An analysis of structural incentives in the Arizona Health Care Cost-Containment System

by Ronald J. Vogel

This article analyzes the financial structures of the prevailing public and private health insurance mechanisms. Based on this analysis, it was concluded that the financial structures of health insurance mechanisms are deficient in that they neither produce efficiency in the consumption of health services, nor generate efficiency in the production of health services. On the other hand, closed-end systems of finance, such as the health maintenance organization (HMO) or the new Arizona Health Care Cost-Containment System (AHCCCS), give more promise of achieving such efficiencies. The AHCCCS represents an important innovation in the public financing of health care, and, for policy purposes, should be considered a viable national alternative for the reform of Medicare and Medicaid.

Introduction

Cost containment within the health care sector has increasingly been seen as a dominating public policy goal (Feder, et al., 1982). Government statistics on national health expenditures indicate that, for the first time, they exceeded 10 percent (10.5 percent) of the gross national product (GNP) at the end of 1982 (Office of the Secretary, 1983). This in itself would be no cause for concern, but research findings indicate that 1) for a given level of health outcome, the Nation is not using the most economically efficient combination of inputs (Fuchs, 1974; 1979); and 2) present means of public and private financing of health care give powerful economic incentives for such an inefficient combination of inputs (Feldstein, 1970, 1971a, 1971b; Mitchell and Vogel, 1973; Feldstein and Allison, 1974; Pauly, 1974; Mitchell and Vogel, 1975; Feldstein and Friedman, 1977; Pauly, 1980a; Vogel, 1980; Greenspan and Vogel, 1980). It has been observed that, "The practice of reimbursing, if not rewarding inefficiency, is deeply entrenced in the health care system . . . . It is embodied both in government policy and in private sector behavior" (Meyer, 1981). As a consequence of this inefficiency, health care costs are higher than they would be under financing mechanisms that forced efficiencies.

Economic efficiency in consumption is defined as the consumption of a good (say, medical care) to a point where the last (marginal) dollar spent on it yields the same marginal utility as the last (marginal) dollar spent on a composite good. Economists express this condition as $MU_A/P_A = MU_B/P_B = \lambda$, where the MU of A and B would be the marginal utility of medical care and a composite good respectively; the P would be the respective prices of A and B, and λ is marginal utility per dollar. In a health insurance context, this definition implies that the higher the deductibles and coinsurance, the greater the chance of efficiency in consumption because the consumer faces an approximation of the true market price of medical care; similarly, the consumer must face the true market price of other intermediate and final goods that are consumed.

Economic efficiency in production is defined as the least cost combination of inputs to society to produce a given level of health stock. In the present context, this definition would imply, for example, that the physician take into account and be responsible for all of the costs of all of the inputs that are used in the treatment process. That is to say that the physician cannot act as if hospital inputs were free. Just as the producer of industrial goods must take into account the market costs of the capital, raw materials, and the labor used, so the physician must take into account the market value of the tests, beds, drugs, and allied health personnel that are used in the production of a given level of health stock (Rapoport et al., 1982; Grossman, 1972).

Greater efficiency in consumption may be obtained by removing tax subsidies and increasing deductibles and coinsurance. But as long as the burden of risk rests on the consumer and the third-party insurer and the payment system remains retrospective and cost based, efficiency in production will not be achieved. Prepaid, capitated systems of health insurance, such as the health maintenance organization (HMO), shift the primary locus of risk to the provider of health services.

This article shows that the new Arizona Health Care Cost-Containment System (AHCCCS, pronounced, "Access") is conceptually superior to the publicly financed Medicare and Medicaid health insurance programs. The AHCCCS achieves efficiency in the consumption and production of health services because it incorporates the same incentives as the HMO. A prepaid, capitated, publicly financed system, the AHCCCS relies on provider bidding for the delivery of health care to the indigent. As such, it puts the provider at risk, and relies on competitive bidding to create a market for health care. The AHCCCS represents an important innovation in the public financing of health care, and should be considered a viable alternative to Medicare and Medicaid, as they presently exist.

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Incentives embedded in prepaid, capitated systems

Prepaid, capitated insurance mechanisms are seen as one means of restoring the economic efficiency in production that traditional insurance tends to subvert. At issue here is the *locus* of risk bearing. Under traditional health financing arrangements, the insurer itself bears almost all of the financial risk, and the insured bears risk only to the extent that there are deductibles and coinsurance; the provider bears no financial risk whatsoever, except for malpractice, and that risk can be transferred to another insurer. Moreover, full payment for medical treatment is made after the treatment has been provided and payment is usually made on an average cost basis. As a consequence of this risk and payment arrangement, the provider can use all of the inputs for the production of medical treatment as though they were costless to the provider if the patient is fully, or almost fully insured, as is the case with hospitals. This situation has lead Pauly (1980b) to characterize the hospital as a "free" workshop for the physician. Such systems of finance and provision are termed "open-end." High physician incomes are not an issue either; as has been noted by Fuchs (1974), a 20-percent reduction in all physician incomes would create only a 3-percent saving in total health care costs. However, in Fuchs' words, as the "captain of the team," the physician is responsible for many more incomes (and hence health expenditures) than his or her own.

The essential characteristic of prepaid, capitated systems of health care finance is that risk bearing is shifted, partially from the consumer and totally from the third-party insurer, to the provider. The risk that the consumer faces is a function of the level of deductibles and coinsurance or copayment that he/she must bear. In fact, the need for the third-party insurer ceases, except for malpractice insurance. Consequently, prepaid, capitated payment is a mechanism for the internalization of economic incentives. In effect, it forces the provider to operate within a budget constraint that is known beforehand. Accordingly, the provider must explicitly take into account the cost of each and every input in the production of treatment. This is known as a closed-end system of finance. Once the physician-agent is almost totally at risk for these costs, or is a salaried employee of an organization that is almost totally at risk, the incentive for economically efficient production is achieved. The closed-end HMO is the extant manifestation of this internalization of incentives.

Statistics on HMO performance in cost saving are impressive. In his comprehensive study, Luft (1981) found that HMO's were associated with 10 to 40 percent lower total health care costs than suitable comparison groups with traditional forms of health insurance coverage, primarily because HMO's had 20 to 40 percent fewer hospital admissions. Lower hospital admissions seem to be the most important determinant of cost savings: Even with fee-for-service, the RAND health insurance study has found that higher deductibles and coinsurance lead to lower use rates for both ambulatory care and hospital admissions. However, once patients are admitted into a hospital, expenditures per patient do not differ significantly between those with high and those with low deductibles and coinsurance (Newhouse et al., 1981).

Health maintenance organizations used 30 percent fewer hospital days per year. However, Luft could find no evidence that per capita health care costs are lower in geographic areas with high HMO market penetration. Although more research on this result is needed, one possible explanation may be the following. Even though physicians and hospitals charge lower rates to HMO members, they make up the shortfall in total revenues by charging non-HMO patients more; that is, they price according to elasticities of demand. Certainly, in the past, Blue Cross-Blue Shield and the commercial insurers have complained about this kind of "cost-shifting" when Medicare tightened its reimbursement policies. It could be that this same phenomenon has also occurred with HMO's. It may be that, in market areas such as Los Angeles with high HMO penetration, all HMO slack costs are being shifted to Medicare, Medi-Cal and Blue Cross-Blue Shield insurers. This is an empirical question. Clearly, to the extent that the demand of all insurers, including HMO's or AHCCCS, Medicare, Blue Cross-Blue Shield, and the commercials, becomes more price inelastic, there will be less latitude for such "cost-shifting."

Synthesizing other research, Chassin (1978) found that the most important explanatory factors for such performance were the 1) financial incentives not to hospitalize, 2) breadth of outpatient services available to HMO enrollees, 3) strong peer review procedures in determining the appropriateness of decisions to hospitalize, and 4) restrictions on the bed supply available to physicians. The salient point that this research reveals is that the production of health care in HMO's is a *managed* process. The motivation for careful management derives from the prepayment aspect, by which economic incentives are internalized, and the physician becomes a managed input. A decision-making manager decides whether to hire, say, a surgeon, makes rules about which institutions may be used, and controls decisions over capital. In other words, the physician's *choice set* is different in an HMO than it is in a fee-for-service insured practice because his or her environment is controlled. There is also the incentive to under-produce, but competition from other providers presumably countermands such tendencies, at least in the long run.[1]

Over time, the evidence indicates that private insurance mechanisms have slowly moved in the direction of closed-end systems (Luft, 1981; Cambridge

[1]This potential problem of service underproduction will be more fully discussed later in this article, where quality mechanisms in the AHCCCS are examined.

Research Institute, 1976).[2] With the exception of the State of Arizona, publicly financed health insurance schemes have continued to rely on open-end systems. This is a curious phenomenon because public-sector health-care expenditures have accelerated at a more rapid rate than those in the private sector (Cambridge Research Institute, 1976; Gibson and Waldo, 1982).[3]

A new model for public financing of health care

In 1974, Arizona enacted legislation that would have enabled it to become the 50th and last State to participate in the Medicaid program. However, at the last moment, the legislature also refused to appropriate any funds for implementation of the new law. Cost considerations were paramount in that decision. Yet the same financial problems in financing health care for the indigent that the State and counties had confronted in 1974 continued to grow worse during the rest of the 1970's. By 1980, the open-end Medicaid program, even with Federal financial participation, did not appear to be an acceptable substitute for the existing Arizona State-county system of health financing for the indigent. Cost considerations, both in the present and for the future, plus the desire for greater Statewide equity and uniformity, gave the basic impetus to the AHCCCS. In effect, the AHCCCS is the only existing closed-end version of Medicaid, although it does not currently cover long-term care, as does Medicaid. Long-term care continues to be the financial responsibility of the 14 counties.

The AHCCCS is a joint Federal-State-county funded demonstration project as an alternative to the acute-care portion of Medicaid. Present projections indicate that about $33.5 million in Federal funds, $37.0 million in State funds, and $50.0 million in county funds were spent on the project during the first year, 1982. Federal funding for the second and third years is expected to amount to $77.8 and $80.5 million. The Federal share will ultimately be determined on a capitated basis. Arizona Senate Bill 1001 provides all of the details of the AHCCCS (State of Arizona, Department of Health Services, 1982). In this article, the primary interest is in the financial structure of the AHCCCS.

The basic financial structure of the AHCCCS is similar to that of a foundation-type HMO. Although the Arizona State Department of Health Services is principally responsible for the AHCCCS, the day-to-day administration of it is conducted by a private contract administrator, selected on the basis of competitive bidding. The request for proposal (RFP) for the contract administrator was issued on March 1, 1982, and that contract was awarded to the MCAUTO Systems Group, Inc. (a subsidiary of McDonnell-Douglas Corporation) on May 26, 1982. During the summer of 1982, the Arizona Department of Health Services published a list of the benefits for the indigent covered under the AHCCCS, and the Arizona Department of Health Services and the MCAUTO Group jointly issued an RFP on July 2 for bidders for the provision of these medical services. The deadline for the submission of bids was August 6, and the program went into effect on October 1, 1982.

The wording of the legislation placed few limits on the type of bidder that could participate in the program, allowing "group disability insurers, hospital and medical service corporations, health care services organizations, and any other appropriate public or private persons, including county-owned and operated facilities" (State of Arizona, Department of Health Services, 1982). However, the key actor for any participating provider is the "gatekeeper," that is, the primary care physician, because no payment can be made unless a patient first sees this physician. A primary care physician is defined as a medical doctor (MD) or doctor of osteopathy (DO) who is a family practitioner, pediatrician, obstetrician-gynecologist, or general internist. Thus, for example, a person eligible for the AHCCCS cannot visit a urologist without first having been referred by a primary care physician. The basic service categories specified in the RFP were the following: 1) inpatient hospital services, 2) outpatient services, including emergency dental care, 3) pharmacy services, and 4) laboratory, X-ray, and related diagnostic medical services and appliances. Providers were invited to bid on a prepaid, capitated basis on any combination of these service categories. For each of the above service categories, providers were instructed to submit a separate bid for six different groups of beneficiaries, together with a statement about the total number of beneficiaries that the providers would accommodate in each county (see Table 1 for a listing of the beneficiary groups). Providers were also instructed that preference would be given to full-service bidders and that bidding would be on an annual basis. One of the important ground rules of the AHCCCS was that providers who submitted a successful bid could not reinsure more than 5 percent of the risk that they had assumed. This rule effectively closed a loophole in the cost-containment incentives inherent in the competitive bidding and in the prepaid, capitated payments; in this respect, this rule is similar to a proposal first put forth by Feldstein and Friedman (1977) in conjunction with a reform of the entire health insurance system. However, the State did arrange that providers could purchase stop-loss insurance of $20,000 for each AHCCCS eligible so that the providers might protect themselves against any catastrophic illnesses.

[2]To a marginal extent, this change was encouraged by the HMO Act of 1973, which mandated that employers of more than 30 employees give their employees the option of joining an HMO. The 1976 and 1978 amendments to the 1973 Act liberalized what many observers believed to be the overly restrictive provisions of the 1973 Act, and thus probably contributed more to the growth of HMO's (Jonas, 1981a).

[3]Between 1970 and 1981, Medicare expenditures increased 497 percent, Federal Medicaid expenditures 484 percent, and State and local Medicaid expenditures 458 percent. Private health insurance premiums increased 329 percent, and patient direct payments increased 214 percent (Gibson and Waldo, 1982).

Table 1

Provider bids for the Pima County Arizona Health Care Cost-Containment System

Provider	Capacity: Number of persons	Aid to Families with Dependent Children	Supplemental security income: Aged	Supplemental security income: Blind	Supplemental security income: Disabled	Medically indigent	Employees
Number of persons eligible at a point in time		11,724	1,712	3,172	96	19,938	
				Bid levels ($ per month)			
Pima County Health Department	38,000	$62.21	$63.01	$149.04	$135.12	$71.75	$57.18
Pima Care—Pima Health Maintenance Organization	1,500	55.74	50.09	111.46	105.92	121.06	54.83
El Rio Santa Cruz Neighborhood Health Center	10,000	54.69	52.38	107.97	123.77	84.00	84.56
Arizona Family Physicians Independent Practice Association	58,500	64.18	45.31	137.86	155.88	69.51	54.96

SOURCE: AHCCCS Division press release, Aug. 11, 1982.

Twenty firms submitted 39 full service bids for the counties; one firm, the Arizona Family Physicians Independent Practice Association (IPA), submitted a separate bid for all 14 counties in Arizona. The bids of 16 of these firms were accepted. The four winning bids, by beneficiary group, of the five submitted for Pima County (in which Tucson is located) are shown in Table 1. As indicated in Table 1, Pima County had 11,724 Aid to Families with Dependent Children (AFDC) eligibles for AHCCCS, 1,712 Aged, 3,172 Blind, 96 Disabled, etc.

The last column, "Employees," in the beneficiary groups in Table 1 indicates another innovative aspect of the AHCCCS. Those who created the system viewed it not only as a competitive mechanism for financing the health care of the indigent, but also as a means of financing the health care of State and private sector employees. Therefore, a private firm, such as IBM in Tucson, or a public institution, such as The University of Arizona, might find Pima Care's low bid of $54.83 per employee per month more attractive than the price per employee per month currently paid to, say, Blue Cross-Blue Shield of Arizona for health insurance. The intent of this provision in the AHCCCS was twofold. By opening the program to the private sector and to State employees, the legislation sought to broaden the competitive arena, both on production and consumption sides of the market, and make any economies of scale possible. More important, however, this provision in the law represents an effort to provide a further safeguard for the quality of care of the indigent. A major problem with prepaid, capitated systems of health care finance is that they present a serious incentive to providers to underproduce, for obvious reasons. The HMO medical scandals in California in the 1970's are the most notable example of this problem (Jonas, 1981a). Therefore, one of the AHCCCS' requirements is that the contract administrator monitor the quality of care that providers give to the indigent. If the quality of care is low, in the administrator's judgment, the AHCCCS has the power to terminate providers' contracts. Moreover, the indigent have the option of changing providers at 1-year intervals, but whether they will do so, if dissatisfied with their current provider, depends upon their access to adequate transportation and information on alternative providers. By making the AHCCCS available to middle-class employees in the private and public sectors, the legislation sought to create a surrogate monitor of quality. Middle-class employees are more mobile and are usually more vocal than indigent people; if middle-class employees began to leave a provider plan in any significant number, it would be an immediate signal to the administrator that something was wrong. Although the legislation mandates that State employees be given the option of joining the AHCCCS together with other health insurance options, as of this writing, neither State-employee groups nor private-sector-employee groups have yet entered into participation. Observers believe that, in addition to a natural reticence on the part of middle-class employees to join a new and untried plan that has been publicized by the newspapers as being primarily for the indigent, there is also the fact that employees know that the AHCCCS is a 3-year demonstration and that it could be terminated at the end of that time. From the perspective of employers, transitional difficulties with unions and the disruption of relations with current health insurers might not be worth the short-term savings in insurance costs for a plan that is still viewed as experimental. However, the Statewide competitive cost-containment and quality-of-care goals of the AHCCCS may become somewhat attenuated if middle-class employees do not eventually enroll in the system. Supposedly, the cost advantages of the prepaid system, in conjunction with competitive bidding,

should eventually lure employee groups away from fee-for-service and conventional health insurance.

In column 2 (Table 1) the "capacity" that each bidder offered to the AHCCCS is shown; this illustrates another important incentive mechanism that the system uses. Per capita bids from potential providers of health care are submitted on a county-wide basis to MCAUTO, the contract administrator. One of the specifications of each bid, besides price, range of services, and groups covered, is the total number of recipients that the provider is willing to cover during the year of the bid in question. In Table 1, Arizona Family Physicians IPA has given an upper limit of 58,500 enrollees for which it will provide health care in Pima County; Pima Care will provide for only 1,500 enrollees. In order to promote competition among providers, the AHCCCS legislation specified that more than one provider, and preferably more than two, would be chosen in each county. Thus, this section of the law effectively eliminated exclusive franchises in the provision of health care in any county. Because the overwhelming majority of Arizona's population lives in either Maricopa County (Phoenix) or Pima County (Tucson), this aim of the legislature was largely achieved. But the administrator was obliged to make capped fee-for-service arrangements at lower-than-Medicare rates in some rural counties where the acceptance of one or even two bids would not have provided a broad enough range of services.[4]

The system therefore works as follows. Those provides who win competitive bids in each county may not market directly to the indigent. The indigent must present themselves to county welfare departments in order to have their eligibility for the AHCCCS determined. Those already eligible for AFDC or Supplemental Security Income (SSI) are automatically eligible for the AHCCCS. Once determined eligible, the indigent are presented with the choice of plans that have won competitive bids in their particular county, for example, in Pima County, Pima County Health Department, Pima Care, El Rio Health Center, and Arizona Family Physicians IPA. Each indigent person then chooses the single provider that will be responsible for his or her care for at least the next year; after 1 year, the indigent person may opt for another provider if dissatisfied with his or her initial or subsequent choices. Obviously, competition could be enhanced under this arrangement if providers were allowed to market directly to the indigent.

One difficulty in this whole area of marketing and enrollment is the problem of "cream-skimming," or its opposite, adverse selection. Remembering again the California HMO scandals, the designers of AHCCCS did not want AHCCCS eligibles to be subject to high-pressure, and possibly misleading, marketing tactics on the part of providers. There is no question that it is in the providers' best financial interest to enroll the more healthy elements of the recipient population. To a great extent, this aim is thwarted by the rules of the bidding that specify that a bid must be placed for every category of indigent in Table 1. However, after having won a bid, there is nothing to prevent a provider from performing more subtle forms of "cream-skimming," such as creating long waiting times or queues for the more expensive patients. Supposedly, the contract administrator will be alert to this potential problem, as part of its quality of care duties. There is also the real possibility that some providers will suffer adverse selection and eventually go bankrupt. It is hoped that the evaluation of this demonstration should reveal any problems or tendencies in either direction, and then remedies, if any, can be applied.

In studying the range of winning bids for Pima County (Table 1), one may be surprised by the large variation in price for the "Medically" Indigent beneficiary group, which ranged from $69.51 per month to $121.06. Such variability also existed in the bids in other counties. Some observers believe that this variability may be explained by the uncertainty of providers on two counts: First, many of the bidders had never had experience in being financially responsible for health care to this segment of the population before. Second, winning bids were chosen by weighing the six beneficiary groups, although the State did not reveal the weights to the bidders. Over time and on the basis of bidding and provider experience, one would expect such variability to diminish.

Or, it could be that, in the initial bids, providers were trying to game the system. At the outset, the State revealed that it would give preference to full-service bids. Because providers did not know the weighting system, they had to bid full service on all categories of indigent, and their bid would be accepted on the basis of a weighted average price. Thus, their price strategy had to be a function of competitor's price strategy. From a providers point of view, the optimal strategy is to have the *highest* weighted bid of those accepted for any particular county. In the absence of any knowledge of what competitors will bid, however, it is difficult to construct the last winning bid for any county, and, therefore, the safest strategy would be to construct some median bid, based upon some informed perception of competitor behavior in the past in other arenas of competition.

A further question arises as to the decision rule that the State and the administrator used in accepting winning bids. The rough general decision rule used was implicit in the budget constraint that the State faced. Together with the funds expected from the Health Care Financing Administration (HCFA), the State had $121 million to allocate for the health care of the indigent. An iteration was made through the bids with the twin constraints that the budget could not be exceeded and that it would be desirable that there be at least two providers in each county. Obviously, such an

[4] In these arrangements, providers are paid 85 percent of the fee, and the other 15 percent goes into a risk pool. If the providers' utilization experience falls below a predetermined contractual amount, they receive the other 15 percent at the end of the year. If their utilization experience is above the contractual amount, they receive only a portion of the pooled 15 percent.

iteration cannot reach an ultimately determinate result because one of the variables to the outcome is exogenous to the system: the enrollees can choose among the winning bidders, and each enrollee has no personal price constraint, except that presented to the State by the highest price of the winning bidders. Optimal decision rules within such a competitive bidding context are now being developed (Smith and Christianson, to be published).

As with capitated prepayment in the HMO, the AHCCCS provides strong incentives at the margin to use least-cost inputs in the production of health care; these would include an emphasis upon preventive care, the use of more lower-cost allied health personnel such as physician assistants and nurse practitioners, the bulk purchase of generic drugs, the use of fewer tests, and, above all, the reduced use of expensive hospitalization. Although the AHCCCS does not presently cover long-term care, there is no reason why long-term care could not become an additional service category.

The structure of coverage between typical health insurance and Medicare and Medicaid is highly similar, as are the structures of coverage of the typical HMO and the AHCCCS. However, these similarities are not surprising. Medicare and Medicaid were purposely designed by the Congress to provide health insurance, and, thus, access to health care, for the elderly and the indigent at a level comparable to that received by the rest of the population already covered by typical health insurance (Feder, 1977). The AHCCCS was explicitly designed to take advantage of the incentive mechanisms inherent in the HMO.

The predominant modes of health insurance and publicly-financed Medicare and Medicaid, are thought to provide little incentive for both the efficient production and consumption of medical care, as is evidenced by ever-increasing expenditures. Many observers believe that the structure of this form of insurance is the fundamental cause of the problem. The HMO, for the private sector, and the AHCCCS for the public sector, are presented as alternative structures for providing health insurance and care.

Relative efficiency in consumption is a function of the level of deductibles and coinsurance, or copayment and the frequency of visits. For example, in contrasting typical health insurance with the HMO, and assuming a physician fee of $20 per visit, a $100 deductible and 20 percent coinsurance under typical health insurance, and a $2 copayment in the HMO, the patient would pay out of pocket $100 and $10, respectively, for 5 visits, and $480 and $200, respectively, for 100 visits. If the level of copayment in the HMO were increased to $5 per visit, the out-of-pocket costs would be $100 and $25, respectively, for 5 visits, but $480 and $500, respectively, for 100 visits. Similarly, contrasting Medicare with AHCCCS, 5 visits would cost $80 and $10, respectively, and 100 visits, $460 and $200, respectively. If the AHCCCS were to raise its copayment to $5 per visit, 5 visits would cost out of pocket $80 and $25, respectively, and 100 visits $460 and $500, respectively. But the decision to consume health care is made at the margin. Therefore, at visit number 21, for example, the marginal out-of-pocket cost to the consumer is $4 under typical health insurance and Medicare, $0 under typical Medicaid, and $2 under the HMO and the AHCCCS. Thus, within the range in these examples, typical health insurance and Medicare tend to be more efficient in consumption at their present levels of deductibles and coinsurance versus the present level of copayments in the HMO/AHCCCS form of insurance.

In toto, the HMO and the AHCCCS health insurance structures are more conducive to efficiency in production than to efficiency in consumption because of their ability to internalize the costs of production. Both the HMO and the AHCCCS must pay 100 percent of the hospital inpatient costs because there is no deductible, coinsurance, or copayment required; there is, therefore, the obvious production incentive, vis-à-vis typical health insurance and Medicare-Medicaid, not to hospitalize the patient or to do so only with careful deliberation; if hospitalization does occur, there is an incentive to minimize the costs of inputs used. On the consumption side, however, the consumer faces a zero price, except for the opportunity cost of his/her time. Therefore, consumers have a strong incentive, at the margin, to consume hospital inpatient care, especially if his/her value of time is low. The whole question becomes moot if the producer and the consumer do not have equal power of hospital admittance. In this case, the consumer cannot legally admit himself or herself as an inpatient in a hospital. Therefore, because of the disparity in the power between the producer and consumer to admit, the HMO and the AHCCCS structures force efficiency on both the production and consumption sides.

It should be reiterated here that the AHCCCS does not currently cover long-term care. This could prove to add a negative dimension to its cost-containment objectives because, at the margin, physicians may have to substitute expensive hospitalization for an indigent person who could otherwise have been placed in a less-expensive long-term care facility. Again, though, in the AHCCCS, incentives inherent in this closed-end financing structure make this possibility less likely than under an open-end financing structure. This omission in coverage may create friction between providers and the counties that continue to be financially responsible for long-term care. Consider the case, for example, where a provider has a patient who is not yet capable of taking care of himself or herself but who also does not need to remain in the hospital. The provider's incentive is to release the patient to a long-term care facility for which the county would have to pay. On the other hand, the county would prefer that the patient continue to be the financial responsibility of the provider and remain in the hospital. At the moment, it is the county that has the final say in this decision. In principle, it would not be difficult to design long-term coverage, similar to other

coverages, under the AHCCCS. An example of such a design has been developed (Vogel, 1983).

The previous analysis has shown that, in a number of respects, to alleviate cost pressures and thus to achieve cost containment, closed-end insurance structures such as the HMO or AHCCCS are conceptually superior to their open-end private and public counterparts. Currently, the HMO exists as a financing mechanism and provides medical care to only a small percentage of the private sector; the AHCCCS occupies an even smaller share within the public sector. Historical obstacles on the supply side to the growth of HMO's have been only recently countermanded by the courts (Jonas, 1981b). Growth in the demand for HMO's will depend upon growth in demand in the private sector. In 1982, a preponderant share of typical health insurance was purchased through employers because of the strong incentives provided by the tax system to receive tax-free fringe benefits in the form of health insurance (Vogel, 1980). But, in spite of tax advantages, health care costs have risen so rapidly that employers and unions have shown greatly expanded interest in medical care alternatives to the currently dominant fee-for-service system and the health insurance that finances it. Increasingly, in the last 3 years, employers and unions have chosen HMO's, IPA's, and Preferred Provider Organizations (PPO's) for insurance and medical care combined (Christianson and McClure, 1979; Cassidy, 1982; Kirchner, 1982).

There has been a great deal of rhetoric about cost containment in the public sector because of the explosive growth in expenditures under both the Medicare and Medicaid programs. For example, between 1980 and 1981, Medicare expenditures for personal health care grew by 21.5 percent (Gibson and Waldo, 1982). As this figure indicates, Federal efforts at public sector cost containment have achieved little success. Federal and State governments have been the instigators of regulations such as certificate of need and institutions such as Professional Standards Review Organizations (PSRO's) that have not slowed the rate of cost increases. Up to 1982, the Federal response to the ineffectiveness of these regulations and institutions has been to do nothing but temporize. The States' response, on the other hand, has been more vigorous because many of them cannot incur deficits, by law, and none of them has the power of money creation, as does the Federal Government. As a greater percentage of the States' revenues have been increasingly diverted from education, highways, and welfare payments into Medicaid (U.S. Bureau of the Census, 1981), the States have reduced the scope of benefits in that program, raised eligibility standards, and progressively lowered the rates that they will pay for given medical procedures (Intergovernmental Health Policy Project, 1982).

However, with the exception of two or three States (Sullivan and Gibson, 1983), these State efforts have done virtually nothing to alter the fundamental structure of existing public health insurance and medical care provision; States have merely reduced the number of people that they will insure and the amount of insurance that they will provide. Total State and Federal Medicaid expenditures continue to increase, but for a smaller percentage of the indigent population, and at increasing out-of-pocket cost to that population.

The AHCCCS is the first large-scale, Statewide public system of closed-end health care finance and provision. No doubt, the AHCCCS will be one of the most carefully studied public experiments in the health care area. Assuming that the AHCCCS does pass the muster of these studies, are there any circumstances that could force the adoption of its structure by other States, as a substitute for their Medicaid programs, and by the Federal Government, as a substitute for the present structure of Medicare?

The States have a number of options for dealing with their Medicaid problem, and most of the options point in the direction of further restricting diminished Medicaid benefits to a diminishing proportion of the indigent population. However, such a strategy cannot obviate the demographic realities presented by the aging of the population. Federalization of Medicaid would shift the financial burden of that program, and then the Federal Government might direct a more uniform program, but the fundamental structural deficiency would remain.

Theoretically, it is possible for Medicare to continue on its present course. Higher social security tax rates, larger social security tax base, transfers from general revenues, or even larger Federal budget deficits can provide the means to finance the program. As the elderly increase as a percentage of the population, a greater real burden would be transferred to the younger, smaller proportion of the population. But the question remains: Why transfer a larger burden than necessary?

The private-sector HMO and the public-sector AHCCCS represent an important alternative to present cost-increasing payment and provision systems. The supply-side obstacles to the practice of group medicine are rapidly disappearing. There is also an anticipated influx of many more new physicians into the health care system who may opt for "the shelter of a secure, if somewhat smaller income" (Jonas, 1981b). Therefore, it would not be surprising if competitive pressures in the private sector and fiscal realities in the public sector were to create forces for the more widespread adoption, and eventual domination, of closed-end types of health insurance structures in the future.

Transition from Medicare-Medicaid

The major goals of the public health insurance programs have been 1) cost containment, 2) access, and 3) quality of care (Health Care Financing Administration, 1980). This article has placed major emphasis upon the cost-containment objective. While these three public policy goals contain seeds of mutual contradiction, it is nevertheless clear that the cost-containment objective need not necessarily preclude

the attainment of the access goal, as long as someone is willing to pay a price at a level high enough to meet provider opportunity costs. A bidding system is one method of inviting revelation of the level of that opportunity cost, assuming that there is no collusion among the bidders. On the other hand, quality of care will always present a problem, no matter what the system of provision or the means of financing it. Definitions of quality medical care are not precise and the measures of it are far from perfect. Nor is there always agreement upon what the measures mean. In practice, society has relied upon licensing, accreditation, and regulation to place some floor on professionally-agreed standards of quality; in addition, when dissatisfied, the consumer of health care can move on to another provider of health care. Under this arrangement, it is ultimately the consumer who decides what is quality care and what is not, at least for those illnesses that are not fatal.

More often than not, discussions about quality of care for the indigent and the elderly invariably assume that these two groups must be "protected" from rapacious providers. One stated opinion, that giving vouchers to the elderly for long-term care was akin to "putting gasoline into an automobile that had no wheels," is not only condescending, but may be inaccurate as well. Despite the vast array of regulations that protects these two groups under the Medicare and Medicaid programs, society *does* recognize their consumer sovereignty by paying the providers that *the two groups choose* under the freedom of choice provisions of both of these programs. By this interpretation, it could be argued that the society that supports these two programs views the assurance of quality of health care in them in the broadly consistent manner that it views quality assurance for itself. The rules and regulations may be more exacting, but ultimately, again, consumers enrolled in the Medicare and Medicaid programs decide what is quality care and what is not, and may change providers accordingly. If this be the case, then a transition from Medicare and Medicaid to public programs, structured in the same manner as the AHCCCS, need not necessarily pose quality problems greater than those that already exist in Medicare and Medicaid for those people who may not be as well informed or as mobile as the rest of society, that is, the marginally informed and the marginally mobile.

Conclusion

If there is no threat of radical departure from the existing public policy goals of access and quality of care, and the cost-containment aspects of the structure of an AHCCCS are deemed persuasive, then the transition to an AHCCCS structure would not be difficult. The existing Medicaid administrative apparatus in all of the States and jurisdictions would be easily transferrable to an AHCCCS-type administrative system. The resultant State administrations would be much smaller than many of them presently are because most of the administrative duties would be carried out by private contractors. Similarly, such a transition could also be easily accomplished by Medicare. Presently, Medicare is administered almost totally by intermediaries and carriers, chosen for being reliable and, in their particular geographic locales, long-established. These intermediaries and carriers are also paid for their administrative duties on the basis of their "costs." Elsewhere, it has been argued that this promotes an inefficient administrative system (Blair and Vogel, 1975). There is no reason why private-sector firms such as McDonnell-Douglas or IBM could not bid for these administrative contracts on an annual basis, with HCFA continuing to be the overseer of the total Medicare system. For convenience, the Medicare administrative jurisdiction could be the geographical unit of the State, and health care-provider bids could be at the county level, just as with the AHCCCS.

The preceding argument is not meant to downplay the difficult choices to be made and the transitional effects that they might initially have on the health care system. The AHCCCS is by no means a successfully accomplished fact, but it is a fact, in the sense that it is working, and off to a promising start, but with many administrative difficulties yet to be resolved. It must also be remembered that Medicare and Medicaid were considered radical innovations at their inception in 1966 and that they, too, produced shocks in the health care system in their early years. The system withstood those shocks and adapted to them. Some would say that the system adapted only too well. Medicare and Medicaid may have been good or bad ideas in their time, but the form that they took at their creation was the only one possible, given the political realities that existed. Now, health care access and, possibly, quality have been achieved for the old and the indigent (Link, Long, and Settle, 1980; 1982a; 1982b; Long and Settle, 1982). It is time that the issue of cost containment be addressed directly. Given Medicare and Medicaid programs that have major structural imperfections concerning cost containment, marginal changes each year do not seem to be the proper form of address.

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