

# All-payer ratesetting: Down but not out

by Gerard F. Anderson

*In the United States, when the cost-containment paradigm shifted from regulation to competition, all-payer hospital ratesetting went out of favor. After reviewing the published literature and supplementing the existing literature with more current information, the author concludes that all-payer ratesetting is able to meet its multiple objectives of cost containment, reduction of*

*the amount of cost shifting, improvement of access to the uninsured, and increased productivity. At the same time, all-payer ratesetting has not stifled the diffusion of competitive health care systems or new technology, and any impact on length of stay, admissions, and quality of care is small, if it exists at all.*

## Introduction

In *The Structure of Scientific Revolutions*, Thomas Kuhn suggests that scientific paradigms are rejected and replaced with new ones only after the old paradigm can no longer explain the data that has been collected and after a new paradigm has been proposed. He illustrates his thesis by examining a number of scientific revolutions (such as the replacement of the Ptolemaic with the Copernican view of the universe) in which the advocates of the old model tried to fit the data into the existing paradigm, and only after a "comparison of both paradigms with nature" was the old paradigm rejected (Kuhn, 1962).

All-payer ratesetting for hospitals was at the center of the policy paradigm for controlling health care costs during the 1970s. In 1972, Congress passed Section 222 of the Social Security Amendments, which gave States the authority to establish ratesetting programs. By the late 1970s, more than 30 States had adopted some form of hospital ratesetting (Coelen and Sullivan, 1981). In 1977, then-President Carter studied the results of these State programs and initiated hospital cost-containment legislation, which would have established a national all-payer hospital ratesetting system, the center of his health policy agenda (Davis et al., 1990).

The policy paradigm, however, shifted from a regulatory to a competitive approach after the cost-containment legislation was defeated in 1979 and Ronald Reagan was elected in 1980. By 1991, only one State, Maryland, still had an all-payer ratesetting program, and the discussion of all-payer ratesetting in national policy circles was almost non-existent (although the recent "play or pay" health insurance proposal of the Democratic leadership in the U.S. Senate does include a provision for all-payer ratesetting). This shift leads to an obvious question—was there an empirical reason for all-payer ratesetting being dropped from the policy agenda or was it simply the result of the general shift from regulation to competition?

Perhaps ratesetting was unable to achieve its multiple objectives of controlling costs, reducing the extent of cost shifting, and improving access to the uninsured. Alternatively, some fatal flaw may have been discovered, such as an adverse impact on quality of care, stifling of innovation, slowing the diffusion of new technology, or a

finding that most hospitals in ratesetting States were in a precarious financial situation. Most of the empirical studies of State ratesetting examine data from the 1970s and early 1980s. Some States, however, have continued to operate ratesetting programs, and, in addition to reviewing the more recent findings, this article updates the data on ratesetting programs by examining the Maryland experience. Maryland was chosen because it was the first State to adopt all-payer ratesetting and the first State to adopt a per case payment system, and it is the only all-payer ratesetting system operating in 1991.

## Benefits of ratesetting

Proponents of ratesetting have suggested a number of benefits, including the potential for greater cost containment, increased levels of hospital productivity, a reduction in the level of cost shifting, and improvement in access for the uninsured. I review the empirical evidence to determine how well the State ratesetting programs have met each of these objectives.

## Cost containment

The primary objective of all ratesetting programs is to control health care costs. Eby and Cohodes (1985) reviewed the empirical literature that was published from 1979 through 1984 and concluded that "mandatory rate-setting has generally constrained hospital costs where it has been implemented." More recent studies have confirmed this conclusion. The final report of the national ratesetting study concludes that mandatory programs saved \$36 billion dollars from 1969 to 1982 and reduced costs per discharge in States with mandatory programs 12-26 percent (Coelen, Mennemeyer, and Kidder, 1986). Schramm, Renn, and Biles (1986) compared six mandatory ratesetting States with the non-ratesetting States during the period 1976-83 and found that the annual percent change in adjusted expense per admission averaged 3-4 percentage points lower in the States with mandatory ratesetting. Robinson and Luft (1988) found that, from 1982 through 1986, all-payer ratesetting reduced hospital expenditures by 16.3 percent in Massachusetts, 15.4 percent in Maryland, 6.3 percent in New York, and 1.9 percent in New Jersey, compared with the national average.

Since New York and Massachusetts dropped their Medicare waivers in 1985 and New Jersey dropped its waiver in 1989, Maryland has returned to its original status as the only State operating an all-payer system.

Reprint requests: Gerard Anderson, Ph.D., Director, Johns Hopkins Center for Hospital Finance and Management, 624 North Broadway, Baltimore, Maryland 21205.

(The other three States have a form of all-payer ratesetting once the State program and the Medicare prospective payment system [PPS] are combined.) It is not entirely clear why the other States dropped their Medicare waivers. Apparently, projections in New York and Massachusetts showed that their all-payer ratesetting systems substantially reduced Medicare payments to their hospitals; the waivers were dropped to increase Federal funds flowing into the State. Data suggest that Maryland has been more successful in controlling hospital expenditures per adjusted discharge (adjusted for outpatient volume) from 1976 to 1990, compared with the national average (Figure 1). In 1976, before the Maryland program was fully implemented, costs per adjusted admission in Maryland were 25 percent above the national average. It was 9 years before costs per adjusted discharge were below the national average. After reaching that point, the Maryland program continued to control hospital costs; in 1990, costs were 8 percent below the national average.

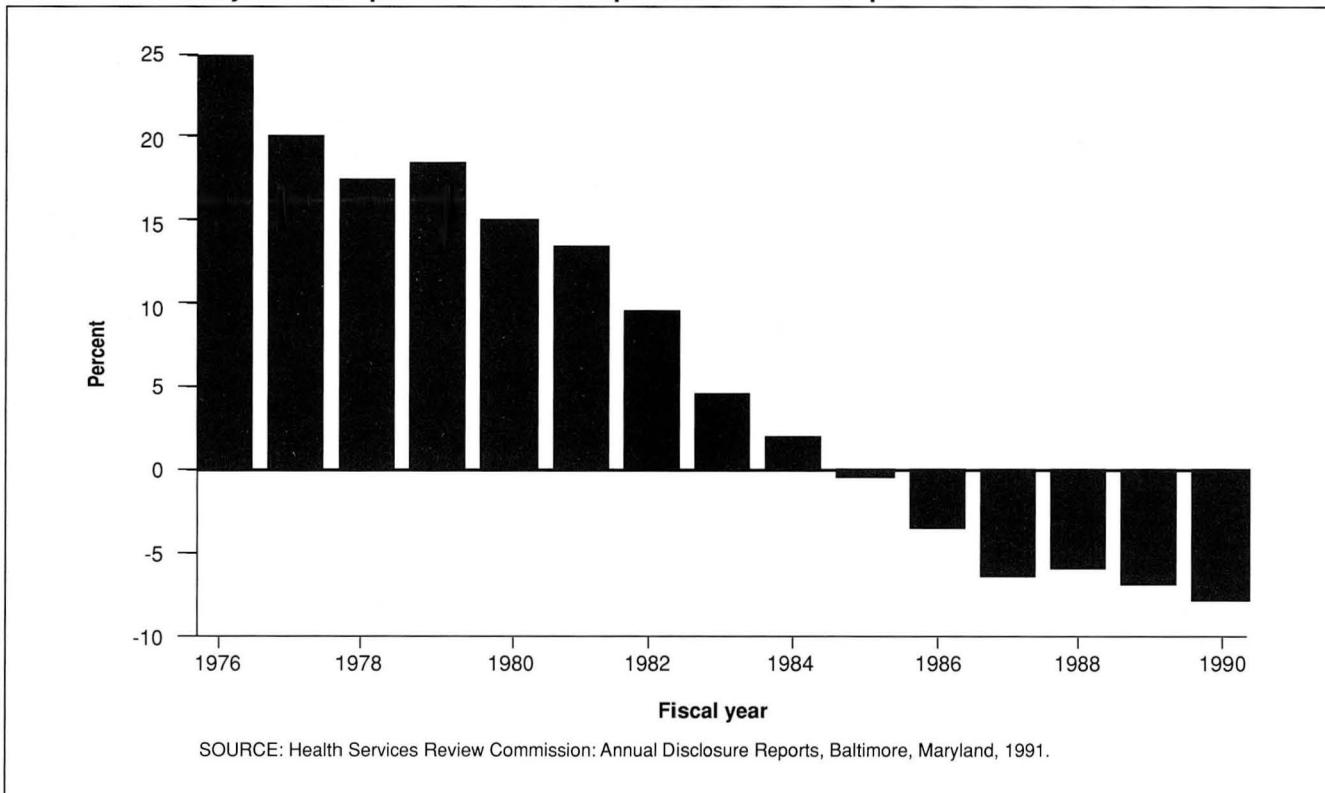
In reviewing the effectiveness of State ratesetting programs, most of the attention has been placed on the success of the programs at controlling costs per admission or costs per day. It has been pointed out (Morrisey, Sloan, and Mitchell, 1983; Ashby, 1984), however, that this is not the relevant variable—hospital costs per capita or total costs per capita are better measures of the success of ratesetting programs, because ratesetting could affect average length of stay, the number of admissions per capita, or the use of non-hospital services. When Coelen and Sullivan (1981) reviewed the experience of ratesetting programs from 1969 to 1978, they found a statistically significant reduction in the rate of increase in hospital

costs per capita in four out of seven of the mandatory State ratesetting programs they studied. Morrisey, Sloan, and Mitchell (1983), using data from 1968 to 1981 and a slightly different definition of mandatory State ratesetting, found two out of five mandatory State ratesetting programs had lower expenditures per capita after 6 years of operation and that, when the effect of all five mandatory programs was pooled, per capita hospital expenditures were 2.0 percent lower per year in States with mandatory ratesetting programs. Schramm, Renn, and Biles (1986), using a third definition of mandatory ratesetting, compared expenditures per capita in six all-payer States from 1972 to 1984 and found a difference of 1.2 percent per year. In 1990, hospital costs per capita in Maryland were 14 percent below the national average. This compares with 1969, when they were above the national average.

It has also been suggested that the scope of the evaluation should be expanded beyond hospitals to include an analysis of the effect of ratesetting on other providers, primarily physicians. The obvious concern is that costs will be shifted from the hospital sector to other sectors as the medical care system responds to constraints in one sector. Morrisey, Sloan, and Mitchell (1983), as well as Coelen and Yaffe (1983), compared the rate of increase in Medicare Part B expenditures in States with mature ratesetting programs with States without ratesetting and found that the rate of increase in Part B expenditures was lower in States with mature ratesetting programs.

It has also been noted that the presence of ratesetting programs in certain States is not necessarily exogenous because States that implemented ratesetting programs in the 1970s were usually among the States with the highest

**Figure 1**  
**Maryland cost per admission as a percent of U.S. cost per admission: 1976-90**



cost per admission and the highest costs per capita (Furst, 1982; Sloan, 1983; Morrissey et al., 1984; Dranove and Cone, 1985; Finkler, 1987; Thorpe and Phelps, 1990) or had a predilection to regulation. It has been suggested that the success of the ratesetting programs can be explained by the phenomenon of regression to the mean, as high-cost States naturally move toward the national average. Studies examining regression to the mean in this context (Coelen and Sullivan, 1981; Dranove and Cone, 1985; Zuckerman, 1987) have concluded that regression to the mean is not a major factor in explaining the effectiveness of ratesetting programs. The Maryland experience (Figure 1) suggests that Maryland has been able to continue to control hospital costs per discharge after they were below the national average.

Although it is commonly agreed that cost-based payment does not provide hospitals with an incentive to improve productivity (Davis et al., 1990), it is unclear whether hospital productivity is higher in States with ratesetting. Anderson and Lave (1984) used three different measures to determine if State ratesetting programs rewarded efficient hospitals and concluded that ratesetting programs gave efficient hospitals the same rates of increase as inefficient hospitals; further, inefficient hospitals did not improve their productivity any more than efficient hospitals. However, Kidder and Sullivan (1982) found that productivity improved more rapidly in States with ratesetting programs, as hospitals responded to the incentives by reducing the amount of labor per inpatient day (although this study did not explicitly control for differences in quality of care). Evaluations of the Maryland and New York systems found that hospitals facing the tightest constraints showed the greatest cost reductions (Thorpe and Phelps, 1990; Salkever, Steinwachs, and Rupp, 1986).

In reading the literature on ratesetting, it is important to pay attention to the caveats. The first caveat is that ratesetting programs do not appear to be successful in controlling hospital costs during their first 2 years of operation (Coelen and Sullivan, 1981; Morrissey, Sloan, and Mitchell, 1983). A second caveat is that success in controlling hospital costs in one State is not necessarily transferrable to another State (Eby and Cohodes, 1985; Sloan, 1984). It is also important to recognize that, with one exception, none of the specific characteristics of a ratesetting program were found to be predictive of an effective program. For example, Coelen and Sullivan reviewed the characteristics of nine ratesetting programs, including unit of payment (per diem, per discharge, etc.), number of payers under review (all payers, only Blue Cross, etc.), and scope of the analysis (departmental, total budget) on program effectiveness. After reviewing the data from 1969 to 1978, they could not find "any common denominator that distinguished effective programs from ineffective ones." The one exception was the finding that, while mandatory programs generally were successful at controlling hospital costs, voluntary programs generally were not successful (Coelen and Sullivan, 1981). The finding that only mandatory programs are successful is supported by more recent studies (Zuckerman, 1987; Morrissey, Sloan, and Mitchell, 1983; Gaumer et al., 1989).

## Reducing cost shifting

A second objective of all-payer ratesetting was to reduce the extent of cost shifting (Ginsburg and Sloan, 1984). During the 1970s and early 1980s, the Health Insurance Association of America (HIAA) argued that insurers using methods other than charge-based reimbursement were paying hospitals less than the full cost of treating their patients and that charge-based payers were being forced to make up the difference. In 1981, HIAA (1982) estimated the extent of the cost shift was \$4.8 billion. One of HIAA's proposed solutions was to reduce the extent of cost shifting by enacting all-payer ratesetting.

The impact of ratesetting programs on individual payers has been the subject of several recent papers. The finding that cost shifting has been reduced or eliminated in most States with ratesetting is not surprising, as most ratesetting programs expressly eliminate or control the payment differential across payers (Thorpe, 1987). Zuckerman and Holahan (1988), for example, found that commercial insurance markups were 30.8 percent lower in hospitals with all-payer systems in 1984. One of the requirements established by the Maryland legislature is that hospital rates are set equitably across all payers. The gross expense markup ratio—an indicator of the extent of cost shifting—shows that Maryland had one of the lowest markup ratios in the country in 1989: 10.5 percent, compared with a national average of 28.3 percent (Health Services Cost Review Commission, 1991).

When the Maryland ratesetting program establishes hospital rates, an allowance for the provision of uncompensated care is included. However, in order for hospitals to have an inducement to collect all bad debts, a formula was created that gives them the lower of their actual percentage of uncompensated care or a predicted amount. The predicted amount is calculated using a regression formula that includes the characteristics of the patients treated at the hospital and the conditions in the neighborhood where the hospital is located as independent variables. In 1990, the uncompensated care percentage varied across hospitals from 1.7 percent to 16.8 percent, with an overall average of 7.7 percent.

Most of the analysis of ratesetting programs, however, has studied whether partial-payer systems are as effective in controlling total hospital costs as all-payer systems. The public policy concern is that hospitals can shift costs to payers not subject to regulation in partial-payer systems. The significance of this issue was heightened by the decision of Congress in the 1980s to allow the Medicaid and then the Medicare programs to develop their own ratesetting programs, and later the decisions by Massachusetts, New York, and New Jersey to drop the Medicare program from their ratesetting program. Unfortunately, the results are mixed on this issue and it is impossible to draw any firm conclusions. A series of studies concludes that the inclusion of Medicare does not necessarily improve the effectiveness of ratesetting programs (Coelen and Sullivan, 1981; Rosko and Broyles, 1987; Hsaio et al., 1986). However, another study found that hospitals in all-payer ratesetting States experienced slightly lower growth in Medicare revenues

per case from 1982 through 1984 than did hospitals under prospective payment (Zuckerman, 1987). Medicaid programs in all-payer States were more successful in controlling their outlays than States with Medicaid-only programs (Zuckerman and Holahan, 1988).

## Caring for the uninsured

All-payer ratesetting programs typically contain a provision that allows hospitals to receive payments when they care for the uninsured. It is important, therefore, to monitor the willingness of hospitals to treat the uninsured in all-payer systems. Recent evaluations of the New York and New Jersey systems suggest that access for the uninsured improves when States adopt all-payer programs. Thorpe (1987) found that "payments earmarked for uncompensated care resulted in more care provided to uninsured patients" in New York. Hsiao et al. (1986) found "that the single most notable success in New Jersey was the treatment of hospital bad debt and uncompensated care . . . Payment for uncompensated care also appears to have improved access for New Jersey's uninsured population." In Maryland, an allowance for uncompensated care that is included in the payment rates reduces the financial incentive for hospitals to turn away uninsured patients.

## Criticisms of ratesetting

Most of the criticisms of all-payer ratesetting have their origin in economic theory that is applied to the hospital industry. The fundamental concern is that regulators will be unresponsive to the preferences of citizens and will be unable to reconcile their desires for cost containment with their citizens' preferences for access to high-quality medical care, advanced technology, and certain amenities. As a result, the effect of ratesetting on quality of care, the diffusion of innovative and/or competitive health care delivery systems, the diffusion of new technology, and the financial status of individual hospitals have been analyzed.

## Quality of care

One of the principal concerns is that regulators will emphasize the cost-containment objective and allow the quality of care to deteriorate (Morrisey et al., 1984). Empirical studies of State ratesetting programs have provided some evidence that this concern may have some validity, although there are serious data concerns with these studies.

The first studies of ratesetting programs in New York, New Jersey, Rhode Island, and western Pennsylvania in the mid-1970s found no effect on quality of care (Gaumer, Poggio, and Sennett, 1987). Shortell and Hughes (1988) were the first to find a statistically significant positive association between mortality rates and the stringency of ratesetting programs. On the other hand, Gaumer et al. (1989), using data from the national hospital ratesetting study, found "no indication that the level of cost saving in states under PR [prospective reimbursement] was directly associated with mortality rates."

The empirical results of the national hospital ratesetting study are somewhat contradictory. The study found no statistically significant association between ratesetting and mortality in the Medicare population following elective surgery. It did, however, find statistically significant differences ( $p < .05$ ) at 15, 30, and 45 days following admission for an emergency admission, but no statistically significant differences at 90, 180, or 365 days (Gaumer, Poggio, and Sennett, 1987; Gaumer et al., 1989). However, for a random sample of admissions, including both urgent and elective cases, the results showed statistically significant results at 90, 180, and 365 days, but not at 15, 30, and 45 days—precisely the opposite results they found for emergency admissions (Gaumer et al., 1989). In the discussion section of their paper, they recognize the inconsistency in these results and conclude that the "major concern is that these effects were not uniform in direction, size, or significance across P.R. [prospective reimbursement] programs." In addition, they did not find a correlation between the presence of ratesetting programs and lower structure or process measures that could directly affect quality of care (Gaumer et al., 1989).

One reason for the inconsistent results within and between the studies could be the choice of the dependent variable. Mortality following hospitalization is an extremely complex phenomenon, and it is difficult to control for all the relevant factors, especially in a cross-sectional study. There is also the possibility of omitted-variable bias, because high mortality could be attributed to the presence of ratesetting when in fact it is the result of some other factor, such as aging of the population, which is not explicitly controlled for in the analysis. In addition, the studies focused on mortality in the Medicare population, yet many of the ratesetting programs did not even cover the Medicare population during the time period under review.

## Stifling of competitive alternatives

The hypothesis that ratesetting programs may stifle competitive systems such as health maintenance organizations (HMOs), preferred provider organizations, and other innovative cost-containment programs has been asserted in several papers (Enthoven, 1980; Ginsburg and Sloan, 1984; Mitchell, 1986); however, none of these papers provides any empirical evidence that innovative systems have actually been stifled by ratesetting. It is difficult to find data to support or disprove this hypothesis because there are so many different competitive arrangements and causation is so difficult to establish. However, one indication that competition and regulation can co-exist is the presence of HMOs in States with ratesetting. Table 1 shows the percentage of the population enrolled in HMOs in several States that have had mandatory all-payer ratesetting. The data suggest that ratesetting and HMOs are compatible, although many other factors could also explain the level of HMO enrollment.

A recent study suggests that ratesetting is as successful in controlling hospital costs as are competitive programs, at least in the short run. A comparison of the market-oriented approach in California with four States with ratesetting programs showed that, from 1982 through

**Table 1**  
**Percent of population enrolled in health maintenance organizations: Selected States, January 1, 1990**

State	Percent
U.S. average	13.3
Massachusetts	25.1
Connecticut	19.6
Maryland	15.9
New York	14.7
Washington	14.3
New Jersey	11.7

SOURCE: (InterStudy, 1990).

1986, the rate of increase in hospital costs per admission was 16.3 percent lower in Massachusetts, 15.4 percent lower in Maryland, 10.1 percent lower in California, 6.3 percent lower in New York, and 1.9 percent lower in New Jersey, compared with a control group of 43 States (Robinson and Luft, 1988).

### Slowed diffusion of new technology

Another concern is that, by controlling hospital revenues, hospital profitability will be reduced. Profitability is one measure that is used to rate hospital bonds, and low profitability could reduce hospitals' access to capital and thus slow the diffusion of new technology.

Studies of hospital profitability have been hampered by limited access to data. However, three separate studies examining a cross-section of programs in the late 1970s and early 1980s concluded that ratesetting does not have an appreciable effect on hospital profit margins (Anderson and Lave, 1984; Sloan, 1983; Morrisey, Sloan, and Mitchell, 1983), with the possible exception of the New York ratesetting program. Another study found no effect on hospital bond ratings (Schramm, Renn, and Biles, 1986), possibly the result of legislative provisions in several States that guarantee the financial viability of all hospitals in the State. A study of hospital profitability in New Jersey suggests that ratesetting might actually improve access to capital in some hospitals because ratesetting tends to increase profit margins of the hospitals that have been operating at a deficit while leaving the profit margins of the other hospitals virtually unchanged (Hsiao et al., 1986). In New York State, Thorpe (1987) found that the financial condition of hospitals improved from 1980 to 1985, although in aggregate they were still operating at a deficit in 1985.

According to several indicators, hospitals are doing well financially in Maryland, although profit margins are below the national average. In 1990, 42 out of 54 acute care hospitals in Maryland had operating surpluses. A First Boston Corporation study conducted in early 1987 showed 71 percent of the Maryland hospitals that had floated bonds recently had an A rating or better, compared with 52 percent in the 17 States that had provided 10 or more bond issues in the same period (Ashby, 1988). Although many factors could explain the higher bond ratings in Maryland, it suggests that hospitals in Maryland have access to capital.

Analysis of the effect on the diffusion of new technology suggests ratesetting may have slowed the diffusion of certain costly technologies, such as open heart surgery, as well as accelerated the phaseout of certain redundant services, such as premature nursery (Cromwell and Kanak, 1982). Cromwell and Kanak found that complex services were diffusing at three-fourths of the rate in ratesetting States in the period of 1969-78 and that community services were diffusing at two-thirds the rate of diffusion of the non-ratesetting States. However, once other factors, such as active certificate of need programs, are taken into account, the differences in the diffusion rates were statistically insignificant in all but 2 of the 15 States they studied.

### Gaming the system

One way for providers to respond to ratesetting is for them to unbundle many of the services that have traditionally been provided on an inpatient basis (Morrisey et al., 1984). However, as discussed earlier, studies of the effect of ratesetting on physician expenditures suggest that physician expenditure increases are lower in States with ratesetting (Morrisey, Sloan, and Mitchell, 1983; Coelen and Yaffe, 1983). Another way for providers to game the system is to increase the number of admissions or (in per diem systems) to increase the length of stay. Evaluations suggest that few programs have had a statistically significant effect on admission rates and that, in States with per diem systems, there may have been an increase in average length of stay (Worthington and Piro, 1982; Eby and Cohodes, 1985).

### Other concerns

One of the major criticisms of the early State ratesetting programs and the proposed hospital cost-containment legislation was that the government could not set rates appropriately—that many factors that could explain the variation in costs across hospitals were not included in the ratesetting system (Davis et al., 1990; Ginsburg and Sloan, 1984). However, with the development of case-mix measures such as diagnosis-related groups (DRGs), the hospital input price index, and specific adjustments for teaching and input prices, the methodology has improved and these concerns have been reduced.

A common concern with any regulatory agency is that the regulated will capture the regulators (Enthoven, 1980). Although there is no evidence to suggest that this has happened in any specific State, discussion with hospital administrators and regulatory officials suggests that a close working relationship between the hospitals and the regulatory agency is a critical factor in determining the success of a particular program. This seems to be a major factor in explaining the acceptance of the Maryland program by the hospitals and the success of the program in controlling hospital cost increases.

Maryland's method for setting rates has evolved over time (Salkever, Steinwachs, and Rupp, 1986; Hellinger, 1985). One commonality that distinguishes the Maryland program from many other ratesetting programs, including the Medicare PPS, is that rates are hospital-specific. In

the beginning of the program, every hospital was given a detailed budget review that compared the direct cost per unit of service within a specific department to the direct costs in similar hospitals. Uniform accounting and reporting, including discharge abstracts and regulations prohibiting cross-subsidization across hospital services, ensured that hospital costs were comparable. In the peer group comparisons, costs that were significantly above the costs in the hospital's peer group were disallowed. Indirect (overhead) costs and a capital facilities allowance are then added to the direct costs, and a hospital-specific approved rate for each unit of service is calculated. Bad debt and charity expenses are included in the base rate and distributed equally across all payers. Rates in subsequent years are calculated based on an inflation index and a volume adjustment. If a hospital believes the rates are insufficient, it can request a new budget review, although very few hospitals have requested budget reviews because of the expense and uncertainty involved.

In 1976, hospitals were given the choice of remaining on the budget review system or changing to a guaranteed inpatient revenue (GIR) program. There was concern that the per service payment system created incentives for hospitals to increase the average length of stay and the number of services. In response, Maryland introduced the first per case payment system in the Nation (Salkever, Steinwachs, and Rupp, 1986). In the GIR system, a base-year revenue per admission is calculated, trended forward for inflation, adjusted for case mix, and compared with actual revenue. Rates in subsequent years are adjusted upward if per service revenue is below the GIR and downward if it is above the GIR. As an inducement for hospitals to participate in the GIR program, they are given the inflation adjustment that all hospitals receive, plus an additional 1 percent (recently increased to 2 percent), and a lump sum to pay for administrative costs. More recent modifications have included screens for high-cost hospitals, a prospective budget for sole community providers, and a wellness program (Ashby, 1988; Health Services Cost Review Commission, 1991). The common factor in all of the programs, however, is that hospitals are treated individually.

Other concerns with ratesetting have been presented, although no data to quantify the importance of these concerns has been presented. These issues include the cost of complying with the ratesetting regulations (Sloan, 1981), the effect of constraints on exit and entry in the market (Finkler, 1987), patient dumping (Sloan, 1984), and a reduction in teaching programs (Dowling, 1974).

## Conclusion

U.S. health policy experienced a major paradigm shift in the late 1970s and early 1980s. In the late 1970s, the Federal Government was encouraging States to adopt all-payer ratesetting commissions, the President was actively encouraging Congress to pass all-payer ratesetting legislation for the Nation, and 30 States had established ratesetting programs. By 1990, only one State still had an all-payer ratesetting program, and there was little Federal interest in promoting all-payer ratesetting. The obvious question is: What caused this paradigm shift? Clearly, an alternate paradigm has been proposed

for hospital cost containment: that more competition will control hospital rate increases. However, Kuhn's thesis for rejecting the old paradigm requires not only the proposal of a new paradigm, but also a failure of the old paradigm to explain the data. For all-payer ratesetting, rejection appears unlikely, as it continues to explain the control of hospital costs in Maryland. All-payer ratesetting may be down, but it should not be counted out.

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