Special Report

Giving physicians incentives to contain costs under Medicaid

by W. Pete Welch

In this article, the risk arrangements in Medicaid programs that put physicians at risk are summarized. These programs—partial capitation and health insuring organizations—pay physicians a capitation amount to cover some or all physician services. Physicians also receive part of the savings from reduced hospitalization. Most of these programs have successfully lowered Medicaid costs. They could serve as models for other Medicaid programs, State-level programs to cover people ineligible for Medicaid, and programs abroad, such as in the United Kingdom.

Policy context

In this article, innovative Medicaid programs that give physicians incentives to control costs are examined. These programs pay physicians a capitation amount to cover some or all physician services. Physicians also receive part of the savings from reduced hospitalization.

As managed care, these programs have many characteristics in common with health maintenance organizations (HMOs). In particular, HMOs often capitate individual physicians or groups of physicians for primary care services and may put physicians at risk for specialty care services and hospital care. However, the Medicaid programs described below have found that physicians are more willing to accept some financial risk than to participate in HMOs. An HMO, of course, accepts full risk for the health care of its members, although that risk may be shared with physicians. The Medicaid programs that give physicians incentives to control costs are more incremental than HMOs and hence often are easier to establish. They may be seen as major steps toward full capitation.

HMOs are well-researched, as are the financial incentives that they give physicians (Hillman, 1987; Welch, Hillman, and Pauly, 1990). In contrast, little attention has been paid to these Medicaid managed-care programs, which are easier to investigate than HMOs for two reasons: First, obtaining information on the internal workings of HMOs can be difficult, especially if they are for-profit. In contrast, these Medicaid programs must receive approval (i.e., a waiver) from the Federal Government, and an external evaluation is mandatory. Because the programs are public, the bureaucrats that

administer them are accustomed to answering questions from outsiders. This facilitates any analysis—be it formal or informal—that might build on this article. Second, enrollment is mandatory in most of these programs. Selection bias, a major problem in evaluating costs in HMOs, is not an issue when enrollment is mandatory.

There are several reasons why these Medicaid managed-care programs are of immediate policy interest. First, the Bush Administration would like to encourage managed care in Medicaid. The proposals in the President's budget for fiscal year 1991 are the most tangible evidence of this interest. One proposal, for instance, would increase the Federal matching rate for States with increased enrollment in managed care.

Second, in response to concern over the number of Americans without health insurance, several States are seriously considering programs to cover large numbers of the uninsured. Governor Mario Cuomo of New York proposed that his State cover 700,000 children (Verhovek, 1990). Maryland is also considering covering uninsured children and relying on physician capitation. Cost being the primary obstacle to covering the uninsured, effective cost control facilitates such efforts. Unlike most Medicaid programs, which pay fee-for-service, programs for the uninsured start with a "blank slate" and can more easily establish alternative payment arrangements.

Oregon, the best example of these States, has enacted a law that (conditional on waiving Federal regulations) would cover all poor citizens. This would be far more than what is covered by the Medicaid program (Kosterlitz, 1989). Of the law's several components, by far the most visible has been the attempt to prioritize health care services. To the extent that the budget is insufficient, the State would drop coverage of low-priority services, not drop coverage of people. Recognizing the complexity of medical decisions and the need for physician discretion, the State would also rely on incentives to physicians to contain costs. It would build on the physician capitation program described later in this article.

Third, the United Kingdom (as well as Holland) is interested in the American experience with HMOs. The 1989 National Health Service White Paper, *Working for Patients*, proposed making physicians financially responsible for specialty physician care and hospital care. In lieu of full capitation along the lines of HMOs, Weiner and Ferriss (1990) have suggested putting physicians at partial risk, as these Medicaid programs do. These Medicaid arrangements are probably better than HMOs as models for the United Kingdom, in part because Medicaid is a public program.

Finally, this article contributes to our general knowledge of how physicians respond to financial incentives. Eisenberg, in his review of the literature on the determinants of physician behavior, could cite only a handful of studies of incentives (Eisenberg, 1986). Physician incentives, however, are key to understanding the performance of HMOs, particularly individual practice

associations (IPAs), and to understanding volume performance standards (VPS), enacted by Congress in November 1989. Under VPS, Medicare payments to physicians are decreased if growth in total expenditures for physician services exceeds a certain standard and conversely increased if growth is less than the standard. In making the original proposal, the Physician Payment Review Commission (1989) saw the national risk pool only as a first step, which would be replaced by risk pools for States, specialties, or medical staffs.

This article first and foremost uses a common framework to describe the incentive arrangements of these innovative Medicaid programs. Secondarily, the article summarizes the available evidence on whether physicians have cut costs in response to these incentives. This article, however, does not and cannot evaluate these programs in their entirety. For instance, even without space constraints, it cannot systemically investigate quality of care, because evidence is not obtainable for most programs.

Describing the incentive arrangements of these programs—particularly in a common framework—serves two purposes: It is a necessary first step in analyzing the behavioral responses to these incentive arrangements. And, given their continued existence, one can infer that these programs have passed some minimum test of administrative feasibility, budgetary control, and physician satisfaction. This article lays a foundation that would facilitate more complete analyses.

The next section of this article focuses on potential program design issues and problems with these Medicaid programs. The third section is a description of the two major types of programs. The fourth section is an examination of a subset of these programs in greater detail. The final section is an analysis of whether these programs cut costs.

Framework of risk arrangements

Basic risk arrangement

Under fee-for-service, a physician's income increases with the number of services provided. In contrast, when a physician is put at risk, his or her income decreases with the number of services provided.

Central to all risk arrangements under Medicaid is the primary care physician (PCP). The State may contract with individual PCPs or organizations of PCPs. In this section, the term PCP can mean either the individual physician or the group of physicians. Specialists typically do not share in any risk. The presumption is that if a PCP manages a person's health care and is at financial risk for the costs of that care, the PCP can control patients' self-referrals to specialists.

Sometimes the State contracts directly with physicians and sometimes with an organization that in turn contracts with physicians. This section does not distinguish between these two types of arrangements. In this section, the term Medicaid can mean either the Medicaid State agency or the risk-assuming intermediary.

Risk arrangements under Medicaid usually distinguish among three types of medical services[1]:

- Primary care services (defined as the services of the primary care physician plus laboratory and radiology services).
- Specialty care services (usually delivered by specialist physicians).
- Hospital services (including outpatient services but not physician services; sometimes including drugs).

Reimbursement systems typically end up with two categories because specialty care physician services are combined either with PCP services or with hospitalization.

PCPs, as individuals or groups, receive a capitation payment for primary care services. In a typical program, this payment is 95 percent of the fee-for-service cost for those services. The PCP receives 80 percent of this payment immediately; the other 20 percent is withheld. The total payment implicitly serves as the PCP's VPS. Whereas Medicare's VPS is defined in terms of growth of expenditure, the PCP's standard is in terms of level of expenditure. If this standard is met, the 20 percent withhold is returned. If it is not, the withhold is used to cover the deficit, and any remainder is returned to the PCP.

Unlike HMOs, PCPs are not capitated for hospital services. They do, however, share in any savings in hospitalization cost, which are typically split 50-50 between the PCP and the Medicaid program. To calculate savings, the Medicaid program projects what fee-for-service costs would have been for a PCP's enrollees, adjusting for actuarial characteristics such as age and sex. Capitation payments are some percentage, typically 95 percent, of these projected costs. The difference between capitation payments and actual costs constitutes the savings, which are divided between providers and the State.

Some Medicaid programs have put PCPs at risk for the primary care services they provide. Some have put PCPs at risk for specialty care physician services as well. (The maximum a physician can lose is the percentage that is initially withheld from the payment). But Federal law proscribes putting physicians at full risk for hospital services.

Risk pools

The physicians who share their surpluses and deficits constitute a risk pool. In principle, all risk pools face the problem that individual members may not behave in ways that are desirable for the group. If a group of N physicians share surpluses equally, any specific physician will reap only 1/N of any surplus that he or she creates. The ability of a risk pool to overcome this problem—called the tragedy of commons—depends on two things: the number of physicians in the pool and the degree of cohesion and organization of the pool. The more physicians in a pool, the smaller each physician's

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[1] Langwell and colleagues (1986) discuss risk arrangements within IPAs, raising many of the issues discussed here.

incentive to control costs. Alternatively, an organized risk pool may discipline its members, either formally or informally. Because of organization and proximity, pools that are also group practices or hospital staffs may be able to do so more easily than other pools.

Dealing with the incentive to underutilize

Any mechanism that gives physicians the incentive to cut unnecessary utilization also gives them the incentive to underprovide needed health services. One mechanism used by Medicaid programs to limit this danger is a cap on the surpluses that physicians can receive. Physicians have the incentive to cut some utilization, but have no further incentive to cut after a certain point. The presumption is that the first services to be cut will be either unnecessary or of marginal value, and that the cap becomes effective in time to prevent cuts that jeopardize quality. Thus, the incentive for physicians to cut services under Medicaid is limited to a specified range. Physicians' risk of loss is limited by the amount initially withheld from their payment; their chance for gain is limited by the cap on the surplus.

There are also nonfinancial mechanisms to control underutilization. Prominent among these are grievance procedures and professional review of quality of care.

Dealing with a fixed budget

Under some Medicaid physician incentive systems, the distribution of savings for hospital services is more complicated than for physician services. This complexity is introduced by the program's need to stay within its fixed budget. In some programs, PCPs share in the surpluses of hospital expenditures but not the deficits. This asymmetry puts the program at risk for at least some of the hospital expenditures, depending on the program. The program covers this risk by "taxing" the surpluses of those PCPs with surpluses, that is, reducing all surpluses by the same percentage. The "after-tax" surpluses are then split 50-50 between the PCP and the Medicaid program.

Dealing with selection bias

Selection bias occurs when some PCPs have patients with more expensive care needs than other PCPs. Any program that puts physicians at risk for their expenditures is potentially unfair unless it can control for the legitimately different amounts of care needed by different types of patients. Physicians should be paid more for groups of patients who are known to be more expensive than other groups. In principle, one would want to pay more for patients with cancer than for healthy patients, for example. But in practice, physician payments under Medicaid are adjusted for only a limited set of characteristics—typically patient's age, sex, eligibility category, and county of residence. Payments to HMOs are similarly adjusted by Medicare and by a number of Medicaid State agencies.

The Medicaid beneficiaries in these programs are usually eligible for Medicaid as recipients of Aid to Families with Dependent Children (AFDC). Thus,

pregnancy is the major risk factor affecting their costs, and a physician's cost may vary widely depending on the share of pregnancies in his or her AFDC patient caseload. Several programs protect physicians against selection bias by paying fee-for-service rates for pregnancy costs. This solution has the disadvantage of weakening cost-containment incentives.

Dealing with the small-numbers problem

Even if the capitation payment to each physician is on average fair and physicians practice cost-effective medicine, some physicians' panels with small numbers of patients will have costs that exceed the capitation payment on their behalf. This is because some variations in patient costs have not been taken into account in the payment formula and are not compensated for by the lower-than-average costs of other patients in the panel. One or two expensive patients may be enough to greatly increase the average cost of a physician's panel.

Several mechanisms exist within the Medicaid program to minimize risk for physicians because of small numbers. One mechanism used by all these programs is stop-loss insurance, which defines a threshold level of expenditures. Under this mechanism, Medicaid pays any expenditures that exceed this threshold for a given patient. This stop-loss insurance is typically mandatory, although at least one program makes it voluntary.

A second mechanism is enrollment thresholds. Pure risk to a physician can be measured as the probability that the expenditures exceed the standard by a certain percentage. As the number of patients in a physician's panel increases, this risk falls. Consider, for instance, a physician whose expected expenditure equals the capitation payment and who has 100 patients in the panel. Suppose that 10 percent of the time the expenditure exceeds the capitation payment by 8 percent. If 400 patients are in the panel, however, 10 percent of the time the expenditure exceeds the capitation payment by only 4 percent. Hence, there is less risk to the physician. To avoid putting physicians at excessive risk, several Medicaid programs have enrollment thresholds, below which physicians are not at risk for hospital services. (They are still capitated for PCP services.) In some Medicaid programs, all the physicians with panel sizes below a certain minimum are placed in a common risk pool, and the PCPs share proportionately in surpluses and deficits. This pooling solves the problem of small numbers.

Programs placing physicians at risk

The risk arrangements are incorporated into the Medicaid program under two rubrics: partial capitation and health insuring organizations (HIOs).[2] This section provides a general description of each and lists the relevant Medicaid programs. The next section describes a subset of the programs in more detail.

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[2]Congressional Research Service (1988) Appendix F provides a good overview of managed care in Medicaid and lists programs by State. See Spitz (1987) and the taxonomy of Hurley and Freund (1988). Note that Federal law proscribes capitating physicians for hospital services.

Partial capitation

Full capitation is a system under which the provider receives a monthly payment per enrollee in exchange for provision of primary care, specialty care, and hospital care. Full capitation is the essence of the HMO system, and puts the HMO at risk for all medical care expenses.

Under partial capitation, the monthly payment pertains to a more limited package of services. The package always includes the primary care physician's own services and usually outpatient lab and X-ray tests. It may or may not include primary care services during an inpatient stay and the services of specialists. It never includes other inpatient or outpatient hospital expenses.

Because full capitation covers hospital services, which are more risky than physician services, the State needs to contract with large organizations to make the full risk acceptable. (Federal law prohibits giving physicians full risk.) Partial capitation excludes hospital costs, making the risk smaller and the required risk group smaller also. Even solo practitioners may be partially capitated. The State, therefore, has more flexibility in choosing its contractors than it would if it went to full HMO capitation.

Under partial capitation, the physician or physician group serves as a gatekeeper to the health care system. Enrollees must obtain the approval of their physician before receiving nonemergency care. Thus, the physician has both the incentive and the mechanism to contain costs.

Table 1 contains the four major partial capitation programs under Medicaid (Squarrell, K.I., Hanson, S.M., and Neuschler, E., 1985).[3] Except for Oregon, these programs are small relative to the fee-for-service Medicaid programs of their States, having no more than 3 percent of the AFDC population in their States. In Oregon, where enrollment is mandatory in most urban areas, more than half of the AFDC beneficiaries are enrolled.

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[3]The National Governors' Association (NGA) lists several other partial capitation programs that were either never implemented or that contract with only one or two providers, making it impossible to generalize from their experience. No additional partial capitation programs have been implemented since the completion of the NGA list.

Health insuring organizations

Health insuring organizations (HIOs) receive a monthly capitation payment from the State Medicaid agency. HIOs in turn subcontract with physicians and other providers. Typically, the Medicaid recipient must select a physician, who acts as a gatekeeper in the same way as under partial capitation and is at risk for some but not all health care expenditures.

An HIO is more than a fiscal intermediary. Its functions may include utilization review, quality assurance, grievance review, and ensuring adequate provider participation. An HIO may be an organized health system.

Partial capitation and HIOs differ far more in principle than in practice. HIOs involve a risk-assuming intermediary, whereas partial capitation does not, but physicians typically are given the same sets of incentives under the two systems. HIOs usually incorporate partial capitation to control primary care physician services; partial capitated programs usually share hospital savings with their physicians.

Table 2 contains the characteristics of Medicaid HIOs.[4] Only one, Pennsylvania's, has a sizable proportion of a State's Medicaid clientele.

The HIO to which the State's risk is transferred can take several legal forms. In Santa Barbara and San Mateo, a quasi-governmental entity was established to perform this function. In Philadelphia, a private entity was put at risk. In Itasca County, Minnesota, the county government is the HIO.[5]

The next section describes the main features of seven Medicaid programs that give physicians incentives to control costs, particularly of physician services. I have

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[4]Squarrell, K.I., Hanson, S.M., and Neuschler E. (1985) lists HIOs in 1985. No additional HIOs have been implemented since then, when Federal law was changed to disallow new ones.

[5]Squarrell, K.I., Hanson, S.M., and Neuschler, E. (1985), Congressional Research Service (1988), and I use a stricter definition of HIO than the Health Care Financing Administration (HCFA) does. In its list of Medicaid capitation plans, HCFA uses the term "HIO" for a range of fiscal relationships too broad to be analytically useful. Texas and Indiana are classified as HIOs by HCFA but lack gatekeepers. As such, they are excluded under the NGA definition, which I follow.

Table 1

Characteristics of partial capitation programs under Medicaid, by State

State	Name of plan	Eligible population[1]	Mandatory	Service area	Start date	Enrollment	AFDC enrollment in State
California	Primary Care Case Management	AFDC SSI	No	Major urban counties	January 1984	37,000 as of July 1989	1,701,000
Michigan	Capitated Clinic Plan	All	No	Detroit and Kalamazoo	April 1983	5,000 as of July 1984	653,000
New Jersey	[2]Personal Physician Plan	All	No	Proportions of the State	July 1983	10,000 as of June 1986	343,000
Oregon	Primary Care Case Management	AFDC	Yes	Urban counties	December 1984	49,000 as of September 1988	81,000

[1]AFDC is Aid to Families with Dependent Children. SSI is Supplemental Security Income. It includes needy aged, blind, and disabled persons.
[2]Now the Garden State Health Plan.

SOURCES: (Squarrell, K.I., Hansen, S.M., and Neuschler, E., 1985); U.S. Department of Commerce: Data from the Statistical Abstract of the United States, 1988.

State	Name of plan	Eligible population	Mandatory	Service area (county)	Start date	Enrollment[1]	AFDC enrollment in State
California	Health Plan of San Mateo	All	Yes	San Mateo	December 1987	28,000	1,701,000
California	Monterey County Health Initiative	All	Yes	Monterey	June 1983	Terminated	1,701,000
California	Santa Barbara Health Initiative	All	Yes	Santa Barbara	September 1983	25,000	1,701,000
Kentucky	Citicare	AFDC	Yes	Jefferson (Louisville)	June 1983	Terminated	161,000
Pennsylvania	HealthPASS	All	Yes	South and west Philadelphia	March 1986	87,000	567,000
Minnesota	Itasca Medical Care	AFDC SSI	Yes	Itasca	July 1985	3,000	653,000
Tennessee	[2]Primary Care Network	AFDC	No	Shelby, Monroe, Davidson	May 1985	10,000	177,000
Washington	Kitsap Physicians Service	AFDC	Yes	Kitsap and Mason	February 1986	8,000	210,000

[1] As of July 1989 (except for Minnesota and Tennessee).
[2] As of May 1988, Tennessee became a State-qualified health maintenance organization.

NOTES: AFDC is Aid to Families with Dependent Children. SSI is Supplemental Security Income.

SOURCES: Health Care Financing Administration, Office of Prepaid Health Care; (Squarrell, K.I., Hanson, S.M., and Neuschler, E., 1985); (Aved 1987.)

excluded five programs from those listed in Tables 1 and 2. The programs in Michigan, New Jersey, and Tennessee were excluded because enrollment is voluntary. My interest is in incentives to control costs, and it is difficult to evaluate voluntary programs' cost containment because of selection bias. In addition, Itasca, Minnesota, is excluded because it is too small for its experience to serve as a guide to others. Citicare, Kentucky, is excluded because of lack of information. California is included even though it is voluntary, because it is large and has grown rapidly.

Specific programs

The risk arrangements of the seven programs I have chosen are summarized in Table 3. The commentary here captures the distinguishing features.[6]

Oregon primary care case management

One of the two partial capitation programs discussed here, the Oregon Medicaid program, contracts with physician care organizations (PCOs). Enrollment is mandatory for all AFDC beneficiaries. The program started in 1985 with enrollment in the Portland area and has been extended to all urban counties except one. In June 1989, the State requested a waiver to extend the program to all categorically eligible beneficiaries in the State, suggesting both a serious desire to contain costs and satisfaction with the experience of partial capitation.

PCOs receive a capitation payment to cover all physician, laboratory, and radiology services. The State

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[6]Welch (1989) provides a detailed discussion outlined in his appendix.

pays PCOs without a withhold, and PCOs pay specialists directly. The PCO retains any surplus and is at risk for any deficit. Originally, because PCOs were afraid that specialists would charge them more than the Medicaid rate, the State paid specialists and billed PCOs. After a year, PCOs found they could negotiate rates, usually the Medicaid rate, with specialists. To lessen paperwork for the State, and to make the physicians more accountable to the PCOs, PCOs now pay directly.

PCOs are also responsible for managing hospital services, both inpatient and outpatient, and drugs. Savings representing the difference between fee-for-service (FFS)-equivalent costs and actual costs for these services are split 50-50 between the PCO and the Medicaid program. PCOs are not at risk for deficits, which have not been a serious problem. Starting in 1989, the savings accruing to a PCO are capped at $3.25 per enrollee month, or 10 percent of hospital and drug costs in 1988.

Fifteen PCOs and one HMO participate in the program. (The HMO is fully capitated.) PCOs are groups of physicians, the smallest having four primary care physicians. Table 4 contains the providers: five are clinics and seven are groups of physicians that do not practice in one location, designated as IPAs by the program. The remaining four providers are two hospitals, the Multnomah County Health Department, and an HMO.

The PCOs have an average of 45 primary care physicians, which is a sizable risk pool. Some PCOs intensify the cost-control incentive by transferring some of this risk to smaller groups of physicians within the organization. Little is known about these arrangements and their effectiveness.

For physicians who continue to see fee-for-service patients, the proportion of their patients that are capitated

Table 3
Selected Medicaid programs, by risk arrangements

Risk arrangements	Oregon	California	Santa Barbara	San Mateo	Philadelphia	Kitsap, Washington	Monterey
Primary care physician services							
Capitated	Yes	Yes	Yes	Yes	Yes	Yes	No
Withhold percentage	0	0	20	20	50	15	NA
Specialty care physician services							
Included with	Physician	Physician	Hospital	[1]Hospital	Physician	Hospital	Both
Specialists share risk	Some do	No	No	No	No	Yes	No
Hospital and other services							
Physicians per risk pool	45	Often 1	Often 1	58	Often 1	11	160
At risk for drugs	Yes	[2]No	Yes	Yes	No	No	—
Percent of surplus retained by risk pool	50	50	50	[1]50/25	50	100	100
Retained only if aggregate surplus	No	No	No	No	Yes	No	Yes
Risk pool at risk for deficit	No	Next year	Withhold	Withhold	No	Withhold	No
Cap on retained surplus as percent of FFS-equivalent costs	10	None	None	None	None	None	None
Other characteristics							
Risk adjusters[3]	E,C	A,S,E,C	A,S,E	A,S,E	A,S,E	A,S	A,S,E
At risk for pregnancy costs	Yes	Optional	No	Yes	Yes	No	Yes
Stop-loss insurance	Optional	Optional	Yes	Yes	Yes	Yes	Yes
Enrollment thresholds before at risk	Optional	Pool	Pool	No	Yes	Pool	Yes
Months to submit physician bills	NA	NA	3	3	6	12	—
Months to receive surplus interim: final payments	None:6	None:6	3:9	5:12	None:4	2:6	—

[1]Primary care physicians receive 50 percent of savings in specialty care and 25 percent of savings in hospital care.
[2]Option of including drugs with physician services.
[3]Risk adjusters: A is age, S is sex, E is eligibility category, and C is county.
NOTES: Arrangements as of 1988 (except for Monterey). NA is not applicable. FFS is fee-for-service.
SOURCE: Welch, W.P.: The Urban Institute, Washington, D.C., 1989.

is likely to indicate the importance of capitation to the practice. Although this proportion cannot be measured directly, it can be estimated, given that the United States has 950 persons per PCP. In Table 4, it is shown that PCOs have 49 enrollees per PCP, suggesting that partial capitation constitutes about 5 percent of the physician's patients.

Estimating FFS-equivalent costs to determine savings is increasingly a problem here, because there are few AFDC beneficiaries in urban counties that remain in the fee-for-service sector. An alternative method of setting the standard level of expenditure—against which savings will be calculated—must be devised.

Savings for physician services cannot be calculated, because no physician bills are submitted to the State, which simply makes a capitation payment. Anecdotal evidence suggests that most PCOs have a surplus from their capitation for physician services, allowing PCO physicians to receive the equivalent of 65 to 85 percent of the usual and customary fees. Fee-for-service Medicaid physicians, in contrast, are paid only 45 to 50 percent of the usual and customary fees.

Savings on hospital and drug costs can be calculated with either 1987 or 1988 data; the major difference is that the FFS-equivalent cost increased 30 percent between the 2 years. Because of this unusual jump, it is appropriate to use 1987 figures as a conservative approach. In the Portland area (where 80 percent of the enrollment was), savings were $7.34 or 30 percent of the cost of hospital services and drugs. The program appears to be successful in containing costs.

California primary care case management

As noted, the California Primary Care Management Medicaid program has voluntary enrollment. It differs from the Oregon program in its providers but not in its incentive arrangements. The California program may contract with solo practitioners as well as group practices or clinics, whereas Oregon contracts only with organizations of physicians. In California, physicians have the option of being at risk for lab tests, X-rays, and drugs.

As in Oregon, a capitation payment in California covers all physician services and there is no withhold. Contractors retain one-half of hospital surpluses, regardless of the performance of other contractors. There is, however, no cap on retained savings in the California program.

Stop-loss insurance is optional in California. Given that solo practitioners can be placed at risk, this is surprising. The risk is mitigated, however, in that all contractors below a minimum enrollment threshold are placed in a common risk pool.

Contractors have received one-half of a sizable surplus, estimated at 41 percent of hospital costs. This estimate must be interpreted with caution, however. Savings estimates are more suspect for voluntary enrollment programs, because the resulting population may be of lower-than-average risk. Persons who need extensive medical care may prefer fee-for-service medicine, and providers would not want to be capitated for them.

Table 4

Oregon primary care case management program: Type, number of primary care physicians, and enrollment, by providers

Provider name	Type[1]	Number of primary care physicians	Enrollment	Enrollment/ primary care physician
All providers		999	49,405	49
Multnomah, Washington, Clackamas, and Yamhill Counties (Portland MSA)				
Emanuel Hospital	Hospital	43	4,262	99
Evergreen Medical Systems	IPA	11	1,293	118
Family Care, Inc.	IPA	18	1,279	71
Family Medical Center	Clinic	7	482	69
Kaiser Permanente	[2]HMO	193	8,160	42
Multicare	Health department	42	3,871	92
Oregon Health Sciences University (OHSU)	Hospital	46	2,630	57
Pacific Physicians Association: Health Plus Plan	IPA	20	1,418	71
Physicians Association of Clackamas County	[2]IPA	280	2,237	8
Ventura Park Medical Clinic	Clinic	5	1,162	232
Virginia Garcia Memorial Health Center	Clinic	4	171	43
Marion and Polk Counties (Salem MSA)				
Capitol Health Care	[2]IPA	99	5,677	57
Family Care, Inc.	IPA	16	346	22
Family Health Net	IPA	12	644	54
Kaiser Permanente	[2]HMO	19	1,451	76
Lane County (Eugene MSA)				
Eugene Clinic	[2]Clinic	21	1,967	94
Lane PCO	IPA	77	8,043	104
Linn and Benton Counties (Rural)				
Capitol Health Care	[2]IPA	62	3,698	60
Corvallis Clinic	Clinic	24	614	26

[1]The provider type is as designed by the program.
[2]Health maintenance organizations according to InterStudy (1988).

NOTES: Enrollment is as of October 1988. MSAs are metropolitan statistical areas designated by the Bureau of the Census. PCP is primary care physician. IPA is individual practice association. PCO is physician care organization.

SOURCE: Oregon Medicaid Management Information System, Department of Human Resources.

Santa Barbara Health Initiative

The risk arrangement of the Santa Barbara Health Initiative is typical of Medicaid HIOs. Like all HIOs (except Monterey), this program includes partial capitation. PCPs are capitated for PCP services with a 20-percent withhold. Specialty care physician services are included with hospital services. Savings for specialty and hospital services are split 50-50 between the PCP and the HIO.

The three largest case managers are county health department clinics, but most contractors are individual physicians or small groups of physicians. The program provides stop-loss insurance and places all physicians below a minimum enrollment threshold into a common risk pool.

The HIO has several nonfiscal activities: utilization review, quality assurance including medical chart audits, grievance process, and ensuring adequate participation by providers. The HIO serves as an organized health system.

When the HIO was established in 1983, emergency room use fell sharply relative to FFS, and primary care and specialty care physician visits both fell (Freund et al., 1988). More recently, some physicians have controlled utilization sufficiently to yield a surplus, but most have not. By fiscal year 1988, with tighter controls in statewide fee-for-service Medicaid, the Santa Barbara Health Initiative had a deficit of 2.5 percent of its budget.

The program's payment is 98.7 percent of projected fee-for-service costs in similar counties. In fiscal year 1988, this payment was 97.4 percent of actual costs. Given its deficit and its budget relative to FFS, the program does not appear to be cutting costs.

Health Plan of San Mateo

The San Mateo program, the newest program discussed, is based on the Santa Barbara program. It too capitates PCPs for their services and uses a 20-percent withhold. PCPs are at risk for speciality care and share risk with hospitals for hospital care.

Surpluses and deficits, however, are shared quite differently in the two programs. San Mateo has created physician risk pools by hospital. Each physician chooses the hospital risk pool he or she will belong to. To determine surpluses and deficits, the specialty and hospital costs of all physicians affiliated with a hospital are summed. If there is a deficit within the risk pool, each PCP's withhold is reduced proportionately until the deficit is covered, regardless of which PCP's accounts are in deficit or surplus. This is designed to protect physicians against the small-numbers problem. PCPs are not at risk beyond the withhold.

If there is a surplus, each PCP receives his or her withhold in full, regardless of whether the PCP's account is in surplus. PCPs with deficits receive no additional

Hospital	Enrollment	Primary care physicians	Enrollment/ primary care physician
Total	27,567	290	537
Chope	2,977	12	248
Mills	3,250	79	41
Sequoia	1,677	25	67
Seton	7,635	142	54
Stanford	4,066	32	127
Special	7,962	—	—

SOURCE: Health Plan of San Mateo.

savings. PCPs with surpluses share 50 percent of the referral and other subaccounts and 25 percent of the hospital subaccount. These surpluses are divided among PCPs according to their contribution to the total surplus.

In this program, unlike any other program, hospitals are at risk. Hospitals are paid on a per diem basis with a 20-percent withhold. Any deficit in the physician-hospital pool account is covered first by the physicians' withhold; if any deficit remains, it is covered by the hospital withhold. Any surplus is split 50-25-25 between the hospital, its physicians, and the HIO. The five hospitals and their enrollment are described in Table 5.

The first year of operation ended in November 1988. Physicians in all hospital pools (called regions) received at least 75 percent of their withhold back. In two hospital pools, they received the entire withhold, and in one they received a bonus. Overall, physicians are receiving their withhold. Anecdotal evidence suggests PCPs are more satisfied than with conventional Medicaid.

Three hospitals received most of their withhold back, and the other two received surpluses. The five hospitals received the following percentages of their per diem: 96, 99, 97, 104, and 119. (Per diems are the same for all hospitals.) When these figures are weighted by enrollment, the hospitals received 100 percent of their per diem on average.

Philadelphia HealthPASS Program

HealthPASS capitates primary care physicians or groups of physicians for all physician services. (I describe HealthPASS as administered by Penn Health until June 1989, when it was replaced; the program continues.) Because the program pays specialists on behalf of the physician, 50 percent of the capitation payment is withheld. Any surpluses in this account are returned at the end of the year to the PCP.

There are an average two PCPs per risk pool. The HIO has a variety of contracting arrangements. Some contracts are with group practices, some with hospital outpatient departments; but many are solo practitioners. The program provides both stop-loss insurance and enrollment thresholds.

Savings of hospital costs are split 50-50 between the physician and the HIO, but no physician receives hospital savings unless there are savings for physicians as a group. There have been no such savings to date. Some physicians, however, have received surpluses in the half of capitation that is withheld to cover specialty care.

Aggregating all physicians' surpluses and deficits, there is a surplus equal to 9 percent of the specialty care budget.

The State and the HIO share risk. If the HIO's costs are less than 92 percent of FFS-equivalent costs, the State pays the HIO 92 percent. The State's payment increases with the HIO's costs but will not exceed 99.9 percent of FFS-equivalent costs. In 1988, the State paid 92 percent.

Kitsap, Washington HIO

The Kitsap HIO is the only program reviewed here in which specialists share in the savings or deficits. PCPs are capitated for their services with a 15-percent withhold. Specialists are paid on a fee-for-service basis, also subject to the 15-percent withhold.

Physicians are formed into risk pools called pools of doctors (PODs). The program has five PODs, averaging 11 PCPs per risk pool, built around the physicians in the same clinic. The costs of specialty and hospital care are summed for each POD. If there is a surplus, 62.5 percent is allocated to the PCPs according to their capitation payments; 37.5 percent is allocated to specialists and is distributed according to their charges. Physicians have retained savings averaging 15 percent of total costs.

Kitsap distributes about one-half of its surplus 2 months after the end of the fiscal year and the full surplus 6 months after the end of the fiscal year. It allows, however, physicians to submit bills within a year of date of service. (Philadelphia also has this anomaly.) That bills may arrive after the final distribution has not created a problem, because Kitsap has successfully estimated the incurred-but-not-received liabilities.

Monterey County Health Initiative

Terminated in 1984, the Monterey program provides a contrast with more successful programs (Aved, 1987). Unlike the other six programs, there was no primary care capitation. Rather, covered expenditures—all physician services and hospitalization—were treated together. In principle, each physician was a separate risk pool and would receive 100 percent of any savings in health care costs. However, each physician's deficits would be financed by the surpluses of other physicians. Thus, no physician would receive any surplus until the 160 participating physicians had a surplus in the aggregate, which was never the case.

The program had a range of problems, major ones being a management information system that was not implemented promptly and no centralized utilization review. In addition, the risk arrangement was poorly designed. The fees were increased slightly from fee-for-service Medicaid, there was no withhold, and the PCP was not even at risk for his or her own services. Thus, there was nothing to jolt physicians out of a business-as-usual attitude. The program declared bankruptcy 20 months after its creation.

Savings

The most basic question of this article is whether these programs that put physicians at risk saved any money. (Needless to say, the issues of access and quality of care

Table 6

Medicaid expenditure per Aid to Families with Dependent Children recipient, by State

Area	Expenditure per recipient[1]	Hospital wage[2]	Expenditure/wage	Percent of U.S. total
State				
California	$527	1.258	$419	70.0
New York	802	1.149	698	116.7
Oregon	441	1.074	411	68.6
Pennsylvania	500	1.012	494	82.6
Washington	659	1.047	629	105.2
United States	598	1.000	598	100.0

[1]Expenditure per Aid to Families with Dependent Children recipient in 1987 for a standard set of services: hospital (inpatient and outpatient), physician, X-ray, and lab (Chang, D., and Holahan, J., 1987).
[2]The hospital wage for a State is the average of the HCFA hospital wage of metropolitan statistical areas and rural areas, weighted by area population. This average has been normalized.

SOURCE: (Chang, D., and Holahan, J., 1987.)

are important but beyond the scope of this article.) Of the seven programs reviewed, two are not helpful in answering this question. Monterey's risk arrangement was poorly designed and did not survive. California's case management program has voluntary enrollment; the potential for biased selection makes its savings estimates questionable.[7]

These programs must calculate savings either to meet Federal waiver requirements or for budgetary purposes. Savings are typically measured relative to the Medicaid FSS costs for the same bundle of services. Costs are adjusted for beneficiary characteristics such as age, sex, eligibility category, and county. Almost all studies of savings in HMOs are vitiated by potential selection bias, which is not an issue here because enrollment is mandatory. Rather, the key methodological problem is finding a comparable fee-for-service control group, perhaps the beneficiaries in another county. This problem is more tractable than correcting for selection bias.

The greater a State's Medicaid fee-for-service cost, the greater the presumed opportunity to save money. Therefore, prior to analyzing savings by program, I consider the FFS expenditure level by State. The expenditure per AFDC recipient for the four States considered in this article plus one high-cost State, New York, is shown in Table 6.[8] These expenditures are for a standardized set of services. Because expenditures are a function of input prices, these expenditure figures are deflated by the wage index used by HCFA to pay hospitals. This wage index is highly correlated with the geographic physician cost-of-practice index recently developed by HCFA (Welch, Zuckerman, and Pope, 1989). Then each State's expenditure is divided by the U.S. mean. The result is that California and Oregon

spend one-third less than the national mean per AFDC recipient, Pennsylvania spends below average, and Washington spends about average. New York, by way of contrast, spends 17 percent more than average, even after controlling for high input prices.

The savings experience of these programs is summarized in Table 7. Savings can be manifested in two ways: as the difference between FFS-equivalent costs and the State's payment to the program (guaranteed savings), or as savings based on the performance of the program. One-half of the performance-based savings is usually retained by physicians, presumably making Medicaid more attractive and increasing access.

The five programs with usable experience had savings as follows:

- Oregon is clearly successful in cutting costs. In 1987, it saved 30 percent of hospital and drug costs (pregnancy costs were excluded); at least one-half of these savings accrued to Medicaid. In addition, anecdotal reports suggest that physicians are retaining savings in physician services, which include specialty services.

- The Santa Barbara experience is less clear. Some PCPs have savings in their hospital accounts but many do not, resulting in a deficit of 2.5 percent. Based on an ex-post comparison with fee-for-service Medicaid, the program is saving the State 2.6 percent. In total, the program does not appear to be cutting costs. California's expenditure per AFDC recipient is 30 percent less than the national average (as is Oregon's). Santa Barbara cannot be considered unsuccessful. The State Department of Health supports this program in the belief that it increases continuity of care and access.

- San Mateo's experience in 1988 (its first year) is better than Santa Barbara's. Out of five hospitals, three had a slight deficit and two had a surplus; as a group, they broke even. Some physicians had surpluses and some, deficits; as a group they appear to have broken even. Overall, San Mateo is living within its budget, which is 97.5 percent of a stringent fee-for-service Medicaid program.

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[7]California has several problems: Enrollment is voluntary, it potentially has biased selection, making estimation of savings difficult. Individual physicians may be at risk for all physician services. The incentive to underutilize may be excessive (Physician Payment Review Commission, 1989). Door-to-door enrollment is the primary market tool. In the Medi-Cal HMO scandals in the early 1970s, door-to-door enrollment was used by HMOs to select healthy enrollees.

[8]Because capitation involves payment per eligible (whether or not the eligible receives any services), figures on expenditures per eligible would be preferable. But HCFA lacks consistent counts of enrollee months by State, such that comparative data is in terms of expenditure per recipient.

Table 7

Savings experience of selected Medicaid programs

Type of savings	Oregon	California	Santa Barbara	San Mateo	Philadelphia	Kitsap, Washington	Monterey
Performance-based savings[1] Hospital and other savings as percentage of hospital and other cost	30	41	[2]−2.5	0	0	[2]5	[2]<0
Physician savings as percentage of physician cost	—	—	[2]−2.5	0	[3]9	[2]5	[2]<0
Data pertain to the fiscal year ending in	September 1987	December 1987	August 1988	November 1988	February 1989	January 1989	June 1984
Percent of guaranteed savings accruing to Medicaid[4]	0	5	2.6	2.5	8	7	5

[1]These savings may accrue to physicians as bonuses or to Medicaid.
[2]Savings on hospital and physician services cannot be separated.
[3]Pertains to speciality care only.
[4]This is the difference between fee-for-service (FFS)-equivalent costs and payment, as a percent of FFS. In the case of Santa Barbara and Kitsap (fiscal year 1985), this represents an ex-post analysis of cost.

SOURCE: Welch, W.P.: The Urban Institute, Washington, D.C., 1989.

• In the Philadelphia program, no hospital savings are being returned to physicians. But physician specialty care is 9 percent below budget; these savings accrue to physicians. The State paid HealthPASS 92 percent of fee-for-service costs.

• Finally, the Kitsap, Washington program has generated savings of 5 percent of total cost. Washington has FFS Medicaid expenditure per recipient that is average.

Except for Santa Barbara, these programs are producing savings. In some cases, the savings show up in Medicaid's payment to the program; in other cases, the savings depend on the performance of the program. In sum, these programs suggest that putting physicians at risk can help contain health care costs.

Acknowledgments

References

Aved, M.: The Monterey County Health Initiative: A post-mortem analysis of a California Medicaid demonstration project. *Medical Care* 25(1):35-45, Jan. 1987.

Congressional Research Service: *Medicaid Source Book: Background Data and Analysis*. Pub. No. 89-381. Appendix F. Washington. U.S. Government Printing Office, 1988.

Eisenberg, J.M.: *Doctor's Decisions and the Cost of Medical Care*. Ann Arbor, Mich. Health Administration Press. 1986.

Freund, D.A., Rossiter, L.F., Fox, P.D. et al.: *Nationwide Evaluation of Medicaid Competition Demonstrations, Volume I*. Prepared for the Health Care Financing Administration. Washington, D.C. Research Triangle Institute. May 1988.

Hillman, A.L.: Financial incentives for physicians in HMOs: Is there a conflict of interest? *New England Journal of Medicine* 317(27):1743-1748, Dec. 31, 1987.

Hurley, R.E., and Freund, D.A.: A typology of Medicaid managed care. *Medical Care* 26(8):764-774, Aug. 1988.

Chang, D., and Holahan, J.: Medicaid Spending in the 1980's. Working Paper 3836-01. The Urban Institute. Washington, D.C. July 1989.

Kosterlitz, J.: Oregon wants a little Medicaid slack. *National Journal* 21(45):2766-2767, Nov. 11, 1989.

Langwell, K., Nelson, L., and Nelson, S.: Direct Physician Capitation under the Medicare Program: Evidence and Feasibility. Paper presented at Medicare Research Conference, University of Pennsylvania, Philadelphia. Oct. 8-10, 1986.

Physician Payment Review Commission: *Annual Report to Congress*. Washington, D.C. 1989.

Squarrell, K.I., Hansen, S.M., and Neuschler, E.: *Prepaid and Managed Care Under Medicaid: Characteristics of Current Initiatives*. Washington, D.C. National Governors' Association, Center for Policy Research, Oct. 1985.

Spitz, B.: National survey of Medicaid case management. *Health Affairs* 6(1):61-70, Spring 1987.

United Kingdom Department of Health: *Working for Patients*. Command No. CM555. London. Her Majesty's Stationery Office, 1989.

Verhovek, S.H.: Cuomo urges new health-care plan for children. *New York Times*. Metropolitan News: B5. New York, N.Y. Jan. 4, 1990.

Weiner, J.P., and Ferriss, D.M.: GP Budget Holding in the UK: Lessons from America. Report No. 7. King's Fund Institute. London, England. 1990.

Welch, W.P., Hillman, A.L., and Pauly, M.V.: Toward New Typologies for HMOs. *Milbank Quarterly* 68(2):221-243, 1990.

Welch, W.P.: *Giving Physicians Incentives to Contain Costs Under Medicare: Lessons from Medicaid*. Contract No. 3872-01. Prepared for the Health Care Financing Administration. The Urban Institute, Washington, D.C. Aug. 1989.

Welch, W.P., Zuckerman, S., and Pope, G.: The Geographic Medicare Economic Index: Alternative Approaches. Working Paper 3839-01-01. The Urban Institute, Washington, D.C. June 1989.