random events, regression to the mean may imply that estimates of favorable selection drawn at the point of initial enrollment are overestimates of long-term favorable selection (although they would be accurate estimates of favorable selection in the short term). However, good health tends to persist—if patients are healthy today, they are likely to be healthy tomorrow; if they are sick today, they are likely to be sick tomorrow. In addition, if sicker people tend to disenroll from HMOs, and new enrollees tend to be relatively healthy, favorable selection can

²⁷For a summary of this literature, see The Impact of the Medicare Risk Contract Program on the Use of Services and Costs to Medicare, Mathematica Policy Research, Inc., report to HCFA (Dec. 3, 1992).

²⁸Biased Selection in the TEFRA HMO/CMP Program, Mathematica Policy Research, Inc., report to HCFA (Sept. 21, 1990).

²⁹For example, see Biased Selection in the TEFRA HMO/CMP Program and K.W. Adamache and L.F. Rossiter, "The Entry of HMOs Into the Medicare Market: Implications for TEFRA's Mandate," Inquiry, Winter 1986, 23 (4), pp. 349-364.

persist in an individual HMO, despite regression to the mean in health status by earlier enrollees. That is, even if healthy new HMO enrollees get sicker over time, favorable selection will persist if beneficiaries disenroll from an HMO as they get sicker and if new enrollees tend to be healthy. Estimates of favorable selection over time—that take into account regression to the mean—show that favorable selection persists in individual HMOs.³⁰

Favorable Selection Persists in Areas of High HMO Market Penetration

Some researchers have conjectured that increasing HMO market penetration would attenuate favorable selection—that is, as HMOs enrolled a larger section of the Medicare market, their ability to attract healthier populations would diminish. However, recent research suggests that favorable selection persists even where HMO market penetration is relatively high. A study of Medicare HMO disenrollment revealed no obvious relationship between HMO market penetration and favorable selection, and another research study reported that areas of relatively high market penetration had both a higher proportion of plans with very favorable selection and a higher proportion of plans with little favorable selection.³¹ Therefore, favorable selection is not likely to disappear once larger numbers of Medicare beneficiaries are enrolled in HMOs.

Favorable Selection Increases HCFA's Costs and May Reduce Beneficiaries' Access to Managed Care

Favorable selection in the risk contract program increases Medicare costs—that is, as a result of favorable selection, HCFA's costs of serving Medicare HMO beneficiaries are greater than they would have been if the same beneficiaries had remained in the fee-for-service sector. Specifically, favorable selection can increase Medicare costs in two related ways. First, because Medicare HMO beneficiaries are healthier on average, their treatment costs less, on average, than the capitation rate Medicare pays HMOs. Second, favorable selection results in Medicare's paying a higher capitation rate than it would otherwise. This occurs because—as required by law—the capitation rate is based on fee-for-service costs, and those costs increase when relatively healthier beneficiaries join the HMOs. Beneficiaries remaining in the fee-for-service sector must therefore be relatively less healthy and consequently more costly.

³⁰For example, see Health Status, Financial Barriers, and the Decision to Enroll in Medicare Risk Plans, Mathematica Policy Research, Inc., report to HCFA (June 19, 1992), and The Impact of the Medicare Risk Contract Program on the Use of Services and Costs to Medicare, Mathematica Policy Research, Inc., report to HCFA (Dec. 3, 1992).

³¹See Disenrollment Experience in the TEFRA HMO/CMP Program: 1985 to 1988, Mathematica Policy Research, Inc., report to HCFA (May 19, 1989), and Biased Selection in the TEFRA HMO/CMP Program.

Favorable selection may also affect patient choice. To the extent that favorable selection arises from plan actions in discriminating among enrollees, sicker beneficiaries' access to managed care may be reduced.

Favorable Selection Contributes To, but Does Not Guarantee, HMO Profits

Although favorable selection has increased the government's cost of serving Medicare beneficiaries, these cost increases do not necessarily result in greater HMO profits. Although favorable selection contributes to HMO profits, it is only one of a number of factors that determine an HMO's financial success with the risk contract program. These other factors could offset the financial benefits of favorable selection. According to industry experts and research studies, these other factors include the following:

1. Administrative costs of participating in the risk contract program. To participate in the risk contract program, plans must incur the costs of calculating the adjusted community rate (ACR) for HCFA's approval, based on financial and actuarial information on their commercial and Medicare businesses; submitting their records for quality review by a peer review organization; following HCFA-specified review procedures to settle complaints; and submitting marketing materials to HCFA.
2. Having sufficient Medicare enrollees over which to spread risk and overhead. According to some participating HMOs, Medicare risk contracts cannot be profitable unless enrollment is sufficiently high to spread various program-related costs. The representatives we interviewed from one of the plans, which had a small Medicare enrollment, indicated that the administrative costs of their risk contract contributed to their decision to drop out of the risk contract program. As a rule of thumb, some analysts have recommended a minimum enrollment of 10,000 for success in the risk contract program.
3. HMO enrollees may increase their utilization of services after joining an HMO, compared to what utilization would have been had the enrollees remained in the fee-for-service sector. Some HMOs have hypothesized that, with lower copayments and deductibles, HMO enrollees may increase their utilization of services and thereby increase HMO costs. However, because many HMOs use case management and gatekeepers—primary care providers who screen access to specialized services—to control Medicare beneficiaries' utilization, it seems unlikely that new HMO enrollees could markedly increase their use of services. One study that directly compared new enrollees' utilization in risk contract HMOs with their utilization in the

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fee-for-service sector found no evidence of a "pent-up demand" among new HMO enrollees.³² Even if such a pent-up demand were to exist, however, estimates of favorable selection's effect on Medicare costs would be unaffected. Because HMO enrollees would not have sought additional services had they remained in the fee-for-service sector, they would not have generated a bill for HCFA. As a result, favorable selection can still increase Medicare costs because the cost to HCFA of serving beneficiaries could have increased compared to what it would have been if enrollees had used fee-for-service care.

Conclusion

Despite HCFA's administrative controls and risk adjustment efforts, current Medicare risk contract procedures are inadequate to ensure cost savings and to expand beneficiary choice of delivery systems. Because HMOs have enrolled only relatively healthier Medicare beneficiaries, favorable selection has interfered with the capitated payment system's ability to reduce costs. For these cost savings to materialize, favorable selection in the Medicare risk contract program must be substantially reduced. Opportunities to reduce favorable selection come from proposed improvements to HCFA's risk adjustment system.

³²Health Status, Financial Barriers, and the Decision to Enroll in Medicare Risk Plans.

Health-Based Risk Adjustment and Administrative Oversight Necessary to Decrease Favorable Selection and Reduce Medicare Costs

The prevalence of favorable selection in the Medicare risk contract program has increased the government's cost, prompting calls for improvement in Medicare's HMO payment system. In response to this need for change, researchers and industry experts have urged HCFA to include a measure of health status, along with demographic factors, in its risk adjustment methodology.³³ Analysts have examined several health status adjustors, each designed to reduce incentives for HMOs to enroll only relatively healthy Medicare beneficiaries. Although these alternative methods of risk adjustment are unlikely to eliminate favorable selection entirely, they do promise to reduce favorable selection and thereby decrease program costs. While no single risk adjustor has emerged as the definitive alternative to HCFA's current system, we identified a set of criteria to evaluate risk adjustment options. Using these criteria, we selected four risk adjustment systems as promising directions for further research.

Risk Adjustment Can Reduce Incentives for HMOs to Enroll Only Healthier Patients

Both administrative means and risk adjustment are available to mitigate favorable selection. Whereas administrative means attack favorable selection by reducing HMOs' ability to select healthier patients, risk adjustment attacks favorable selection by reducing HMOs' incentive to select healthier patients. In a risk-adjusted capitated payment system, the fixed rate the HMO receives for treating a given patient is adjusted for that patient's health status. By paying higher rates for patients expected to have greater health care needs, and lower rates for patients expected to have lower health care needs, risk adjustment reduces HMOs' financial incentive to enroll only healthy patients. A perfectly accurate risk adjustor would structure HMO payments so that the HMO would receive equal financial rewards, regardless of whether its enrollees were sick or healthy.

Limitations of Risk Adjustment

A perfectly accurate risk adjustor is probably not achievable. Although adjusting prospective payment rates on the basis of the patient's health can reduce the incentives that lead to favorable selection, the currently feasible risk adjustment methodologies are unlikely to prevent favorable selection completely. This inability to forestall all favorable selection stems from the fact that no measure of health status, no matter how exact, can capture all the variation in health care costs. There are two sources of variation in health care costs to consider—those that are random in nature and those that are not.

³³HCFA could make such a change to the methodology without seeking congressional approval.

Some health care costs arise because of unavoidable, unpredictable accidents—for example, when an otherwise healthy person slips on an icy sidewalk and breaks an arm. Such costs are unforeseeable and cannot be captured by risk adjustment measures. However, given that these conditions are unforeseeable or random variations in beneficiaries' health status, they do not create incentives for HMOs to seek favorable selection.

By contrast, the nonrandom variation in health care costs—such as that arising from chronic conditions—may be foreseeable by HMOs. Risk adjustment can account for some portion of this variation. However, just as no risk adjustor will contain sufficient information to predict all health care expenditures, no operational risk adjustor will contain sufficient information to eliminate favorable selection entirely. So long as the HMO has more information on individual beneficiaries than can be captured by the risk adjustor, the HMO will have an opportunity to create favorable selection.³⁴ For example, if the HMO is paid more for cancer patients than for those without cancer, the HMO may encourage enrollment by relatively healthy cancer patients (for example, those in long-term remission) and discourage enrollment by those cancer patients who are relatively sicker. Because the HMO can distinguish between healthier and sicker cancer patients, whereas the risk adjustor does not, the HMO can take advantage of the opportunity for favorable selection. For this reason, administrative means of controlling favorable selection remain important, even if payments are adjusted based on health status. While the risk adjustment reduces the HMO's incentives and opportunities to create favorable selection, administrative means and oversight (such as requiring HMOs to accept all patients, standardizing benefit packages, and prohibiting HMOs from encouraging sicker patients to disenroll) can lessen HMOs' ability to take advantage of any opportunities for favorable selection that remain.

Criteria Exist for Evaluating Alternative Risk Adjustment Methods

By reviewing and evaluating the available literature and meeting with HCFA representatives and HMO officials, we identified generally accepted operational criteria for evaluating alternative risk adjustment schemes.³⁵ Specifically, a good risk adjustment scheme would (1) accurately predict health care costs, (2) treat participating HMOs reasonably and fairly, (3) be difficult for participating health plans to manipulate, (4) respect patient

³⁴We recognize that administrative measures may prevent an HMO from engaging in some behaviors that generate favorable selection. Nonetheless, administrative means cannot eradicate all opportunities an HMO has to attempt to attract a more favorable case mix nor eliminate favorable selection caused by the decisions of beneficiaries.

³⁵For a more detailed description of these criteria, see appendix II.

privacy and confidentiality, (5) create incentives for appropriate care, and (6) be feasible and inexpensive to administer. Trade-offs exist among these criteria, making evaluations more difficult. For example, a more complex risk adjustment method, by accounting for more of the nonrandom variation in health care costs, may be more successful in reducing favorable selection, but may do so only at a relatively high administrative cost.

Risk Adjustment Variables Must Predict Health Care Costs Accurately

To be useful in preventing selection bias, a risk adjustment variable must have predictive power—that is, the risk adjustment variable must be closely related to health care costs. Ideally, a risk adjustor's predictive power should enable it to predict the health care costs of the most expensive group of beneficiaries, because these patients account for the majority of health care expenditures.³⁶ If the risk adjustment variable has insufficient predictive power, the adjusted payments will not strongly reflect differences in the cost of treating patients, and the HMO will continue to have strong incentives and opportunities to encourage favorable selection.

Assessing the relative predictive power of alternative risk adjustors is difficult, largely because predictive power is not easy to measure accurately. In addition, methodological shortcomings in existing studies make it difficult to evaluate the predictive power of competing risk adjustment proposals.

Risk Adjustment Process Should Not Impose Undue Administrative Burden on HCFA or on Participating HMOs

A feasible risk adjustor should not be overly burdensome to administer. Health-based risk adjustment requires that patients' health status be measured, reported to the payer (HCFA), and converted to capitated payments. Each of these tasks can impose an additional administrative burden on HCFA and on participating health plans.

The lighter HCFA's administrative burden, other things being equal, the greater the opportunity for the risk contract program to expand choice and to potentially result in cost savings. If plans must incur high administrative costs to participate in the program, they are less likely to participate, and this lack of participation can limit Medicare beneficiaries' access to an HMO option. Despite the importance of minimizing administrative burden, it is difficult to assess how HMOs will respond to changes in the payment system.

³⁶In fact, 4 percent of Medicare patients account for 50 percent of Medicare costs.

**HMOs Express Concern
About the Fairness of the
Risk Adjustment Process**

In our interviews with representatives of participating HMOs, they expressed concern that any new risk adjustment system be fair and even-handed in its treatment of competing HMOs. Fairness is difficult to define and even harder to assess. Indeed, some plans' perceptions of fairness may conflict—for example, officials from one HMO said that HCFA should take into account the special circumstances facing different plans, while another HMO's representative stressed the importance of a uniform set of rules.

**Risk Adjustment Process
Can Be Designed to Limit
Its Susceptibility to
Manipulation by
Participating HMOs**

Ideally, a risk adjustor would limit HMOs' ability to manipulate the risk adjustment data or to adopt strategies for recruiting or retaining only healthier enrollees. For example, the potential for fraud may increase if risk adjustment data are gathered directly from the HMOs, without outside verification. In addition, some risk adjustment mechanisms are more vulnerable to "within-cell selection" by participating HMOs—that is, HMOs can continue to select healthy enrollees within a given risk cell, leaving sicker Medicare beneficiaries to the fee-for-service sector and thus driving up costs. For example, a risk adjustor that increases an HMO's payment when a patient has heart disease creates opportunities for the HMO to benefit by enrolling only the healthiest patients with heart disease. By contrast, a risk adjustor that accounts for the severity of illness will create fewer such opportunities.

**Risk Adjustment
Mechanism Must Be
Compatible With
Incentives to Provide
Appropriate Medical Care**

Analysts of alternative risk adjustment mechanisms have expressed fears that risk adjustment systems could create incentives for HMOs to deviate from an appropriate standard of care. For example, risk adjustment systems that pay HMOs more for their sicker members may reduce HMOs' financial incentives to provide preventive care. However, little agreement exists on a general standard of appropriate care, nor has consensus been reached on how to judge when that standard has been violated.

**Risk Adjustment Process
Raises Questions of Patient
Privacy and Confidentiality
of Medical Records**

Because risk adjustment requires evaluation of patients' health status, some risk adjustment methods incorporate individual patients' medical information. The need for such data raises questions of patient privacy and confidentiality. The invasiveness of a risk adjustor can be determined, in part, by considering the following: who has access to the data, how sensitive the data are, and how easily the information can be understood by those who may observe it.

Alternative Risk Adjustors Rely on Different Measures of Beneficiaries' Health Status

The persistence of favorable selection in the Medicare risk contract program has prompted analysts to call for a health status based risk adjustment scheme. Such a risk adjustment method would require the rate payer (in this case, HCFA) to obtain measures of beneficiaries' health status. The large variety of ways to measure individuals' health status has prompted researchers to develop an array of potential risk adjustment mechanisms.³⁷ All of these alternatives—unlike HCFA's current system—measure the health status of HMO enrollees. We classified these risk adjustors into categories, according to the information on which risk adjustment is based. For example, several proposed risk adjustors use clinical information on enrollees, while others use utilization data and other measures use self-reported information gathered directly from patients.³⁸

Clinically-based adjustors base HMO payments on the medical diagnoses of HMO patients. Risk adjustors based on clinical data range from simple to complex. The simplest clinical measures base payments on the presence or absence of particular medical conditions—for example, a history of cancer, heart attack, or stroke. More sophisticated clinical risk adjustors, like the Ambulatory Care Groups (ACG) method, can take into account not only the presence or absence of a disease, but also its severity. Other relatively complex clinical risk adjustment systems are used by some HMOs to adjust the capitation rates they pay participating physicians. In some of these systems, panels of physicians assess patients' medical diagnoses to generate a more detailed health status indicator.

Prior utilization measures—for example, the number of days in the hospital or total hospital costs for the previous year—have also been examined as risk adjustors.

Combinations of prior utilization and clinical measures have also been examined. These measures base payments both on prior utilization of medical services and on current diagnostic information. A prominent combination measure is the Diagnostic Cost Groups (DCGs) method, which

³⁷We identified 10 alternative risk adjustors. For a more detailed description of these alternative risk adjustors, see appendix I.

³⁸Also, some have considered adjusting HMO payment rates for mortality experience—that is, increasing rates for HMOs with higher mortality rates, on the assumption that those HMOs must have had sicker patients. However, such an adjustor would raise ethical questions and could create incentives for poor care.

combines a clinical measure (diagnosis code) with a utilization measure (hospital days).³⁹

Self-reported health status—that is, patient responses to questions about how they perceive their own health—has also been suggested as a potential risk adjustor. One widely used questionnaire asks patients to report about a number of aspects of health, including their physical and emotional health, their energy level, how well they can function in daily tasks, and how they expect their health to change in the future.

Functional status measures—exemplified by the Activities of Daily Living or Independent Activities of Daily Living protocols—examine beneficiaries' ability to function and to perform various tasks, such as grocery shopping, housecleaning, eating, dressing, and food preparation. These evaluations could be used to compensate HMOs for the care of particularly frail patients.

Life-style and socioeconomic factors that are associated with high medical costs could be used as risk adjustors. For example, data on smoking, marital status, education, and occupation could be used to adjust HMO capitation payments.

In addition to choosing a health status measure, HCFA officials may consider whether to implement risk adjustment retrospectively or prospectively. Retrospective adjustment mechanisms would adjust HMO payments after services had been rendered to patients, whereas prospective adjustment takes place at the beginning of the payment period, before any services are rendered. Retrospective adjustments are often discussed in the context of cost-based reinsurance, where HMOs' payments would be adjusted retrospectively, on the basis of the costs incurred during that period. This type of retrospective adjustment can serve as a way for HCFA to share with HMOs the financial risk of caring for high-cost beneficiaries. Compared with prospective payment systems, retrospective adjustments could limit HMOs' cost-saving incentives.

³⁹Another proposed combination method is the Payment Amount for Capitated Systems (PACS) method, which combines inpatient and outpatient prior use data with the Medicare wage index.

Although No One Risk Adjustor Is Best, Several Alternatives Would Improve the Current System

Because of the trade-offs among different criteria and because of the limited state of knowledge in this area, we were unable to definitively recommend one risk adjustor as optimal. However, of the 10 alternatives we examined, we concluded that 4 adjustors—self-reported health status, simple clinical indicators, a more complex clinical measure (the ACG method), and one system that combines clinical and utilization data (the DCG method)—hold the most promise for improving the current system.

Our four preferred risk adjustors combine some of the virtues of the current system—administrative feasibility and incentives for appropriate care—with the potential for greater effectiveness against favorable selection. Like HCFA's current system, each of these methods is administratively feasible and should be compatible with appropriate care. Unlike the current system, each of these methods has sufficient predictive power to be an effective risk adjustor.

For example, a simple clinical measure (such as a variable that indicates a history of heart disease) has a number of advantages—especially in predictive power and administrative ease. In addition, the simple clinical measure provides fewer opportunities for within-cell selection than the current method. However, health plans would still have more opportunities to select within cells than they would with some of the other measures. Self-reported health status probably creates fewer opportunities for within-cell selection than simple clinical measures do, although it may be invasive for some beneficiaries and less reliable in its predictive power. ACGs probably create the fewest opportunities for within-cell selection, and they have strong predictive power, but they may be administratively burdensome for participating HMOs. Although DCGs would be easier to administer than ACGs, they could create incentives for HMOs to substitute inpatient for outpatient care. In the long run, a combination of the ACG and DCG methods may allow HCFA to combine some of the advantages of both, but research on this possibility is only in its nascent stages.

Evaluated against our criteria, the other risk adjustment mechanisms appeared less suitable for the Medicare risk contract program. Life-style and socioeconomic measures, for example, have less predictive power, can be intrusive, and may reduce HMOs' incentives to provide preventive care. Functional status measures would be administratively burdensome, provide little advantage in predictive power, and be invasive to beneficiaries. Prior utilization and prior costs, although appealing in terms of predictive power, can reduce cost-saving incentives by compensating

HMOs based on the number of services they have provided in the past. For a more detailed description of this analysis, see appendix III.

Conclusion

Although little agreement exists on which of the many available alternative risk adjustment schemes is best for the Medicare risk contract program, researchers do agree that change is necessary. Available evidence indicates that the four risk adjustors we identified are the most promising candidates for long-term improvement in the Medicare risk contract program. However, in the short run, the Medicare risk contract program may be better able to implement the less complex risk adjustment schemes. Specifically, a simple clinical indicator system would impose more limited administrative costs on HCFA and on participating HMOs. Such an adjustment would add a history of cancer, heart disease, or stroke to HCFA's current risk adjustment structure, reducing HMOs' incentives to exclude these costlier individuals. In addition, the data for such an adjustment would be relatively easy to verify and would need to be updated only for beneficiaries who first encountered such health problems after enrolling in the HMO. However, because within-cell selection would likely persist with a clinical indicator adjustment, such an interim fix is unlikely to provide a long-term solution. Therefore, even if HCFA were to implement a clinical indicator system, the agency should continue its research efforts to identify potential long-term improvements in the risk adjustor methodology.

Recommendation

We recommend that the Administrator of HCFA direct the agency to sponsor further research and demonstration work on the four risk adjustors we have identified. HCFA should identify ways to incorporate research on these adjustors into its overall research agenda. The demonstration projects we recommend should be independently evaluated in terms of each of the criteria we identified in this report, and should be wide ranging enough to permit general conclusions. Specifically, demonstration projects should cover a wide geographic range and a sufficient number and variety of participating HMOs. To achieve this goal, the demonstration project must be attractive enough to encourage HMO participation—that is, HMOs must be compensated fairly for any increase in administrative costs, and (for the duration of the demonstration) they should not be paid less than under the current system because they volunteered for the demonstration.

Problems With HMO Payment System Extend Beyond Risk Adjustment

The Medicare risk contract program faces difficulties not only with risk adjustment, but also with constructing the base rate to which these risk adjusters apply. Because these base rates are constructed from Medicare fee-for-service costs, HMO capitation payments reflect both access problems in some geographic areas and inefficient practice patterns in others. As a result, rates in some areas are too low to induce HMO participation in the risk contract program, while in other areas rates are too high for Medicare to fully realize the potential cost savings generated by capitated payments. Recognizing these problems, researchers and HMO industry representatives have proposed a number of alternatives to the existing risk contracting system. However, evidence is limited as to the impact of any of these proposals on plan participation and Medicare costs.

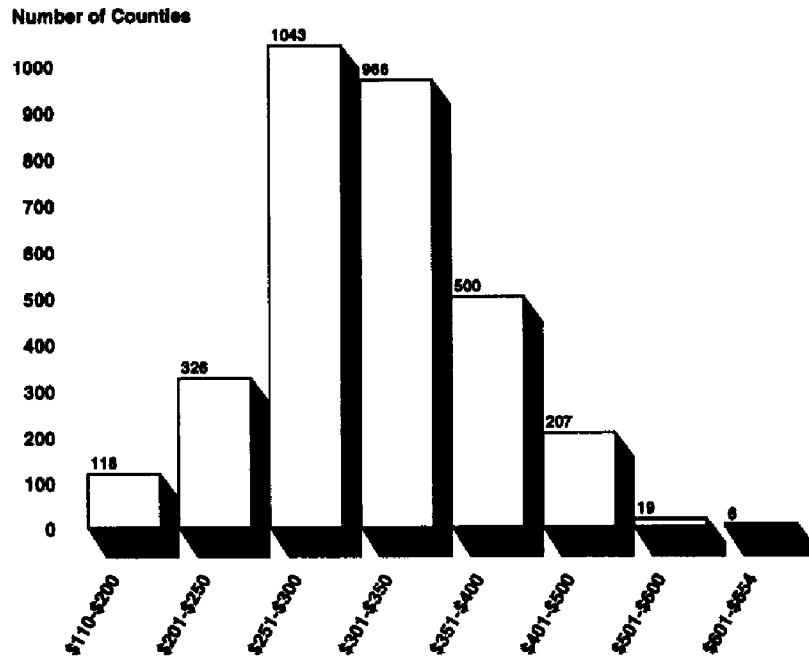
HMO Payments Vary With Utilization in the Fee-for-Service Sector

HMO Payment Rates Can Differ Substantially Across States and Between Adjacent Counties

Across the nation and sometimes even across neighboring counties, HMO payment rates vary substantially. For example, Medicare's unadjusted HMO payment rate for Part A and Part B combined ranges from \$110.46 (in Cabo Rojo, Puerto Rico) to \$653.44 (in Bronx County, New York).⁴⁰ (Figure 4.1 shows the distribution of Medicare HMO payment rates.) Many of the HMO officials we interviewed complained about this variation in HCFA capitation rates from one region of the country to another. Several HMO officials also asserted that they were being paid too little, compared with plans in locations with higher rates.

⁴⁰The figures given in this section are the standard rates for a 70- to 74-year-old noninstitutionalized man who does not receive Medicaid.

Figure 4.1: Distribution of Medicare Risk Contract HMO Payment Rates Across Counties



Notes: The rates given in this chart are the combined rates for Part A and Part B services for a 70-year-old man without Medicaid status who does not live in an institution.

The mean HMO payment rate across all counties in the United States is \$310.02, and the median rate is \$305.09.

Source: HCFA.

Not only do rates vary across the country, but rates can also vary significantly between adjacent counties. For example, Medicare's unadjusted 1994 HMO payment rate is 28 percent lower in Montgomery County, Maryland, than in adjacent Prince George's County, Maryland. Many of the HMO officials we interviewed cited these adjacent county differences as one of the biggest deficiencies of the current rate setting methodology.

**Rate Variation Stems From
Link Between
Fee-for-Service
Expenditures and HMO
Payment Rates**

This wide variation in HMO payment rates across areas is a consequence of the variation in local Medicare fee-for-service expenditures and is not linked with HCFA's risk adjustment. Because the law requires that HMO base rate payments be determined from prior fee-for-service Medicare expenditures, differences in these base rates across counties reflect local variations in both the prices of medical services and the quantities of medical services used. HMO capitation rates may differ across counties if doctors' services are more expensive in one county than another or if Medicare fee-for-service beneficiaries in one county tend to use more services than demographically similar beneficiaries in another county. If Medicare fee-for-service beneficiaries in one area face barriers in seeking medical care (such as inadequate transportation or a lack of providers in rural areas), their low utilization will be reflected in low HMO payment rates. By contrast, if Medicare fee-for-service beneficiaries in another county tend to use a large number of services (either because beneficiaries demand these services or because their doctors order additional tests), their high utilization will increase HMO payment rates.

Medicare costs would be minimized if payments to HMOs reflected the minimum cost to the HMO of providing appropriate care. While differences in physician wages, for example, reflect the true cost of providing appropriate care, patterns of overutilization or underservice do not. From the pattern of HMO rates, industry experts and health care researchers have inferred that the variation in rates across the country and across county boundaries exceeds the variation in local medical prices. The extent of the variation in fee-for-service expenditures suggests that HMO payments may bear little relationship to the HMO's actual costs of providing care, but little evidence is available to determine the extent of the disparity.

In Some Areas, Low Payment Rates May Limit HMO Participation in the Risk Contract Program, Restricting Beneficiary Choice

Many HMOs have entered the Medicare risk contract program in areas with high rates, but very few HMOs in low-rate counties have joined. (Not surprisingly, HMOs are more likely to participate in the risk contract program if they believe they can make a profit.) Research confirms that low payment rates in some areas discourage plans from signing or renewing Medicare risk contracts. Correspondingly, we interviewed representatives of several HMOs who dropped risk contracts or switched to cost contracts⁴¹ because they believed HCFA's payment rates were too low in their local areas.⁴²

Rates tend to be especially low in rural counties, discouraging HMOs in such areas from adopting risk contracts. Researchers have found that plans with substantial rural enrollment are more likely to drop out of the risk contract program. For example, representatives of a national HMO chain told us that a low payment rate compelled their North Carolina affiliate in a largely rural area to terminate its Medicare risk contract. Such plans may switch to cost contracts, which have weaker cost reduction incentives. The low population in rural areas may also discourage plan participation, because a sufficiently large Medicare enrollment may be required to spread the fixed costs of a Medicare risk contract. For a plan with a larger number of Medicare beneficiaries, in contrast to a plan with a smaller enrollee population, the fixed administrative costs of a risk contract may be a small percentage of total costs, and therefore would not interfere with the HMO's ability to earn a profit on its Medicare risk contract.

Because participating HMOs are largely concentrated in a few major market areas, such as Minneapolis, Miami, and Los Angeles, Medicare beneficiaries outside these areas may not have the choice of joining a risk

⁴¹Cost contracts essentially allow an HMO to treat Medicare beneficiaries, whereas HCFA pays HMOs on a cost-reimbursement basis. Thus, cost contracts may not create the same incentives to decrease unnecessary utilization that are associated with risk contracts.

⁴²Officials of one HMO operating in an area with a significant military population complain that the current formula harms HMOs operating in such counties. The cost of treatment for Medicare beneficiaries who receive inpatient treatment in military facilities is not included in the fee-for-service cost estimates that form the basis of HCFA's payment rates. Nonetheless, these beneficiaries are included in the count of area Medicare beneficiaries. This formula can result in payment rates that are lower than they would have been if the Medicare beneficiaries who receive care in military treatment facilities were instead treated in other facilities that Medicare pays. Objective data to assess the local or national impact of this effect were not available.

contract HMO.⁴³ Reduced HMO participation in the risk contract program may decrease Medicare beneficiaries' choice of health care delivery systems and decrease the cost-saving potential of the risk contract program.

Rate variation across adjacent counties (in contrast to low rates in a particular county) may also make HMOs reluctant to participate in the risk contract program. A recent study reported that plans with sizeable differences in adjoining counties are more likely to withdraw from risk contracting. This phenomenon may be partially explained by the fact that many HMOs' Medicare marketing reaches more than one county. HMOs are paid on the basis of where their Medicare beneficiaries live, rather than where services are provided. If two demographically comparable beneficiaries who live in different counties belong to the same HMO and use the same services, the HMO can be paid very different rates for their care.

Rate Instability and Accuracy Pose Dilemma for HCFA

Plan officials have complained about the instability of rates over time, as well as low rate levels. For a few counties, particularly in rural areas, HMO payment rates have fluctuated considerably from one year to the next. Rates in rural counties can fluctuate because of the small number of Medicare beneficiaries in such counties—a few very expensive illnesses can drive up Medicare fee-for-service expenditures (and thereby HMO rates) for a county, while an especially “healthy” year can reduce expenditures. Officials of one nonrural HMO told us that HMO rate instability impaired its long-term planning efforts—for example, by complicating decisions about investing in new clinics and expanding its physician network. In addition, this plan did not want to subject its members to the wide swings in premiums that this rate instability might require to keep the plan financially healthy.

To reduce rate instability, HCFA forecasts increases in expenditures using historical data from 5 years, rather than only the previous year's experience. This methodology can level out swings in rates, but any errors in HCFA's forecasts or historical data will persist for several years afterward.

⁴³Medicare beneficiaries in areas without a risk contract HMO may still have an HMO option, if an HMO in their area has a Medicare cost contract or health care prepayment plan contract. As of March 1993, approximately 54 percent of all Medicare HMOs were risk contractors, 13 percent were cost contractors, and 33 percent were health care prepayment plans. However, 67 percent of all Medicare HMO beneficiaries were enrolled in risk contract HMOs.

In Some Areas, Inefficient Fee-for-Service Practice Patterns Increase HCFA's Payments to HMOs

Some geographic areas exhibit particularly inefficient fee-for-service practice patterns—that is, fee-for-service physicians in some areas tend to provide more services, some of which are unnecessary or of marginal benefit. When Medicare makes payments to HMOs that are based on these high fee-for-service costs, the HMOs and their enrollees, rather than HCFA, benefit from the cost-saving potential of capitated payments.

HMOs can profit from inefficient practice patterns because the capitated Medicare payments they receive are likely to exceed the cost of efficiently providing appropriate care. However, beneficiaries may also benefit from these high rates. The Medicare risk contract program, through its adjusted community rate (ACR) requirement, allows HMOs to profit from the program only up to their rate of profit on their commercial business. Any profits above and beyond that rate must be returned to the beneficiaries in the form of additional benefits or rebated to HCFA.⁴⁴ In practice, HMOs in areas with high payment rates, such as Florida and Southern California, choose to provide additional benefits to their Medicare enrollees, including zero premiums, reduced deductibles or copayments, extended hospital coverage, and (in some HMOs) prescription drug coverage. In these high-rate areas, then, the cost savings derived from the more efficient medical practice of the HMOs accrue to the HMOs and their enrollees, rather than to HCFA.

Effect of HMO Market Penetration on Fee-for-Service Costs Is Uncertain

Although changes in Medicare fee-for-service expenditures will have a direct effect on risk contract HMOs, increasing HMO market penetration may have indirect effects on Medicare's costs in the fee-for-service sector. For example, officials at some HMOs believe that in areas where HMOs have concentrated, managed care plans have made the fee-for-service sector more efficient, as the practice patterns found most commonly in managed care organizations have spread to the fee-for-service sector. Therefore, these HMO officials conclude that increased HMO market penetration leads to a decline in average fee-for-service costs. However, some researchers and industry analysts have suggested that favorable selection may lead to the opposite effect—that is, rising HMO market penetration may increase, not decrease, average fee-for-service costs. These analysts believe that as HMOs attract more of the relatively healthier beneficiaries, then those beneficiaries who remain in the fee-for-service sector are the relatively less healthy and more costly on average. Nonetheless, research evidence has been unable to determine if a relationship exists between HMO market penetration and average fee-for-service costs.

⁴⁴An HMO also has the option of contributing to a benefit stabilization fund.

Link Between Fee-for-Service Costs and HMO Payment Rates Is Problematic

Health policy analysts have argued that capitated payments to health plans should be based not on a fee-for-service standard, as legislation requires for risk contract HMOs, but on the minimum reasonable cost of providing appropriate care. Deviations from this “right price,” however, can have costly consequences—in the Medicare risk contract program, rates that are too high can increase Medicare spending, while rates that are too low can reduce HMOs’ willingness to accept beneficiaries under a Medicare risk contract.

There is widespread agreement that the current fee-for-service-based system does not set the right price for HMO care. Without an established standard for appropriate care, local variations in HMO costs cannot be distinguished from differences in utilization. Therefore, many researchers and HMO representatives believe that the law should be changed to break the link between fee-for-service costs and HMO reimbursement. These analysts agree that the current rate setting method perpetuates overpayments in areas where there are expensive practice patterns and underpayments in areas where fee-for-service patients are underserved.

In addition, some HMOs and academic experts feel that the link between HMOs and fee for service will become less viable as more Medicare enrollees join HMOs. With fewer people in fee-for-service Medicare, estimates of fee-for-service costs will become more unstable and unreliable, and small inaccuracies in the rate-setting calculations or data will have a larger effect on rates. According to one expert, “the AAPCC is a built-in small system” that is feasible only because HCFA can observe the vast majority of Medicare beneficiaries in the fee-for-service sector.

Alternative Rate-Setting Proposals Are Largely Untested

Managed care representatives and academic experts have suggested a number of alternative rate-setting methods—ranging from modifications to the current method to a radically redesigned system. These proposed solutions are largely untested, and evaluating their cost-effectiveness and administrative feasibility is difficult. Given that the Congress created the risk contract program to save money, one HCFA official stated that “it is hard to argue for paying HMOs more than fee-for-service” under a new system. In addition, any redesigned system could (if not phased in gradually) disrupt the relationship between current Medicare enrollees and their providers in risk contract HMOs.

Competitive Bidding

Several HMO representatives and industry researchers advocate a competitive bidding process to determine the base HMO payment rate. Under such a system, HCFA's base reimbursement rate would be determined by the bids submitted by HMOs. HCFA's rate could be based on the lowest bid, the average bid, or a more complex formula. Competitive bidding has been used in Arizona's Medicaid managed care program but has not been tested on a national basis for Medicare beneficiaries.

Under competitive bidding, competition among health plans, rather than fee-for-service practice patterns, would determine HMO reimbursements. However, competitive bidding presents several practical difficulties. First, insufficient competition may exist if too few plans bid. This situation is likely to occur in areas of low HMO market penetration, such as rural areas. Second, it is unclear how HCFA would set rates if there were no acceptable bids. For these reasons, competitive bidding may be most workable in areas with high HMO penetration rates and high fee-for-service costs.

Geographic Reconfiguration

Rather than breaking the link between HMOs' rates and fee-for-service expenditures, some researchers and industry representatives have suggested that HCFA reconfigure HMO payment rates—that is, change the geographic unit over which rates are calculated. For example, HCFA could pay one flat rate for a given metropolitan area and its adjacent rural counties. Others have suggested using a flat rate for an entire standard metropolitan statistical area, with a special adjustment for rural areas.⁴⁵ However, an empirical study of specific reconfiguration proposals found that there is likely to be a trade-off between homogeneity of rates across geographic areas and stability of rates over time. In other words, smaller areas would have more unstable rates, as a few high-cost cases could distort payment rates in a smaller county more than in a larger county. However, this trade-off may not matter—these researchers discovered that proposed reconfigurations would have had minimal effects on rates and concluded that differences in HMO payment rates were too large to be rectified by reconfiguration.

⁴⁵Other proposals for reducing the widespread variation in rates have been offered as well. One HCFA regional official pointed out that while HMO payment rates are calculated by county, there are only two to three different doctor or hospital Medicare payment rates per state in the fee-for-service sector and suggested that the risk contract program change to mirror the number of rates per state in the fee-for-service sector. In addition, the President's proposed Health Security Act would reduce the differences between the highest and lowest rates by setting rate ceilings and floors. We have no data against which to evaluate these proposals.

Negotiation to Determine HMO Payments

Some authors have suggested government-HMO negotiations—both as a pricing mechanism and as a mechanism to determine risk adjusters. Negotiation may provide the government and HMOs with the ability to set prices according to local conditions. Nonetheless, negotiation could be expensive, difficult to administer, and vulnerable to collusion by HMOs.

Economically Based Models

Some managed care representatives have proposed that the Congress consider allowing HCFA to set HMO payment rates using an “economically based model.” Under this system, HCFA would base capitation payments on HMO input costs. However, presently available data appear insufficient to estimate HMO input costs accurately. In addition, HMOs differ by size, physician payment methods, and model type, and their input costs may vary correspondingly. It is unclear how HCFA could, would, or should account for these differences. Proposals that HCFA use economically based models to pay HMOs therefore do not seem viable, at least in the short term.

Blended Payment Systems

Under another suggested reform scheme, HCFA would pay HMOs a “blended” rate—a weighted average of the nationwide average base rate and the payment rate for that HMO’s own county, with the weights dependent on HMO market penetration. Proponents of this strategy claim that it would reduce rate variability. A blended rate system would weaken the link between the HMO’s capitation rate and local medical practice patterns, reducing variation in national rates. However, a blended rate does not ensure appropriate rate variation. Like the current system, a blended rate system does not distinguish between true variation in the costs of medical care and variation caused by underutilization or overutilization.

Conclusion and Recommendation

Although the problems in linking HMO and fee-for-service payments are widely acknowledged, there is little agreement over proposed solutions. The range of options is wide, but practical experience with these other systems is limited or nonexistent. More research, evaluation, and demonstration of these alternatives is clearly necessary. To help the Congress address this issue, we recommend that the Administrator of HCFA direct the agency to conduct preliminary research on payment methods that could replace the reliance on fee-for-service reimbursement to determine base payment rates for HMOs.

Researchers Propose a Number of Alternative Risk Adjustment Methods

How Risk Adjustment Works

Although different risk adjustors incorporate different measures of beneficiaries' health status, each risk adjustment system must translate this information into HMO payment rates. Base payment rates can be adjusted for risk information, prospectively or retrospectively, through a three-step process—measuring the risk adjustment variables, estimating the relationship between these variables and health care costs, and then making payment adjustments based on these relationships.

The first step in any risk adjustment process is to gather data and measure the risk adjustment variables. HCFA's current HMO payment system, for example, requires HCFA to gather information on the age, sex, and Medicaid and institutional status of each beneficiary. Second, HCFA must estimate the relationship between the set of risk adjustment variables and the health care costs generated by beneficiaries. For example, we might expect that an 80-year-old man would generate higher health care costs than a 65-year-old woman (other risk factors being equal). However, if risk adjusted payments are to reflect the true cost of patients' care, HCFA must estimate the portions of the difference in expected costs that can be attributed to age and gender. Last, these estimates are used to adjust HMO payment rates. For example, suppose we estimated that, on average, a 70-year-old non-Medicaid non-institutionalized man generates Medicare expenditures at the average rate of all Medicare patients in the county where he lives and that, on average, an 84-year-old Medicaid institutionalized man generates an estimated 2.4 times the average local Medicare cost. An HMO that enrolled actual beneficiaries matching these descriptions would be paid the average base rate for the 70-year-old man, and 2.4 times the average base rate for the 84-year-old man.

Risk Adjustment Can Be Applied Prospectively or Retrospectively

The three-step process described above can be applied prospectively or retrospectively—that is, risk adjustment can be applied to up-front payments based on the beneficiary's status at the start of the payment period, or risk adjustment can be applied to adjust previous payments retrospectively, on the basis of the patient's status at the end of the payment period. HCFA's current risk adjustments are applied prospectively. However, HCFA could also adjust payments according to the beneficiary's status at month's end.

Retrospective adjustments are more often discussed in the context of reinsurance, where HMOs' payments would be adjusted retrospectively, based on the actual costs incurred during that period. For example, HCFA could reimburse HMOs for a portion of any expenses they incurred above

the capitation payment level. These systems are similar to prospective payments based on previously incurred costs, except that the adjustment is made retrospectively rather than prospectively.

Table I.1 illustrates the distinction between retrospective and prospective risk adjustment and shows the difference between cost-based and health status-based risk adjustment. Under prospective risk adjustment, payments at the beginning of one year are based on information from the previous year—while under retrospective risk adjustment, payments are adjusted at the end of the year on the basis of information from that same year. Under cost-based adjustment, payments are based on costs previously generated by beneficiaries; under health status-based adjustment, payments to HMOs are based on beneficiaries' health status.

The far-right column of table I.1 reveals the similarity between retrospective and prospective risk adjustment. At the beginning and end of the beneficiary's enrollment, the payments to the HMO will differ under prospective and retrospective adjustment, but during the overlapping periods, payments are the same in either case. Differences in HMOs' incentives to minimize costs result not from the prospective or retrospective nature of the payment per se, but from the basis for that payment. Payments based on incurred costs can blunt HMOs' cost-reduction incentives, because an increase in costs in one period can be recovered, either by retrospective reimbursement or by higher prospective payments in subsequent periods. Payments based on health status, however, can compensate HMOs for high-cost cases while preserving HMOs' incentives to manage health care costs.

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Table I.1: Comparison of Prospective and Retrospective Health Status-Based and Cost-Based Risk Adjustors

	Time period			
	On 1/1/98	On 1/1/99	On 1/1/2000	1/1/97-1/1/2000
Under Prospective, Health Status-Based Adjustment				
Does the HMO receive a payment?	Yes P(H ₉₇)	Yes P(H ₉₈)	No	
For what does the HMO receive this payment?	For care to be provided in 1998	For care to be provided in 1999		
What is the basis for the payment received by the HMO?	Beneficiary's health status in 1997	Beneficiary's health status in 1998		
What are total payments?				P(H ₉₇) + P(H ₉₈)
Under Retrospective, Health Status-Based Adjustment				
Does the HMO receive a payment?	No	Yes P(H ₉₈)	Yes P(H ₉₉)	
For what does the HMO receive this payment?		For care provided in 1998	For care provided in 1999	
What is the basis for the payment received by the HMO?		Beneficiary's health status in 1998	Beneficiary's health status in 1999	
What are total payments?				P(H ₉₈) + P(H ₉₉)
Under Prospective, Cost-Based Adjustment				
Does the HMO receive a payment?	Yes P(C ₉₈)	Yes P(C ₉₉)	No	
For what does the HMO receive this payment?	For care to be provided during 1998	For care to be provided during 1999		
What is the basis for the payment received by the HMO?	Health care costs generated by beneficiary in 1997	Health care costs generated by beneficiary in 1998		
What are total payments?				P(C ₉₈) + P(C ₉₉)
Under Retrospective, Cost-Based Adjustment				
Does the HMO receive a payment?	No	Yes P(C ₉₈)	Yes P(C ₉₉)	
For what does the HMO receive this payment?		For care provided in 1998	For care provided in 1999	
What is the basis for the payments received by the HMO?		Health care costs generated by beneficiary in 1998	Health care costs generated by beneficiary in 1999	
What are total payments?				P(C ₉₈) + P(C ₉₉)

Alternative Risk Adjustors Rely on Different Measures of Beneficiaries' Health Status

Medicare's need for a more sophisticated risk adjustor has prompted industry experts and academic researchers to develop alternative risk adjustment mechanisms that incorporate a measure of health status. Although each of these alternative risk adjustors incorporates a direct measure of health status, they derive these health status measures from different sources. For example, one potential risk adjustment method uses beneficiaries' own assessment of their health—that is, beneficiaries fill out a questionnaire describing their physical and emotional health, and these self-reported data are used to risk-adjust payments to health plans. Self-reported data on lifestyle or socioeconomic risk factors have also been proposed as a risk adjustor. Some researchers have also considered risk adjustors that measure health status by looking at data on functional status.

Rather than rely on self-reported data, several risk adjustors use information derived from medical records (such as diagnoses) to measure health status. Risk adjustment might also be based on the beneficiary's prior utilization of health care services—for example, the number of days the beneficiary spent in the hospital in the past year. Other researchers have considered using mortality data to risk adjust payments to health plans.

Risk Adjustors Based on Clinical Information

Clinically based risk adjustors would base HMOs' payments on the clinical diagnoses of their Medicare beneficiaries. Clinically based measures range from simple to complex. For example, one potential risk adjustor is formed by adding clinical indicators—simple indicators of a history of a specific health problem (called a tracer condition)—to demographic variables. Under this type of system, health plans would be paid a higher-than-average amount for a patient with a tracer condition, and similarly, plans would be paid lower-than-average amounts for patients without the tracer condition. Tracer conditions would be chosen primarily on the basis of their relationship to health care costs, and the number of tracer conditions could vary with the available data. For the Medicare population, the most frequently suggested tracer conditions are heart disease, cancer, and stroke.

A mortality adjustment could also be used to risk adjust capitated payments. To the extent that a sicker patient population translates into a higher mortality rate, then adjusting this year's payments on the basis of last year's mortality rates could compensate those HMOs that treat relatively sicker patients.

More sophisticated clinical risk adjustors can take into account not only the presence or absence of a particular disease, but also the severity of that condition. One such clinical measure is the ambulatory care groups (ACG) method. By analyzing large data sets, researchers can identify beneficiaries whose expected medical costs are similar, although their actual illnesses may be very different. The ACG system is based on diagnoses gathered from outpatient records. The ACG system categorizes patients into 51 cost groups that are based on clinical diagnosis codes and the beneficiary's age and sex. Categories are based on whether the condition is expected to persist, the need for specialty care, potential for hospitalization, likelihood of disability or death, and expected cost of treatment. The category grouping system allows the ACG methodology to account for persons with more than one diagnosis.

Several relatively complex clinical risk adjustors were originally developed to adjust the capitation rates used by some HMOs to pay their participating physicians. For example, in one of these adjustment mechanisms, the clinical complexity index (CCI), panels of participating physicians assign severity codes to medical diagnoses, according to the resources needed to treat that case. The severity code assigned to the patient's most severe illness in a given year is used to measure that patient's health status. This system relies on data from both the inpatient and outpatient settings.

Risk Adjustors Based on Prior Utilization or Previous Costs

Risk adjustors derived from prior utilization would base HMO capitation payments on the services used by the beneficiary in a previous period. For example, an HMO might be paid a higher-than-average amount if a Medicare beneficiary spent several days in the hospital in the past year, and conversely, the HMO would receive a lower rate if the Medicare beneficiary had not visited the hospital or doctor in the previous year. Risk adjustment could be based on prior health care dollar costs, as well as prior utilization of health care services. Such cost-based payments could be made prospectively, based on utilization in prior periods; or a similar system could make retrospective adjustments. For example, if a patient incurred high costs last year, the HMO could receive a higher capitation rate for that enrollee in the following year; or the HMO could receive an additional payment at the end of this year, but no higher capitation rate for the next year. Such reinsurance schemes are sometimes advocated not as risk adjustment schemes, but instead as mechanisms to promote plan solvency and stability.

Risk Adjustors Based on Combinations of Prior Utilization and Clinical Measures

Some of the more widely known risk adjustors represent combinations of clinical and prior utilization measures. For example, one much-studied combination measure is the Diagnostic Cost Group (DCG) method. The DCG method combines a clinical measure (diagnosis code from inpatient data) with a utilization measure (number of days in the hospital). Beneficiaries are assigned DCG categories based on how long they stayed in the hospital and the illnesses that brought them there. For example, a patient who did not visit the hospital last year, or was hospitalized for fewer than 3 days, or a patient for whom hospitalization was highly discretionary, would be assigned to category DCG 0. The most severely ill patients, those whose illnesses are expected to be the most costly in the future, would be assigned to DCG 7. By adjusting for conditions in which hospitalization is more discretionary, the DCG system partially guards against “upcoding”—that is, the incentive for physicians or health plans to exaggerate the severity of a patient’s illness by assigning a more serious—and more profitable—diagnosis code.

Another combination measure proposed for use in the Medicare risk contract program is the Payment Amount for Capitated Systems (PACS) method. The PACS method combines information on demographics, inpatient and outpatient utilization, and clinical diagnoses with an urban/rural dummy variable and the Medicare wage index for that area.

Risk Adjustors Based on Data Gathered From Patients

Although several risk adjustment measures are based on diagnosis-related information derived from medical records or claims data, several other risk adjustors stem from data gathered from patients themselves or from their employers. For example, some analysts have proposed using information based on lifestyle or socioeconomic factors that are associated with high medical costs. For example, measures of smoking, occupation, marital status, and education have been suggested as risk adjustors.

Other researchers advocate functional status measures, as exemplified by the Activities of Daily Living or Independent Activities of Daily Living protocols. These measures examine beneficiaries’ ability to perform various living tasks such as grocery shopping, eating, dressing, housecleaning, and preparing food. Functional status information can be gathered from patient surveys.

The most commonly discussed risk adjustor that is based on information from beneficiaries is a general measure of self-reported health status, in

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which patients fill out a questionnaire describing how they perceive their own health. A common multiple-inventory questionnaire—the SF-36 developed by researchers at RAND and at the New England Medical Center’s Health Institute—asks patients to report about many aspects of their physical and emotional health. For example, the SF-36 questionnaire asks patients whether they feel depressed, whether they feel fatigued, how well they can function in their daily tasks, and how they expect their health to change in the future. In addition, such questionnaires could be used to gather utilization data—for example, the frequency of physician visits.

Relying on distinct measures of health status, these alternative risk adjustors may capture different aspects of health. For example, a questionnaire that asks specific questions about emotional health could capture variations in mental health status that might not be apparent from a clinical measure.

Criteria for Evaluating Alternative Risk Adjustment Methods

Although risk adjustment systems are designed primarily to prevent biased selection, implementing a risk adjustment scheme will involve a number of other considerations. For example, risk adjustment requires an administrative effort to collect and process health status information, and this collection of risk adjustment data may also raise questions of patient confidentiality. Because these implementation issues reflect potentially conflicting goals, no single yardstick can measure the desirability of alternative risk adjustors. In addition, available information on these alternative risk adjustors is qualitative and incomplete. Despite the complex nature of the problem, however, criteria exist for evaluating alternative risk adjustment schemes.

Risk Adjustment Variables Must Predict Health Care Costs Accurately

To prevent biased selection, a risk adjustment variable must be able to predict health care costs. Risk adjustment aims to pay HMOs less for those patients who are less costly to treat, and to compensate HMOs for the additional costs of caring for the more seriously ill. If successful, risk adjustment can thereby limit HMOs' incentives to enroll only healthy beneficiaries. Successful matching of an HMO's capitation rate with the treatment costs requires that risk adjustment variables be closely associated with health care costs. The stronger this link between the risk adjustment factors and costs, the more effective the risk adjustor will be in removing HMOs' incentives to seek favorable selection.

In addition to overall predictive power, a risk adjustor should identify the most costly cases—that is, ideally, a risk adjustor's predictive power would extend to the high-cost end of the health care cost distribution. Because a few high-cost cases account for a substantial portion of health care costs,⁴⁶ HMOs will have considerable financial incentives not to enroll these high-cost beneficiaries. A risk adjustment variable that does not identify these high-cost cases cannot remove this incentive. A risk adjustment factor that can distinguish between very-high- and above-average-cost cases may be a more accurate and valuable risk adjustor than a variable that separates only low-cost and average-cost cases.⁴⁷

⁴⁶In fact, 1 percent of the population accounts for an estimated 30 percent of health care costs.

⁴⁷This point is explained more fully in Hornbrook, et al., "Adjusting the AAPCC for Selectivity and Selection Bias Under Medicare Risk Contracts," *Advances in Health Economics and Health Services Research*, 1989, p. 115.

Predictive Power Is Difficult to Measure

Although predictive power is the most widely accepted and frequently discussed criterion for evaluating risk adjustors, existing measures of predictive power are imperfect. Furthermore, such estimates are frequently misconstrued.

The most frequently used measure of predictive power is the “R-squared” (R^2). R^2 is the coefficient of determination of a linear regression, often interpreted as the percentage of linear variation in the dependent variable (in this case, health care costs) explained by the group of independent variables (in this case, the risk adjustment variables). R^2 is often interpreted as a measure of “goodness of fit”—that is, in our case, how well the set of risk adjustment variables predicts health care costs.

However, as a measure of goodness of fit, R^2 is subject to a number of qualifications. For example, R^2 will generally increase whenever an additional explanatory variable is added to the regression, whether or not the relationship between this additional variable and costs is meaningful. For this reason, some discussions of predictive power have used an alternative measure—Theil’s adjusted R^2 . Theil’s adjusted R^2 will increase only when the additional variable has a 50 percent probability of independently influencing the dependent variable. Another difficulty in using R^2 is that the increase in R^2 after adding an additional variable is not a reliable indicator of the predictive power of that additional variable. Similarly, R^2 values from regressions with different dependent variables cannot be compared. Nor can the R^2 value tell us whether the risk adjustor is drawing its predictive power from the high-cost or the low-cost end of the distribution. R^2 statistics will be influenced by the amount of variation in the dependent variable as well. Lastly, R^2 is a measure of goodness of fit only if the relationship between health care costs and health status is a linear one.

Because of these difficulties in interpreting the R^2 statistic, a more balanced assessment of predictive power should supplement the use of R^2 . Specifically, Theil’s adjusted R^2 should be used, predictive power should be assessed over different subsections of the distribution, and more complex econometric techniques (such as non-linear least squares) should be investigated. Without this additional information on current risk adjustment variables, estimates of predictive power remain of questionable value.

Risk Adjustment System Should Not Impose Undue Administrative Burdens on HCFA or Participating Health Plans

The implementation of any risk adjustment system requires that beneficiaries' health status be measured, reported to the administrator of risk adjustment (in this case, HCFA), and translated into adjusted payment rates. Each of these activities entails a financial cost, either to HCFA or to participating HMOs. The fewer resources HCFA must spend to administer the program, other things being equal, the greater the opportunity for the risk contract program to achieve cost savings for Medicare. However, administrative costs may accrue to HMOs, as well as to HCFA. If HMOs must incur heavy administrative burdens to participate in the risk contract program, they may be less likely to participate, and this lack of participation could limit Medicare beneficiaries' access to an HMO option.

The administrative burden of any proposed risk adjustment system is difficult to assess before the fact, because it is difficult to anticipate firms' ability and willingness to respond to government mandates to provide data. In addition, HMO information systems and administrative structures are constantly changing as new information technology is adopted by the HMO industry. With the onset of health care reform, and the emphasis in many reform proposals on administrative simplicity, the type of information gathered by HMOs may change and may also become more standardized. However, different risk adjustment systems require varying amounts of information. For example, the various clinically based risk adjusters differ in the level of detailed medical information they require. In addition, the information required for some risk adjustment systems may be easier to gather than the data needed for other methods. For example, data on services provided outside of the HMO, such as hospital services, are typically easier to assemble than data on services provided within the organization. Similarly, the degree to which the risk adjustment factor changes over time can add to or lighten the administrative burden. These differences can help us compare the administrative burdens of alternative risk adjustment systems.

Risk Adjustment Systems Involve Both Start-Up and Operating Costs

The administrative cost of implementing a new risk adjustment mechanism will involve both initial expenses to introduce new procedures and ongoing operating expenses to maintain the system over time. For example, HCFA's initial expenses might include estimating the computer model that would determine the weights applied to payments; collecting the initial data for the current set of enrollees; and providing technical support to HMOs in providing this data. HCFA's operating expenses could include updating the weights over time, if necessary; gathering subsequent data on enrollees and gathering new data on new enrollees; and providing

ongoing technical assistance. For HMOs, start-up costs might involve designing a system to collect risk adjustment data and report this information to HCFA; operating expenses could include the costs of gathering and reporting the information.

Administrative Burden for Given Risk Adjustor May Vary Across HMOs

Both the start-up costs and the ongoing costs of a new risk adjustment system could vary considerably across participating HMOs. Currently, HMOs vary greatly in the sophistication of their administrative systems and the data they can provide on their enrollees. For example, several officials of the HMOs we interviewed indicated that it would be burdensome for them to provide the type of enrollee information that might be found on an indemnity plan's claims form. However, HMOs who voluntarily participated in a HCFA demonstration program, where they were required to provide hospitalization information to HCFA, reported a surprisingly small data burden.

HMOs' ongoing costs of gathering data may also vary. Specifically, some of the variation in HMOs' ability to collect and report enrollee data may be associated with the HMO's organizational structure. For example, HMOs organized as individual practice associations (IPAs) tend to collect more utilization data than staff-model HMOs, and so they may be better equipped to make such data available to HCFA for risk adjustment. However, individual medical records are more decentralized in an IPA setting, where doctors are located in their own practices, than in a staff-model HMO, where doctors practice together in a clinic. Gathering data from medical records, then, may be more difficult and costly for an IPA than for a staff-model HMO. These potential differences in administrative burdens across HMOs raise issues of fairness.

Risk Adjustment Process Should Treat Participating HMOs Fairly

In our interviews with HMO industry representatives, they expressed concern that any new risk adjustment system be fair and even-handed in its treatment of competing HMOs. However, fairness is difficult to define and even harder to assess. Fairness can reflect the differential administrative burdens imposed on HMOs, the incentives HMOs face to prevent illness, and the degree of flexibility given to HCFA administrators. Indeed, some HMOs' definitions of fairness may conflict—for example, officials we interviewed at one HMO said that HCFA should take into account the special circumstances facing individual HMOs, whereas representatives of another HMO stressed the importance of a uniform set of rules.

One operational definition of fairness suggests that the risk adjustment system should be objective—that is, HCFA administrators should have only limited discretion over the measurement of risk adjustment variables and the estimation of payment weights. In addition, a system that is transparent to plans, so that HMOs can understand exactly how their payment calculations are made, could add to HMOs' perception of fairness.

Fairness is closely related to other criteria. For example, a risk adjustor with strong predictive power will be closely related to HMOs' costs, and so may be fairer to participating HMOs. In addition, a risk adjustment scheme that does not create great differences in administrative burdens will likely be perceived as fair, and a risk adjustment system that is less vulnerable to manipulation by HMOs will probably also be perceived as fair.

Risk Adjustment Process Should Not Be Vulnerable to Manipulation by Participating HMOs

A good risk adjustment system should minimize opportunities for HMOs to manipulate the risk adjustment data or to create favorable selection. For example, opportunities for fraud and abuse may arise if data for risk adjustment purposes are gathered directly from HMOs, without independent verification. In addition, the more transparent the risk adjustment system is to participating HMOs, the greater potential for health plans to manipulate the data to increase their payments.

More likely, some risk adjustment mechanisms are more susceptible to "within-cell selection" by participating HMOs. Without manipulating the risk adjustment data, HMOs can select a low-risk patient population by enrolling the lowest-risk beneficiaries within each category.⁴⁸ For example, if an HMO is paid a higher sum for patients with cancer, that HMO can try to attract those beneficiaries with the least severe forms of cancer, or whose cancer is in remission. More sophisticated risk adjustors can mitigate this problem by adjusting payments not only for the presence or absence of a particular condition, but the severity of the illness as well—for example, not only paying HMOs higher rates for patients with cancer, but also paying them an additional premium for more severely ill cancer patients. A more transparent risk adjustment system may be more vulnerable to manipulation by within-cell selection as well as by fraud and abuse.

Both potential fraud and within-cell selection could dilute cost savings for the risk contract program. Fraud would obviously increase Medicare costs, and HCFA's efforts to avoid fraud could also be potentially costly.

⁴⁸In HCFA's current risk adjustment system, HMOs are paid higher rates for older beneficiaries. However, HMOs can benefit from favorable selection by enrolling the youngest and healthiest beneficiaries within each age category.

Within-cell selection can have a similar effect, if sicker beneficiaries are shunted to the fee-for-service sector and increased favorable selection drives up Medicare costs. Despite the importance of avoiding these situations, however, anticipating plans' responses to a new risk adjustment system is difficult before the new system is in place. Not only are potential fraud and within-cell selection hard to anticipate before they occur, they are difficult to observe even when they have taken place.

Risk Adjustment System Must Be Compatible With Incentives to Provide Appropriate Medical Care

Researchers and industry experts have expressed concern that risk adjustment could undermine quality in Medicare HMOs by creating incentives for HMOs to deviate from an appropriate standard of care. If Medicare is to provide high-quality care efficiently, HCFA's risk adjustment system should not reward HMOs for providing too much or too little care to beneficiaries.

Little agreement exists on a general standard of appropriate care, nor has consensus been reached on how to judge whether that standard has been violated after the fact. Evaluating the quality of care requires making the distinction between the underlying health condition, which is largely out of the HMO's control, and the effects of the treatment given by the HMO. An HMO with a low mortality rate, for example, could have had healthier people to begin with, or it could have provided high-quality care that made patients more likely to recover from serious illnesses. Such assessments are more straightforward when looking at the presence or absence of largely unpreventable illnesses. If one HMO has more patients with Parkinson's disease, for example, the difference is unlikely to be due to differences in the quality of care. However, when the severity of conditions is considered, it becomes more difficult to distinguish between the results of the HMO's treatment and the unavoidable results of the underlying illness. One HMO's Parkinson's patients may be sicker than those of another HMO, for example, either because the patients were sicker to start with or because of differences in the quality of care.

Risk Adjustment Mechanism Should Reward HMOs for Appropriate Preventive Efforts

If risk adjustment mechanisms pay more to HMOs with sicker people, then the risk adjustment mechanism may also reduce HMOs' incentive to prevent costly illnesses. Such preventive disincentives can be focused—that is, specific to a particular illness—or more general. For example, a risk adjustor that pays HMOs more for patients with heart disease may reduce HMOs' incentives to focus preventive education efforts on beneficiaries with several risk factors for heart disease. Similarly, a risk adjustor that

measures health status in a more general way may weaken HMOs' incentives to provide general preventive care and patient education on diet, exercise, and stress management.

**Risk Adjustment System
Should Not Encourage
Inefficient Medical
Practice**

Risk adjustment systems can also alter physician practice patterns. For example, a risk adjustment system that is based only on inpatient data can change physicians' incentives to substitute hospital services for outpatient care. A risk adjustment system that encourages inefficient medical practice can have the unintended result of increasing health care costs.

**Risk Adjustment
Process Raises
Questions of Patient
Privacy and
Confidentiality**

Because risk adjustment requires evaluation of patients' health status, some risk adjustment methods incorporate individual beneficiaries' medical information. The need for such data raises questions of patient privacy and confidentiality for policymakers, or society in general, to consider.

The invasiveness of a risk adjustor involves several considerations. First, how much data is collected? Other things being equal, the less data required, the less invasive the risk adjustment process is. Second, how sensitive are the data? Although beneficiaries might not care if their sex is known to HCFA administrators, for example, they might not want HCFA administrators to have information on their specific medical conditions, especially if these conditions carry a social stigma. Third, who has access to the data, and in what form? If beneficiaries' identities can be shielded from most of those with access to the data, for example, the privacy issues in the risk adjustment procedure might be considered less troubling. Similarly, working Medicare beneficiaries may be concerned if their employers were to have access to individual health status information. Finally, how transparent are the data? If the information is transparent to anyone who observes it, privacy concerns may be more acute than if specific medical or technical knowledge were required to decipher the meaning of the information.

Evaluating Alternative Risk Adjustment Methods

Because of the trade-offs between desirable goals for risk adjustment, and because of the limited knowledge in this area, we were unable to recommend any one risk adjustor. However, using the criteria described in appendix II, we identified four risk adjustors—clinical indicators, ambulatory care groups (ACG), diagnostic cost groups (DCG), and self-reported health status—that are the most promising candidates for improving the Medicare risk contract program.

HCFA's Current Risk Adjustment Variables Have Insufficient Predictive Power to Limit Favorable Selection

Under HCFA's current risk adjustment system, payments to risk contract HMOs are adjusted for the age, sex, Medicaid and institutional status of the enrollee. This risk adjustment method has several virtues. First, the current system requires less information than any other risk adjustor, and most of this information is available from HCFA files, minimizing the data burden on participating HMOs. In addition, HCFA's current risk adjustment mechanism does not require relatively sensitive information on medical diagnoses, and it is compatible with efforts to provide appropriate preventive care. However, despite these administrative strengths, HCFA's demographically based risk adjustment system has insufficient predictive power to adequately limit favorable selection. HCFA's current system is vulnerable to considerable within-cell selection, and the demographic variables HCFA uses are only loosely associated with health care costs, particularly for persons with unusually low or high health care costs. The system's inadequacy in preventing favorable selection indicates that a new risk adjustment system is needed in the Medicare risk contract program.

Any of Several Alternative Risk Adjustors Would Improve the Medicare Risk Contract Program

The need for a more sophisticated risk adjustor to reduce favorable selection has led analysts and industry experts to propose and test an array of alternative risk adjustment mechanisms. Although the research community has been unable to identify a single risk adjustor that is clearly superior to all others, several of these risk adjustment choices are more promising than HCFA's current system.

Clinical Indicators Combine Simplicity With Predictive Power, but May Be Subject to Manipulation by Health Plans

A simple clinical measure of health status represents the middle ground in the trade-off between administrative simplicity and predictive ability. A clinical-indicator system requires more information than HCFA's current system—in addition to age, sex, and Medicaid and institutional status, the risk adjustment process would include a clinical variable to indicate the

presence of specific health conditions. However, a clinical-indicator risk adjustment system embodies less information than more complex clinical measures. These more detailed health status measures include not only information on the presence of specific conditions, but they also incorporate information on the severity of the illnesses. Therefore, a clinical-indicator system would carry a greater administrative burden than HCFA's current system, but it would impose a smaller administrative burden than several more complex clinical methods. The actual amount of information required by a clinical-indicator risk adjustment system will depend on the number and definition of the conditions chosen. The choice of conditions could be customized to local disease burdens, medical practice patterns, and the information base. This adaptability could be used to mitigate the potential unevenness of the administrative burden across HMOs.

Several studies have found that clinical indicators that mark the presence of tracer conditions such as heart attack, cancer, or stroke are good individual predictors of health costs. The predictive power of these variables will depend on which tracer conditions are selected and how many are incorporated. Because these tracer conditions are specially selected, this measure can be designed to better predict the high-cost tail of the distribution of health care costs. (See app. II.)

Thus, compared with HCFA's current method, a clinical-indicator system can increase predictive power without generating the heavier administrative cost of more complicated clinical risk adjustment systems. Nonetheless, clinical indicators may be quite vulnerable to within-cell selection. Further, the transparency of a clinical-indicator system may increase HMOs' perceptions of fairness, but it may also make the payment system more open to fraud and abuse. A clinical-indicator system may also be subject to issues of patient privacy, particularly if the tracer conditions carry a social stigma. In addition, a clinical-indicator system may weaken incentives for HMOs to provide focused prevention services. For example, a risk adjustment system that sets higher rates for patients with osteoporosis might weaken HMOs' incentives to educate patients on preventive diet and exercise.

DCGs Have Predictive Power and Use Existing Data, but May Create Inappropriate Incentives

DCGs combine clinical diagnostic information from hospital stays with a measure of inpatient prior utilization (hospital days). Because HMOs tend to collect more information on inpatient stays than on ambulatory care, DCGs may be easier to implement than comparable risk adjusters that are

based on outpatient data. When HCFA experimented with DCGs in a small, voluntary demonstration project, participating HMOs reported only a small data burden.⁴⁹ By adding inpatient information to demographic variables, DCGs achieve a greater predictive ability than HCFA's current system. DCGs' emphasis on inpatient care may enhance their ability to predict the high-cost tail of the distribution of health care costs. Despite this predictive power, however, DCGs may be vulnerable to within-cell selection, particularly in the DCG 0 group (enrollees who spent little or no time in the hospital). In addition, DCGs' reliance on inpatient data may also be problematic, because it could create potentially undesirable incentives to substitute hospitalization for less costly outpatient care.⁵⁰

ACGs Have Predictive Power and May Be Less Vulnerable to Manipulation, but Entail Greater Administrative Costs

ACGs represent a relatively "high-powered" risk adjustment choice. They have a number of desirable properties, including good predictive power and less vulnerability to manipulation than less sophisticated systems. Specifically, ACGs should provide substantially improved predictive ability over demographically based risk adjustors such as HCFA's current system. Limited information is available to evaluate ACGs' predictive power at the high-cost end of the health care cost distribution. Although the ambulatory base of these measures could limit ACGs' ability to predict the high-cost tail of the health care cost distribution, ACGs' basis in medical diagnoses may alleviate this problem to some extent. The sophistication of the ACG system suggests that ACGs may be less vulnerable to within-cell selection than more transparent risk adjustors.

This sophistication, predictive power, and invulnerability come at a cost. Because ACGs embody specific and detailed medical diagnosis codes, implementing an ACG system would require substantial administrative resources from both HCFA and participating HMOs. The administrative burden of gathering the required data may be more pronounced for smaller, staff model HMOs with less elaborate management information systems.

⁴⁹Because these HMOs volunteered to participate in the demonstration, however, their experience may not be representative of all HMOs in the risk contract program.

⁵⁰These incentives are likely to be mitigated, however, because the DCG system classifies both patients with no hospital stay and patients with a hospital stay of less than 3 days in the DCG 0 group.

Self-Reported Health Status Captures Many Dimensions of Health, but May Be Less Reliable and More Invasive

Studies have indicated that adding a variable based on self-reported health status to demographic factors would also increase predictive power over HCFA's current risk adjustment system. However, self-reported health status may draw this predictive power from the center, rather than the tail, of the distribution; therefore, self-reported health status might not sufficiently prevent HMOs from enjoying favorable selection that is based on excluding a few high-cost cases. Because self-reported health status measures typically incorporate beneficiaries' answers to a number of health questions, these risk adjustment mechanisms may be less vulnerable to within-cell selection, because the cells are not as easily or sharply defined. In addition, self-reported health status should be generally compatible with appropriate care, as it does not create incentives for plans to provide too many or too few services.

Several dimensions of health (particularly emotional health) that can be captured in self-reported health status measures are not directly incorporated into other risk adjustment methods. However, because of the subjectivity of self-reported data, some analysts have raised questions about the validity of self-reported health status information. For example, the ability and willingness of Medicare HMO enrollees to answer health questions accurately may depend on the enrollee's health or cultural background.

The ability of self-reported health status to capture emotional health, although undoubtedly contributing to predictive power, could be considered invasive. Questions about emotional health may be particularly sensitive, especially to older persons and to those who consider depression or emotional distress a form of personal weakness.

Those risk adjustors that are constructed from beneficiary-supplied information may impose less of a burden on participating HMOs (unless HMOs are given the responsibility for gathering this data). However, the administration, compilation, and interpretation of beneficiary data collection instruments could impose substantial administrative burdens on HCFA. Researchers have developed and tested several data collection instruments to measure self-reported health status; however, considerable work remains on modeling the cost-score relationship.

Other Risk Adjustors Consistently Ranked Lower on Our Evaluation Criteria

Analysts have suggested several other risk adjustment mechanisms, but these risk adjustment factors appear to be less suitable for the Medicare risk contract program. Several of these risk adjustors would be difficult to administer, and others could create inappropriate incentives for participating HMOs.

Lifestyle and Socioeconomic Risk Adjustors Have Limited Predictive Ability and Could Create Heavy Administrative Burdens

Lifestyle and socioeconomic measures, which are generally combined with demographic variables, appear to have greater predictive power than HCFA's current method, but they are probably less predictive than the more direct health status measures. In addition, many lifestyle and socioeconomic variables are subject to the limits of self-reported data.

Implementing a lifestyle measure could create a heavy administrative burden for HCFA as well. Considerable efforts have been undertaken to test self-reported health status questionnaires, but no comparable well-developed prototype exists for lifestyle measures. Such a questionnaire might be considered invasive (depending on what was asked) and could also reduce HMOs' incentives to provide preventive patient education on diet, exercise, smoking cessation, and other lifestyle choices.

Functional Status Would Be Costly to Administer, and May Be Invasive

However functional status information is gathered, assembling these data would entail considerable start-up costs in developing and administering the data collection instrument as well as estimating a model to link functional status to health care costs. In addition, functional status information may be considered invasive. In the literature, functional status variables show greater predictive power than HCFA's current method, but functional status may not have superior predictive power compared with other health status adjustors. And because using functional status involves relatively large administrative costs, it is unlikely to provide the best risk adjustment system for the Medicare risk contract program.

Prior-Utilization and Prior-Cost Measures Have Greater Predictive Power, but Can Create Inappropriate Incentives

In earlier studies of favorable selection in the Medicare risk contract program, researchers focused largely on prior-utilization risk adjustors. Because they are based on past experience, prior-utilization and prior-cost measures generally have strong predictive power. However, it is unclear whether prior-utilization draws its predictive ability from the high-cost tail of the distribution. One disadvantage of prior-cost or reinsurance measures is that they may place a heavy administrative burden on

participating HMOs. Moreover, measures of prior use may be vulnerable to within-cell selection.

Despite the appeal of their predictive power, prior-utilization and prior-cost models may blunt the cost-saving incentives of managed care. If capitated rates depend on beneficiaries' incurred costs, plans will have less incentive to hold down costs, and less efficient plans will be rewarded with higher payments.

**Mortality Adjustor Fails
Fairness Test and Is
Subject to Ethical
Questions**

Although mortality is associated with high health care costs, its predictive power is limited by its inability to account for illness that may be chronic and costly, but not life threatening. Setting rates based on mortality also seems unfair to health plans that care for patients with long-term, costly illnesses and health plans that make preventive efforts to lower mortality. Further, a mortality adjustor raises ethical questions as health plans would have a financial interest in allowing critically ill patients to die instead of making every effort to prolong their lives.

Comments From the Health Care Financing Administration

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Health Care
Financing Administration

Memorandum

MAY 31 1994

TO: Sarah F. Jaggard, Director
Health Financing and Policy Issues, GAO

FROM: Administrator
Health Care Financing Administration (HCFA)

SUBJECT: General Accounting Office (GAO) Draft Report, "Medicare: Changes in HMO Rate Setting Method Are Needed to Reduce Program Costs" -- INFORMATION

We have reviewed the GAO draft report which discusses Medicare capitated rate setting for health maintenance organizations (HMOs).

First, with respect to risk adjustment, the report does not mention our current contracts that continue work on two of the approaches the report believes hold the most promise, Diagnostic Cost Groups and Ambulatory Care Groups. In addition, we have done extensive work on self-reported health status, the third of the report's recommended approaches, and we can provide these studies to GAO. Finally, we will be reviewing a large number of risk adjustment proposals received recently under our January 1994 grants solicitation and a special contract solicitation that cover a variety of risk adjustment approaches.

With respect to an alternative basis for the base rate, we have sponsored research projects on alternatives with the Urban Institute and the University of Minnesota.

In addition, the report should explicitly address the fact that the opportunities to demonstrate this research are limited by the voluntary nature of demonstrations. Legislative changes are necessary to permit demonstrations of alternative ratesetting methodologies that create "winners and losers" relative to the current system.

Second, the Administration's proposal for health care reform, the Health Security Act (HSA), offers several proposals to address the two primary problems with the current methodology cited in the report: biased selection and wide geographic variation in payment levels. The HSA would mitigate biased selection with the following changes:

- o coordinated open enrollment (coordinated among HMOs and with Medigap);
- o third-party enrollment and unbiased consumer information;

See comment 1.

See comment 2.

Page 2

- o extended lock-in (which helps deal with the alleged problem of members disenrolling when sick); and
- o enrollment for any new Medicare eligible on becoming eligible or moving into an HMO's service area, rather than having to wait for an open enrollment period.

With regard to geographic variation in rates, the HSA proposes to set ceilings and floors on payment rates. Under this proposal, the ceiling would be 150 percent of the Part B and 170 percent of the Part A United States Per Capita Costs (USPCCs). It would be phased in over 5 years, starting in 1995. The floor would be 80 percent of the USPCCs for Part A and Part B, and fully implemented in 1995. While only a preliminary step in addressing this problem, this proposal does address the extremes that result from the current ratesetting methodology.

See comment 3.

Third, readers are left with the strong impression that favorable selection exists because HMOs have aggressively sought to enroll only the healthiest Medicare beneficiaries, and encourage the disenrollment of sick beneficiaries. We would like to point out that the Medicare risk program requires the HMO to conduct an annual open enrollment where Medicare beneficiaries may enroll without regard to health status. (By contrast, Medigap insurers can impose a 6-month preexisting condition requirement in certain circumstances.) Also, the final Mathematica report states that "The differences between enrollees and nonenrollees (in their relative health status) appear to be due primarily to the self-selection of enrollees."

See comment 4.

Fourth, references to a 6 to 28 percent range of higher payments made on behalf of Medicare HMO enrollees is misleading. Mathematica Policy Research's final report on the Medicare risk program states: "We estimate that HCFA paid HMOs approximately 5.7% more than it would have spent for fee-for-service (FFS) care for enrolled individuals, primarily as a result of favorable selection into Medicare risk plans." This final report examined this question extensively and used various approaches to measure the level of higher payments.

Finally, we are attaching a number of technical comments as well as a discussion of the current rate-setting methodology. Should you have any questions or require any additional information, kindly contact Ron Miller of the Executive Secretariat at (410) 966-5237.



Bruce C. Vladeck

Attachments

The following are GAO's comments on the Health Care Financing Administration's letter dated May 31, 1994.

GAO Comments

1. We believe that HCFA's efforts to further refine rate setting and risk adjustment methods can improve the Medicare risk contract program. However, although the risk adjustment literature remains incomplete, we believe that the risk adjustment methods we recommend are sufficiently well developed to be tested under demonstration conditions. As a complement to academic research studies, these demonstrations would provide actual experience with risk adjustment. The voluntary nature of demonstrations can make interpretation of the results more difficult, because health plans that volunteer for a demonstration may differ from those that do not choose to participate. However, this difficulty can be minimized if demonstrations are designed to encourage HMO participation.⁵¹ We believe that demonstration experience is necessary to assess the administrative feasibility and the reactions of different types of HMOs to an alternative risk adjustment system.

2. We agree that provisions of the President's proposed Health Security Act could reduce favorable selection into Medicare HMOs. However, the potential effectiveness of the provisions of the Health Security Act cannot be determined with available data. For example, while setting rate floors and ceilings would reduce the rate variation in HMO payment rates, rate ceilings and floors do not necessarily make HMO rates correspond more closely to the costs of appropriate care. Also, although streamlining the enrollment process might be expected to reduce favorable selection, its effectiveness may be limited by practical considerations. For example, the enrollment provisions for those who are newly eligible for Medicare may have a limited impact if HMOs in a given local area face capacity constraints. In addition, some proposed changes in the enrollment process might have other disadvantages—for example, extended lock-in may dissuade seniors from joining an HMO and could limit beneficiaries' ability to exit an HMO that offered low-quality care.⁵² For these reasons, although we recognize the potential value of these changes, we believe that an

⁵¹HCFA asserts in its letter that legislation would be needed to permit demonstrations that would "create winners and losers relative to the current system." However, HCFA can encourage participation in voluntary demonstration projects by compensating HMOs for additional administrative costs incurred and by designing demonstrations so that health plans are not paid less under the demonstrations than under the current payment system. In our recommendation, we call for such a research design.

⁵²Although we recognize that low-quality care has not been a general problem in the risk contract program, the few seniors who may encounter an isolated incident of low-quality care would be unable to change their situation.

improved payment system will also be required if the Medicare risk contract program is to realize cost savings.

3. We explain that favorable selection into HMOs can result from the actions of either the HMO or the Medicare beneficiary (self-selection). We clearly do not suggest that favorable selection results entirely from HMO actions. Nonetheless, we have added an additional disclaimer to p. 20, which states that we did not evaluate the degree to which each of these factors contributes to the favorable selection observed in the Medicare risk contract program. Further, we did not find a consensus in the research literature on this issue, nor were we able to use statistical methods to isolate the factors that affect the enrollment and disenrollment decisions.

4. We believe that using a range of estimates to describe the cost impact of favorable selection is not misleading. In our opinion, several research efforts we reviewed were methodologically sound, and they generated different cost estimates. Rather than single out any one estimate, to the exclusion of all others, we chose to report the full range of research studies. In addition, by reporting the impact of favorable selection as a range, we could better convey the uncertainty surrounding estimates of the cost impact of favorable selection.

Excerpts From HCFA Technical Comments, With GAO Evaluation

In addition to its overall comments, the Health Care Financing Administration provided GAO with a number of additional comments that were more technical in nature. Many of these comments were incorporated into our report. However, some of HCFA's technical comments revealed disagreement on substantive matters or potential misunderstanding of our views. We have excerpted those comments below, with our response or clarification to each.

HCFA Comment

In commenting on the variation in HMO payment rates, HCFA states: "Since variations in adjusted average per capita cost (AAPCC) rates reflect fee-for-service costs in an area, some differences between certain areas are justifiable—for example differences between payment rates in New York City and rural Montana could be justified by New York's higher costs of doing business."

GAO Evaluation

We have concluded, after reviewing the available evidence, that the variation in HMO payment rates is inappropriate. This conclusion stems from the extent of the rate variation and the incorporation of utilization patterns into HMO payment rates. Although, as HCFA points out, some of the rate variation comes from variation in the cost of providing services, the variation in HMO payment rates exceeds other measures of the cost of providing services. Although there is no universal agreement on what constitutes an appropriate rate, there is a general consensus that the current variation in HMO payment rates is inappropriate.

HCFA Comment

“GAO’s draft states that HMOs have a strong financial incentive to attract the healthiest possible Medicare clientele. We would like to point out that the Medicare risk contract program requires the HMO to conduct an annual open enrollment where Medicare beneficiaries may enroll without regard to health status.”

GAO Evaluation

The fact that Medicare HMOs are required to have an open enrollment period does not mitigate the HMO’s financial incentive to enroll only healthy clients, although it may make efforts to do so more difficult. From over a decade of consistent research results, we have concluded that the open enrollment requirement has proven insufficient to prevent favorable selection from increasing Medicare’s costs.

HCFA Comment

In a reference to the discussion on p. 19, HCFA’s technical comments suggest that “[GAO] should also mention that a large number of Medicare enrollees of risk HMOs are age-ins—that is, individuals enrolled in the HMO through an employer connection who retain their HMO membership on becoming eligible for Medicare. GAO might want to give further attention to the question of how much favorable selection can be attributed to the number of Medicare enrollees who are “age-ins” and may have better than average health.”

GAO Evaluation

As we discussed in our response to HCFA’s general comments, we did not examine the degree to which favorable selection is caused by actions of the beneficiaries or by the actions of HMOs. Our interviews with participating HMOs would suggest that age-ins are important to some HMOs but unimportant to others.

HCFA Comment

In its technical comments, HCFA disputed our statement that "As long as the HMO has more information on its enrollees than the payer, the HMO will have the opportunity to discriminate among enrollees based on health status." (See p. 27.) HCFA commented that "Medicare HMOs would only have health status information on individuals not enrolled in the HMO if the HMO's providers or physicians have treated a patient and are providing such information to the HMO. Again, to health screen on the basis of such information is illegal. (Admittedly, HCFA would have difficulty learning about an HMO physician who discourages his or her sicker patients from joining an HMO in which the physician is a participating physician.)"

GAO Evaluation

As HCFA's comment points out, HMOs would generally not have the medical records of individuals not enrolled in the HMO. However, HMOs could obtain health status information on would-be enrollees from simple observation. More important, HMOs could seek favorable selection by encouraging sicker beneficiaries to disenroll from the HMO.

HCFA Comment

"We don't understand the statement that self-reported health status creates fewer opportunities for within-cell selection than simple clinical measures. There is a lot of unexplained variation with self-reported health status, and, thus, plenty of chances for selection."

GAO Evaluation

We believe that this comment confuses unexplained variation with opportunities for within-cell selection. Unexplained variation is necessary, but not sufficient, for within-cell selection to take place. For an HMO to practice within-cell selection, the unexplained variation must be systematic and predictable by the HMO. This is more likely in the case of simple clinical measures, where the HMO will have information not only on who fits into which category, but also on the possible cost of care for each person within a category. With self-reported health status, by contrast, the categories are "fuzzy" to the HMO and (if the questionnaire is administered by an independent party) the HMO does not know which beneficiary is in which category.

HCFA Comment

"There may be some disagreement as to whether the DCG methodology is administratively feasible given HCFA's demonstration experience with the methodology."

GAO Evaluation

Our conclusion that the DCG methodology is administratively feasible is supported by the existing DCG literature, our interviews with risk adjustment experts, and the independent evaluation of HCFA's DCG demonstration by Mathematica Policy Research, Inc.

HCFA Comment

On page 32, HCFA asked, "What is the basis for stating that these methods have 'sufficient predictive power,'" given that "the report indicates that assessing predictive power is difficult because it is not easy to measure accurately."

GAO Evaluation

Although predictive power is difficult to measure precisely, we believe that the existing literature is sufficient to allow some qualitative conclusions about the relative predictive power of alternative risk adjustors. These conclusions are explained in chapter 3 and in appendix III.

HCFA Comment

With respect to figure 4.1, HCFA commented that "Standing alone, the statement that the 'mean HMO payment is \$310.02 ...' is somewhat misleading. It should be accompanied by some explanation of the fact that the majority of HMO enrollees are not institutionalized or Medicaid eligible, so the average per capita Medicare payment to plans is less than the county AAPCC (because many enrollees have a demographic factor of less than 1.0)."

GAO Evaluation

We indicate that the rates we quote are those paid for a man aged 70 to 74, without Medicaid or institutionalized status. Data for "the typical HMO enrollee's demographic factor" would be not only difficult to calculate, but also less meaningful to the reader, because it would not apply to any individual enrollee. In addition, the rates are given in the context of their variation, and the variation in rates would be the same for each level of the demographic factor.

HCFA Comment

With respect to rate differences in adjacent or nearby counties, HCFA comments: "Medicare risk HMOs apply for contracts on a county-by-county basis—the HMO asks HCFA for the county, not the other way around. Therefore, the fact that an HMO has requested to have a county included in its geographic area precludes it from claiming it's adversely affected when

beneficiaries in that county exercise their right to services within the HMO's geographic area."

GAO Evaluation

HCFA is correct. However, although the HMO can choose its Medicare risk contract service area, it may be impractical from a business standpoint for an HMO to define its service area too narrowly. In addition, it is nonetheless true that an HMO can be paid very different sums for the care of similar individuals. Our interviews with participating HMOs and the results of several research studies⁵³ led us to conclude that variation in adjacent county rates may make HMOs more reluctant to participate in the risk contract program.

HCFA Comment

With respect to the discussion of rate stability and accuracy on p. 38, HCFA pointed out that "a HCFA sponsored study by Frank Porell examined alternatives to the 5-year moving average and found no alternative that was clearly superior in terms of stability and accuracy."

GAO Evaluation

GAO examined the Porell study in the course of our review.⁵⁴ Given the trade-off between stability and accuracy in rate setting, we agreed that no one forecasting method was unquestionably superior to all others. In our discussion, we simply point out a trade-off between stability and accuracy, without recommending a change in HCFA's forecasting method.

HCFA Comment

Referring to our discussion on p. 39, HCFA commented: "The second paragraph states: '... some researchers and industry analysts have suggested that favorable selection may lead to the opposite effect—that is, rising HMO market penetration may increase, not decrease, average fee-for-service costs.' We're unfamiliar with this argument."

⁵³See Mathematica Policy Research, Inc., *What Makes HMOs Drop Their Medicare Risk Contracts?*, report to the HCFA (May 1992); Frank W. Porell and Christopher Tompkins, "Medicare Risk Contracting: Identifying Factors Associated with Market Exit," *Inquiry* (Summer 1993), 30 (2), 157-169; and Cynthia Polich with L. Iversen and C. Oberg, "Risky Business: An Examination of TEFRA Risk HMOs and Their Risk Contracting Experience," InterStudy Center for Aging and Long-Term Care, June 1987.

⁵⁴See Frank W. Porell, Christopher P. Tompkins, and Winston M. Turner, "Alternative Geographic Configurations for Medicare Payments to Health Maintenance Organizations," *Health Care Financing Review*, Spring 1990, 11 (3), pp. 17-30.

GAO Evaluation

This argument is drawn from the mathematics of the HMO rate setting formula. Because HMO rates are based on fee-for-service costs, as healthy individuals leave the fee-for-service sector for HMOs, average fee-for-service costs must increase. If successive HMOs are able to attract the healthiest candidates in the remaining fee-for-service pool, then increasing HMO market penetration will result in higher average fee-for-service costs. A more extensive discussion can be found in Mathematica Policy Research, Inc., Biased Selection in the TEFRA HMO/CMP Program, report to HCFA (Sept. 21, 1990).

HCFA Comment

HCFA suggested that "a discussion of why competitive bidding is successful in the private sector (but would not be for Medicare) would have been helpful."

GAO Evaluation

In our discussion, we highlighted some of the practical difficulties with competitive bidding in the Medicare program. However, we do not believe that sufficient evidence exists to conclude definitively that competitive bidding would not be successful for Medicare under any circumstances.

Acknowledgments

We would like to acknowledge the assistance of the following individuals and organizations. Representatives of the institutions cited and the individuals noted provided valuable assistance or insights on the issues discussed in this report. However, these organizations and individuals do not necessarily endorse the positions taken in the report.

Aetna Health Plan of Southern California, Inc., San Bernardino, California

American Managed Care and Review Association, Washington, D.C.

Blue Cross/Blue Shield Association, Center for Health Economics and Policy Research, Chicago, Illinois

Capitol Health Care/Health Maintenance of Oregon, Salem, Oregon

Department of Health and Human Services, Office of the Assistant Secretary for Policy and Evaluation, Washington, D.C.

Randall P. Ellis, Ph.D., Associate Professor, Department of Economics, Boston University, Boston, Massachusetts

Fallon Community Health Plan, West Boylston, Massachusetts

Family Health Plan, Inc., Miami Lakes, Florida

Dana Gelb-Safran, Sc.D., Senior Policy Analyst and Political Liaison, The Health Institute, New England Medical Center, Boston, Massachusetts

Group Health Association of America, Washington, D.C.

Group Health Cooperative of Puget Sound, Seattle, Washington

Group Health, Inc., Minneapolis, Minnesota

Harvard Community Health Plan, Wellesley, Massachusetts

Health Care Financing Administration:
Boston Regional Office
Bureau of Data Management and Strategy
Office of the Actuary
Office of Coordinated Care Policy and Planning
Office of Managed Care

**Appendix V
Acknowledgments**

Office of Prepaid Health Care Operations and Oversight
Office of Research and Demonstrations
Seattle Regional Office

Health Chex, Inc., Fairport, New York

Kaiser Foundation Health Plan, Inc., Oakland, California

Harold Luft, Ph.D., Professor of Health Economics, Institute of Health
Policy Studies, University of California, San Francisco, San Francisco,
California

The Marshfield Clinic, Marshfield, Wisconsin

Mathematica Policy Research, Inc., Princeton, New Jersey

Thomas McGuire, Ph.D., Associate Professor, Department of Economics,
Boston University, Boston, Massachusetts

Mid-Atlantic Medical Services, Inc., Rockville, Maryland

Medicare Advocacy Project, Los Angeles, California

PacifiCare Health Systems, Inc., Cypress, California

Charles Phelps, Ph.D., Chair, Department of Community and Preventive
Medicine, University of Rochester, Rochester, New York

Rochester Community Independent Practice Association, Rochester, New
York

William Rogers, Ph.D., Senior Policy Analyst, The Health Institute, New
England Medical Center, Boston, Massachusetts

United HealthCare Corporation, Minnetonka, Minnesota

Watts Health Foundation, Inc./United Health Plan, Inglewood, California

Major Contributors to This Report

Jonathan Ratner, Assistant Director
Scott L. Smith, Assistant Director, (202) 512-7119
Sarah L. Glavin, Project Manager, (202) 512-7180
Julie C. Cantor-Weinberg, Evaluator

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