Medicare's Prospective Payment System at Age Eight: Mature Success or Midlife Crisis?

*Bruce C. Vladeck**

The enactment of Medicare's Prospective Payment System (PPS) for hospitals in 1983[1] was accompanied by extraordinary hoopla and rhetoric, if not by prolonged Congressional deliberation or even by committee hearings. PPS constituted an extraordinary change in the method by which the government paid some $40 billion annually to the nation's hospitals for the provision of inpatient care to 28 million Medicare beneficiaries. Such a huge change of direction might have been expected to be the focus of considerable attention, at least among those with a professional interest in hospital matters, but PPS was depicted in even grander terms. Proposed near the highwater mark of the Reagan Revolution in domestic policy, PPS was depicted as a critical step in the "deregulation" of American hospitals, as a major initiative in establishing "marketplace competition" in the health care industry, and as a sophisticated application of the principle of using incentives rather than "command and control" regulation to make public policy more consonant with microeconomic theory.[2]

In keeping with this "marketplace" model, Reagan's Department of Health and Human Services and Office of Management and Budget conceived of PPS as a largely self-maintaining system that would pay hospitals a uniform national rate, adjusted only for differences in local wage rates and the effects of teaching programs, for each of 467 Diagnosis-Related Groups (DRGs). There would be no appeals process and no

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1. Social Security Amendments of 1983, Title VI, §§ 601-07, Pub. L. No. 98-21, 97 Stat. 65 (codified as amended in scattered sections of 42 U.S.C. (1990)); *see* 42 C.F.R. 412 (1990) (regulations of the Health Care Financing Administration implementing the Prospective Payment System for Inpatient Hospitals).

2. *See* U.S. DEP'T OF HEALTH & HUMAN SERVICES, HOSPITAL PROSPECTIVE PAYMENT FOR MEDICARE: REPORT TO CONGRESS 7-18 (Dec. 1982) (reprinted in MEDICARE & MEDICAID GUIDE (CCH), Extra Edition No. 374 (Jan. 5, 1983)).

exceptions process. Some of PPS's more extreme ideological enthusiasts suggested that once the system was fully implemented there would not even be a need to collect cost data from hospitals. Each year, the Secretary of Health and Human Services would update payment rates for inflation, while continuing to refine the classification process that assigned cases to DRGs. And that would be that.[3]

Under such a system, it was argued, hospitals would have an extremely powerful incentive to control their costs, since those able to deliver care for less than the uniform rate would be able to keep all the savings, while those whose costs exceeded the rates would be at risk of financial catastrophe. Of course, in such a market, a considerable number of hospitals might be expected to fail—perhaps as many as a third, according to one Administration official.[4] That was just the expected price to be paid for the replacement of the inherent evils of cost-based reimbursement with a more economically rational system such as PPS.

PPS is now approaching its eighth birthday. It is widely viewed as a success, credited for both a transformation of the hospital industry and the saving of many billions of dollars. These credited savings have, not inconsequentially, postponed the date at which the Hospital Insurance Trust Fund is projected to be insolvent.[5] Early fears that such a system of cost controls would lead to serious impairments in the quality of care provided to Medicare beneficiaries appear to have been disproved, as have anxieties that widespread hospital closings and resource scarcity would impair access to needed services for beneficiaries.

Despite these apparent successes, there may be less to PPS than meets the eye. PPS may have constrained Medicare expenditures, but over the last five years real hospital costs have been rising at rates close to the pre-PPS pattern. Even the savings from the early years of PPS may have been at least partially the result of forces largely external to PPS. At the same time, contrary to all expectations, America's hospitals have experienced unprecedented prosperity during the first eight years of PPS. Somewhat more hospitals may have closed

3. *Id.* at iii-vi.

4. *Closure Increase Predicted—Is Your Hospital At Risk?*, HOSPITALS, June 1, 1984, at 38.

5. L. RUSSELL, MEDICARE'S NEW HOSPITAL PAYMENT SYSTEM: IS IT WORKING? 70-75 (1989).

during that time than might otherwise have been expected, but the numbers are still not terribly large. And the verdict may still be out on some of the quality issues.

As discussion of more systemic reform of the nation's health care system gains more attention, this may be a good time to take stock of what PPS has and has not accomplished and what lessons it may hold for future policy, both for hospital payment and for government financing of health care. It is also likely that over the next several years, as the pressures surrounding PPS intensify for reasons that will be discussed below, the basic rationale and structure of the system will be increasingly debated, whether or not more general reform also takes place.

What follows is necessarily a rather selective (for reasons of brevity and reader tolerance) and even subjective attempt to summarize the experience under PPS to date and to suggest some lessons that might be drawn from that experience for the future reform of PPS itself and of payment systems generally. No attempt will be made here to be comprehensive, to explain all the technical details of an inherently and increasingly complex system, nor even to systematically survey the rapidly growing body of literature. But the few issues and themes that clearly stand out will be the focus of most of this paper. The paper begins with a review of the aggregate data on PPS's performance since its inception, looking at the effects both on the payor, Medicare, and the payees, the nation's hospitals. It will then consider some of the distributional patterns of benefits and losses potentially concealed by those aggregate figures. The issues of quality and access and the related impacts of the system on health care generally will then be quickly considered. This will be followed by a more evaluative consideration of the major strengths and weaknesses of PPS and a consideration of future directions for the program.

I. What Really Happened

In order to understand both the context in which PPS was enacted and the way in which it has evolved, two basic issues must be understood. First, PPS was born from the intellectual discrediting of cost-based reimbursement for hospital and other health care services. The enactment of PPS in 1983 culminated a five-year political process that effectively began when the hospital industry, seeking to defeat President

Carter's cost containment legislation in 1978 and 1979, undertook a "Voluntary Effort" to control the rate of hospital cost growth. This Carter Administration proposal followed relatively traditional price-control principles which, it must be noted, had worked in the past, both in the Nixon Economic Stabilization Program and in a number of states. But after a brief hiatus at the outset of the "Voluntary Effort," hospital costs proceeded to grow at even higher rates, partly—but only partly—because of record levels of inflation in the economy as a whole. By 1982 and 1983, therefore, an extremely embarrassed hospital industry recognized that some form of limit on payments was inevitable and tried to cut the best deal it could with an angry Congress.[6] By early 1983, DRG-based hospital payments had been successfully in place in New Jersey for three years.[7] However, there was neither a broad base of experience nor a well-developed conceptual underpinning for any system of hospital payment in the United States other than the cost reimbursement or rate-setting models which were energetically rejected in the deregulatory climate of the time. Thus, what PPS had going for it, politically and rhetorically, was that it was clearly not cost-based reimbursement and ostensibly not rate-setting either. Just about everything else had to be made up as policymakers went along.

Second, PPS was established within the framework of the budgetary strictures of the early Reagan Administration and within the rules of the then-new Budget Reform process and the subsequent procedures of Gramm-Rudman. To my mind, the greatest innovation in the Administration proposal that became PPS was the assignment to the Secretary of HHS of real budgetary control over Part A of the Medicare program. Once the system was up and running, the Secretary would provide an annual update factor for the DRG rates, and that (more or less) would be that.[8] If improvements in medical recordkeeping or development of new technologies required

6. K. DAVIS, G. ANDERSON, D. ROWLAND, & E. STEINBERG, HEALTH CARE COST CONTAINMENT 29-31 (1990).

7. In the interests of full disclosure, the author must note his personal involvement in the New Jersey DRG system from 1979 through early 1982 when, as Assistant Commissioner of Health, he had operational responsibility for development and implementation of that system. As a result of that experience, he was consulted by the designers of PPS, although those in the executive branch explicitly rejected those aspects of the New Jersey system they thought too "regulatory."

8. Vladeck, *Comment on "Hospital Reimbursement Under Medicare,"* 62 MILBANK FUND Q.: HEALTH AND SOCIETY 269, 272 (1984).

changes in the DRGs themselves, those too would be implemented on a budget-neutral basis.

The flip side of this budgetary coin, however, was that budget estimates and targets were to be derived from "current services" estimates, which were projections of expenditures under existing Medicare law in the absence of policy change. But the Medicare system being replaced was cost-based and in the midst of the greatest year-to-year increases in its history, due partly to inflation in the economy as a whole. In order to get PPS started by establishing rates for federal fiscal year (FY) 1984, the rules said that one began with a projection based on FY 1981 and 1982 data, the most recent data then available, of what Medicare would otherwise be paying hospitals under cost-based reimbursement. Thus, the initial PPS rates were based on the very high inflationary expectations of a period of unprecedented cost growth.

The estimates of what Medicare would otherwise have been paying in FY 1984, which became the base for the first year's PPS rates, were further inflated by some technical errors on the part of the relatively junior staff making this "current services" estimate, combined perhaps with some cynical averting of the eyes by political appointees eager for peace with the hospital community. The result was first-year PPS rates far in excess of what hospitals might have expected under cost-based reimbursement.

To restate this important, but not widely-understood process, the standard of "budget neutrality" established for the first year of PPS meant that the initial PPS rates were *supposed to be* based on 1981-82 costs trended forward by historical inflation estimates drawn from a particularly inflationary period. These initial rates were then made higher still by some technical estimation problems. By definition, these generous rates did not represent additional outlays for the federal government, just the outlays it had projected. It did mean, however, extraordinarily lucrative results for the hospitals and the development of a set of myths and perceptions that have affected the evolution of PPS ever since.

The excessive generosity of first-year PPS rates would have been more immediately apparent and would have engendered more immediate pressures for serious policy change had it not been for the simultaneous and entirely unanticipated fall-off in hospital utilization by Medicare beneficiaries. In the

period surrounding the implementation of PPS, it was widely expected that Medicare admissions would increase, since the system had such a powerful incentive to hospitals in that direction. PPS is a highly volume-sensitive system. It pays a fixed price for each hospitalization of a given type—the 200th uncomplicated heart attack treated by a particular hospital in a particular year is paid at exactly the same rate as the first. For most hospitalizations, however, marginal costs are highly different from average costs, both because many costs are relatively fixed, at least in the short run, and because hospitals and physicians become more proficient, and thus more efficient, when they treat large numbers of the same kinds of cases.

In the debate, such as it was, surrounding the enactment of PPS, there was extensive controversy around this payment of a fixed price, regardless of volume. Many experts feared both a too-powerful incentive to increase admissions and an excessive financial risk for hospitals with admissions downturns.[9] At least in part, Congress responded by transforming the much-unloved Professional Standards Review Organization (PSRO) program into the new Peer Review Organization (PRO) program with a primary responsibility to deter and punish unnecessary admissions and by mandating an additional series of studies of the issue.[10] The Reagan Administration, however, infatuated with notions of the "marketplace," liked the idea of rewarding those who successfully "competed" for increased volume and punishing those who failed.[11]

In any event, for reasons that are still subject to debate, Medicare admissions, which had steadily increased since the start of the program in 1966, fell dramatically in the period surrounding the implementation of PPS (See Table 1).

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9. *Id.* at 270-71.

10. Lave, *Hospital Reimbursement Under Medicare*, 62 MILBANK MEMORIAL FUND Q.: HEALTH AND SOCIETY 251, 262-63 (1984).

11. U.S. DEP'T OF HEALTH & HUMAN SERVICES, HOSPITAL PROSPECTIVE PAYMENT FOR MEDICARE: REPORT TO CONGRESS, *supra* note 2, at 108-09.

TABLE 1: ANNUAL PERCENTAGE CHANGE IN HOSPITAL ADMISSIONS[12]

Year	All Admissions	Admissions by Age	
		Under 65	65 and Over
1978	0.4%	−1.0%	4.9%
1979	2.7	1.7	5.3
1980	2.9	1.5	6.7
1981	0.9	0.0	3.0
1982	0.0	−1.6	4.1
1983	−0.5	−2.8	4.7
1984	−3.7	−4.2	−2.6
1985	−4.9	−4.7	−5.2
1986	−2.1	−2.5	−1.0
1987	−0.6	−1.0	0.4
1988	−0.4	−1.6	2.0
1989	−1.0	−2.0	1.2
Average:			
1978-83	1.0	−0.4	4.8
1984-89	−2.1	−2.7	−0.9

There were three primary reasons for the decline in admissions. First, there was simple panic and hysteria in many quarters of the hospital community in what might be called the peri-PPS period. Many hospital managers did a lot of irrational and thoughtless things, including clamping down on admissions for fear of economic loss when a more dispassionate analysis would have shown those admissions to be profitable on the margin. Second, as Table 1 demonstrates, a range of factors largely exogenous to PPS, most of them having to do with the proliferation of new outpatient services and changes in insurance coverage, were reducing hospital admissions for the non-Medicare population. Some of this reduction undoubtedly spilled over to Medicare patients. Third and perhaps most importantly, most of the new PROs established by simple administrative fiat that Medicare would no longer pay for cataract operations on an inpatient basis, except under extraordinary circumstances. Seven other routine elective surgical procedures were treated in the same manner. Since cataract

12. PROSPECTIVE PAYMENT ASSESSMENT COMMISSION, MEDICARE PROSPECTIVE PAYMENT AND THE AMERICAN HEALTH CARE SYSTEM: REPORT TO THE CONGRESS 66 (June 1, 1990) [hereinafter PROPAC REPORT, June 1990].

surgery represented the single most common reason for Medicare admissions prior to PPS, tens of thousands of inpatient cases disappeared almost overnight.[13]

Whatever the reasons, the decline in admissions coincidental with the implementation of PPS produced real savings to the Medicare program. These savings cannot logically be attributed to PPS "incentives," because the actual economic incentives of PPS run in directly the opposite direction. Nonetheless, the reduction in Medicare outlays resulting from the reduction in utilization permitted government officials to quickly proclaim PPS a success and permitted the hospital industry to assert that it had responded well and demonstrated the virtues of PPS by becoming so much more "productive."

PPS also contains incentives for hospitals to reduce length of stay, as was indeed intended. Payment for any given case (except for a small number of exceptional "outliers") is fixed in advance, regardless of how long the patient remains in the hospital. Here, too, the immediate post-PPS results were dramatic. Medicare lengths of stay, which had been falling slowly before PPS, fell a full fifteen percent between 1982 and 1986. Since that time admission rates for elective surgery and other relatively simple cases have continued to decline, accelerating the longstanding secular trend. In addition, the Medicare caseload has gotten sicker, and length of stay has begun to creep back up.[14]

Thus, the inception of PPS brought with it an enormous reduction in Medicare utilization, with concomitant savings for Medicare. This was combined with an enormous growth in per-case Medicare revenues for hospitals, with concomitantly high hospital profits. Everyone, it appeared, was a winner. The possible exception was that group of Medicare beneficiaries discharged earlier from hospitals, putatively "quicker and sicker."

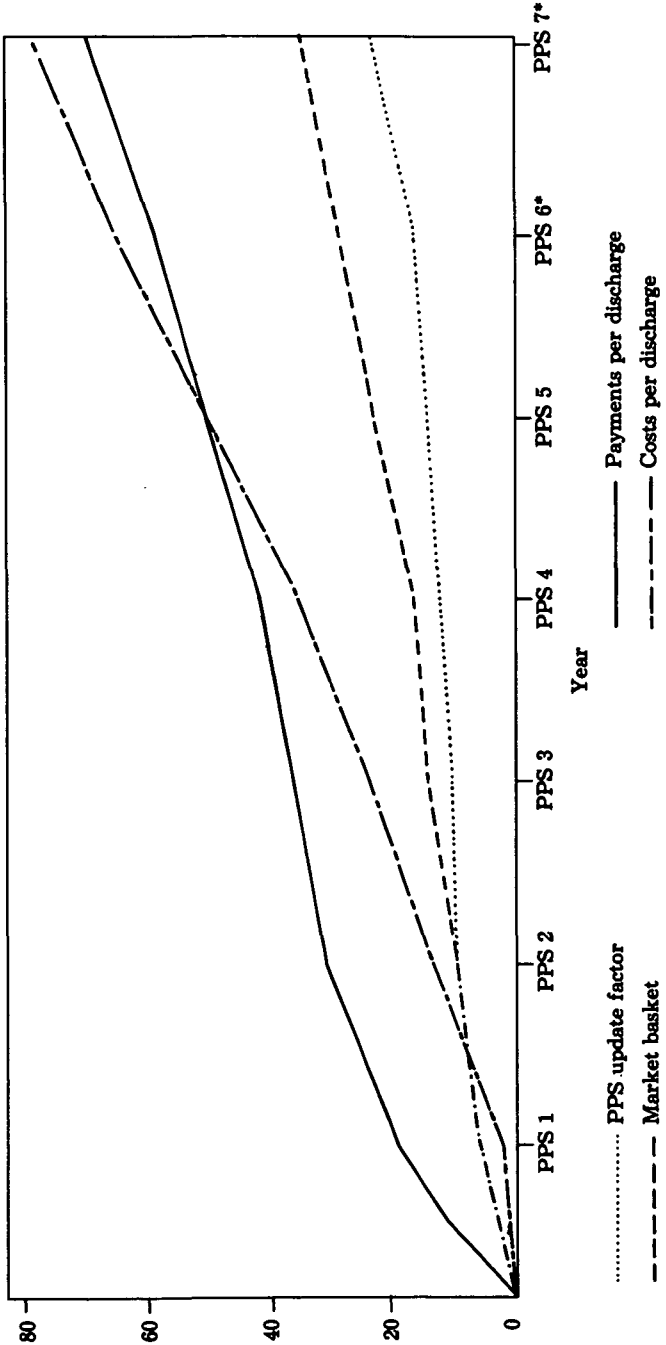
Since approximately the first eighteen months of PPS, the trends in both hospital costs and hospital profits have changed direction. Figure 1 shows patterns of increase in per-case payments and costs over the first seven years of PPS, along with changes in the market basket (the index of increases in input prices experienced by hospitals) and the actual update or inflation factors applied to PPS rates. The most important parts of

13. L. RUSSELL, *supra* note 5, at 27-29.

14. PROPAC REPORT, June 1990, *supra* note 12, at 66.

Figure 1 are the spike in payments (solid line) in the first two years and the growth in costs after the first year, at a rate roughly equal in real terms to the rate of hospital cost increases in the pre-PPS period.

FIGURE 1: CUMULATIVE INCREASES IN PPS COSTS AND PAYMENTS PER DISCHARGE, FIRST SEVEN YEARS OF PPS[15]



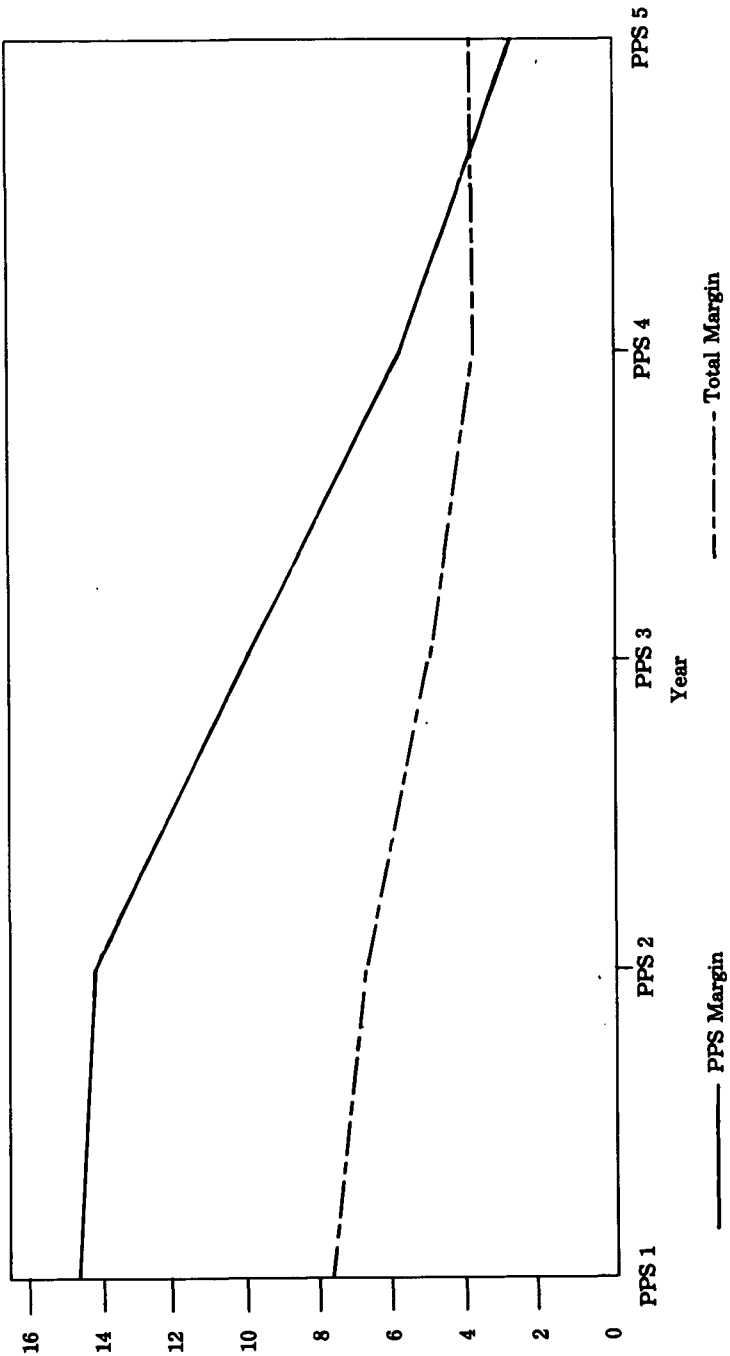
* Costs and payments are estimated for PPS 6 and PPS 7.

[15] *Id.* at 30.

Figure 1 contains the kind of data that makes for particularly lively and confusing public policy debate, since there is something in it for almost everyone. Critics of hospitals and of the theory of economic incentives point to the rate of cost increases since PPS 1 and argue that not even the powerful incentives of PPS have induced hospitals to change their cost-incurring behavior. Hospitals can point to the aggregate increase in costs since PPS was implemented and argue with some justice that it is lower than might otherwise have been the case. Hospitals also argue, quite correctly, that Medicare's costs are growing much more slowly than before the inception of PPS, while pointing, with increasing fervor, to the growing cumulative disjunction between growth in the market basket and PPS updates.

In order to complete a general summary picture of the effects of PPS to date, three additional pieces of information are necessary: hospital margins, case-mix change, and total Medicare outlays. Figure 2 shows the "bottom line" for hospitals both under the PPS system and in general over the life of PPS. In the terminology that has grown up around these issues, "margins" is used instead of profitability because of the large proportion of hospitals that are either private, non-profit corporations or governmentally-owned. "PPS margin" is a term of art comparing hospital operating expenses attributable (through defined cost allocation practices) to Medicare patients, except for capital and direct medical education costs passed through on a cost-reimbursement basis under PPS, to PPS revenues. "Total margin" is a more straightforward measure of profitability, comparing total revenues to total expenses.

FIGURE 2: TRENDS IN PPS AND TOTAL MARGINS, FIRST FIVE YEARS OF PPS[16]



[16] *Id.* at 55.

Two points about Figure 2 are worthy of special note. First, under pre-PPS cost-based reimbursement, Medicare margins were zero by law and by definition. Thus, in some sense, the early years of PPS constituted an extraordinary windfall for the nation's hospitals. The reaction of policymakers to the perception of that windfall, once the numbers became known, is also readily apparent. Not shown on the graph is the estimate that by PPS 7 (FY 1990) PPS margins averaged less than zero. This means that the average hospital lost money on care of Medicare patients in that year.[17] Second, although historical data on total margins are incomplete, the total hospital margins reported in the early years of PPS were, as one might expect, significantly larger than the historical norm. The persistence of total margins at these historically high levels, even after PPS became substantially less lucrative, raises interesting questions about the effectiveness of non-Medicare payors in limiting their expenses. This fuels the charges of "cost-shifting" now increasingly heard from private insurers and employers.

The evolution of PPS has been characterized by a series of delayed reactions because the availability of reliable data always lags behind reality and because political perception generally lags behind the data. This phenomenon is illustrated by the history of PPS margins. It was not until late 1985 or early 1986 that Congress became fully aware of how well hospitals had done in the initial PPS period. Update factors were then slashed dramatically. By 1989, on the other hand, falling PPS margins in 1986 and 1987, and hospital industry projections of even lower PPS margins in future years, had largely convinced the Congress of the undesirability of any more drastic reductions.

Actually, looking only at the comparison between update factors and the market basket, as the hospital community is fond of doing, significantly understates the rate of growth of PPS payments. After all, PPS pays a pre-defined rate per case, depending on the actual clinical characteristics of the case, for each of what are now almost 490 DRGs. Hospital case-mix changes over time, however, and for good and obvious reasons this change is almost always in the direction of greater inten-

17. PROSPECTIVE PAYMENT ASSESSMENT COMMISSION, REPORT AND RECOMENDATIONS TO THE CONGRESS 16 (March 1, 1991) [hereinafter PROPAC REPORT, March 1991].

sity. Since the inception of PPS, average Medicare case mix has increased by more than twenty percent and has accounted for more growth in payments to hospitals than the update factor.[18] This explains the divergence between the lines representing the market basket and payments per discharge in Figure 1. A rough guess (all that is available) would be that half of the cumulative change in case-mix intensity is attributable to changes in patient characteristics and patterns of treatment. The other half is attributable to improved medical records reporting by hospitals—the famous "DRG creep."[19] The conventional wisdom among PPS aficionados is that increased payments for "real" changes in case-mix index are legitimate, since they should track quite accurately changes in the costs that hospitals need to incur in treating sicker or more expensive patients. Changes in payment resulting from "DRG creep," on the other hand, are not legitimate and should be compensated for by offsetting reductions elsewhere in the payment system—in update factors, for example.

The "bottom line" on the first six years of PPS can be seen in Table 2. PPS has clearly slowed the rate of increase in Medicare outlays to hospitals. However, at least some of this deceleration in payments to hospitals has been negated by enormous increases in expenditures for other categories of services. At least some of this corresponding increase may have occurred in direct response to PPS, as hospitals sought, for instance, to expand lucrative outpatient services to replace feared revenue losses on inpatient care.

18. PROPAC REPORT, June 1990, *supra* note 12, at 27.
19. *Id.* at 27-28.

TABLE 2: ESTIMATED BENEFIT PAYMENTS, BY TYPE OF SERVICE[20]

Fiscal Year	Part A: Inpatient Hospital Payments (In Billions)	Part A: Inpatient Hospital Percent Change	Part A: Other Services[a] Payments (In Billions)	Part A: Other Services[a] Percent Change	Part B Total[b] Payments (In Billions)	Part B Total[b] Percent Change	Total Medicare Payments (In Billions)	Total Medicare Percent Change
1977	$14,429	—	$ 746	—	$ 6,133	—	$21,308	—
1978	16,719	15.9%	830	11.3%	7,254	18.3%	24,803	16.4%
1979	19,176	14.7	956	15.2	8,613	18.7	28,745	15.9
1980	23,129	20.6	1,139	19.1	10,467	21.5	34,735	20.8
1981	27,706	19.8	1,434	25.9	12,555	19.9	41,695	20.0
1982	32,554	17.5	1,970	37.4	14,809	18.0	49,333	18.3
1983	36,950	13.5	2,422	22.9	17,670	19.3	57,042	15.6
1984	40,385	9.3	2,788	15.1	19,882	12.5	63,055	10.5
1985	43,618	8.0	3,027	8.6	21,985	10.6	68,630	8.8
1986	45,280	3.8	3,166	4.6	25,499	16.0	73,945	7.7
1987	46,579	2.9	3,300	4.2	29,693	16.4	79,572	7.6
1988	49,570	6.4	3,789	14.8	33,725	13.6	87,084	9.4
1989	52,642	6.2	6,217[c]	64.1[c]	37,745	11.9	96,604	10.9
Annual rate of change:								
1977-1983		17.0		21.7		19.3		17.8
1983-1989		6.1		17.0		13.5		9.2

Note: Payments reported in this table are incurred expenditures, rather than outlays.
[a] Includes skilled nursing, home health, end-stage renal disease, and hospice benefits.
[b] Includes outpatient hospital, physician, independent lab, and other benefits.
[c] Part A other services payments for fiscal year 1989 include payments for services added by the Medicare Catastrophic Coverage Act of 1988.
SOURCE: Health Care Financing Administration, Office of the Actuary.

20. *See* PROPAC, March 1991 *supra* note 17, at 14.

As the system matures, it appears to have the capacity to continue to enforce relatively stringent limits on payments to hospitals. Whether or not it continues to do so, however, depends not only on the aggregate levels of Medicare payments or hospital margins but also on the extent to which it can meet standards of perceived fairness in the distribution of federal payments.

II. DISTRIBUTIONAL EFFECTS

In creating the Prospective Payment System, the federal government not only undertook to limit (and presumably rationalize) Medicare payments to hospitals, but also undertook to implement a uniform national system. To be sure, PPS recognized from the outset differences in labor market characteristics from one part of the country to another and differences in hospitals' involvement in graduate medical education. Furthermore, because the data showed that, even accounting for wage differentials, rural hospitals were systematically less costly than those in urban areas, PPS began as a dual system with separate standardized amounts for urban and rural hospitals.[21] Still, one rate per labor-market area was a radical change from a specific rate for each hospital. Indeed, PPS was conceived of and to a surprising degree even enacted as a single system of rates for the nation as a whole.

That single-rate concept of PPS was perfectly consonant with the ideological climate that prevailed when PPS was created, but it fit much less well with the underlying realities of hospital cost variation. For reasons that are not very well understood (it is, in fact, extraordinary how many aspects of hospital economics are not very well understood) hospital costs vary remarkably from one institution to the next, even after one controls for differences in case-mix, input prices, teaching activity, and the like. Some of those differences are systematic. Hospitals in certain communities simply have higher costs than those in other communities. Some differences, however, appear to be largely random. In the Medicare system, after controlling for all the factors taken into account for PPS, the average DRG has a coefficient of cost variation of greater than 1.0. This means that the variance exceeds the mean or, put

21. The standardized amount is the base rate which, when multiplied by the weight of the specific DRG and adjusted for the wage index for the hospital's area, produces the payment for that DRG in that hospital.

another way, that most DRGs contain cases that are either quite different from one another clinically or similar clinically but treated at extremely variable costs across hospitals.

Cost variation among hospitals poses a profound intellectual and political problem for PPS. If one takes the implicit logic of PPS seriously, then all such variation must arise either from technical flaws in the payment system, which is not adequately accounting for "legitimate" sources of variation, from differences in physician practice patterns, or from differences in managerial efficiency across hospitals. Differences in practice patterns are now the subject of an enormous amount of research. Yet, for most hospital cases there is not now (and may never be) any strong, codified professional consensus as to the one best way to treat a particular case. No one believes that managerial differences could really account for as much cost variation as apparently exists. However, no one has been able to explain away very much more of these differences by identifying additional factors not adequately taken into account by PPS. Practice variations have become an all-encompassing explanation of otherwise unexplained residual cost variation, but the verdict is still out as to the extent to which they really do account for cost variation at the hospital level or the extent to which they can or should be reduced by a greater homogenization of clinical practice. Further, if large preexisting cost differences among hospitals do exist, are not adequately explained by the payment system, and are not adequately reflective of differences in hospital management, then some institutions are being unjustly rewarded, often in considerable measure, while others are being unjustly punished.

The policy dilemma posed by preexisting cost variation might be restated as follows. If costs truly result from hospitals' discretionary behavior, then cost-based reimbursement, in effect, rewards the profligate by paying them more. On the other hand, if costs are driven by factors outside the control of hospital managers, then paying a uniform rate unfairly penalizes higher cost institutions while providing an unwarranted windfall to lower-cost hospitals. The truth undoubtedly is that some costs fall into each category. If one assumes that a payment system should embody the value that less expensive is preferable to more, then neither a purely cost-based system nor one based on fixed rates will be entirely equitable.

Cost variation that is neither adequately explained by the

PPS formula nor plausibly attributable to managerial performance also calls into question the whole logic of "incentives" under PPS. To begin with, some hospitals can be expected to enter the system anticipating either windfalls or revenue reductions that are not grounded in anything over which they have much control. Incentives, in order to mean anything, must be prospective. Since uniform rates were not introduced into a world of uniform costs, however, considerable punishments and rewards attach to what may be largely the results of idiosyncratic circumstances. Moreover, in order for incentives to work prospectively, they should give clear and comprehensible signals to the individuals and institutions that are supposed to respond to them. Uniform rates in a world of non-uniform costs obviously do not meet that test.

Although the conceptual challenge to PPS posed by cost variation is formidable, the political challenge is at once more serious and more remediable. The American policymaking system may be capable, from time to time, of enacting measures as far-reaching, theoretically elegant, and uncertain in their effect as PPS, but the American political system is not capable of tolerating them for very long. A legislative branch tied to local constituencies and lacking strong, if any, party discipline will be unwilling to leave so neat a scheme alone for long. This is especially true in the face of a weak or indifferent executive.

Indeed, even before PPS was enacted, Congress sought to attenuate some of its more dramatic distributional effects. In conflict with the Administration's proposal, it phased in uniform national rates over four years, "blending" them with more homogenous regional rates. In addition, Congress separated out rural from urban standardized amounts, and doubled the proposed (empirically-derived) adjustment for the indirect cost effects of graduate medical education. Congress also chose not to incorporate costs associated with capital expenditures into the initial PPS system, since capital costs, owing to the long-term nature of such expenses, tend to vary across hospitals even more than operating costs.

The Congress has continued to tinker with PPS, moving it further and further from the original concept of a single uniform system. Rural hospitals, hospitals in rural counties adjoining urban areas, hospitals in New England and the Great Lakes states, hospitals in metropolitan areas of over one mil-

lion in population plus Providence, and other groups of hospitals with sympathetic representatives have all benefitted from special refinements to the system. Most importantly, teaching hospitals and hospitals serving relatively large proportions of low-income patients, the so-called "disproportionate share" hospitals, have been the special beneficiaries of Congressional generosity in recent years. As the number of the uninsured has increased and as Medicaid and other sources of financing health care for the poor have constrained payments to hospitals, inner-city institutions (a category that includes a large proportion, though far from all, of the major teaching hospitals) have encountered serious financial straits. Congress has directly sought to redress these financial difficulties through modifications to PPS that are increasingly disconnected from the data on the costs that those institutions incur in treating Medicare beneficiaries.

In spite of, or perhaps because of, these Congressional efforts to redress real or perceived inequities in PPS, hospital margins have become more, not less, dispersed since the inception of PPS. Table 3 captures the dispersion in outcomes both within and across identifiable groups of hospitals in the fifth year of PPS (FY 1988), and all evidence suggests that such dispersion continues to increase.[22]

22. PROPAC REPORT, March 1991, *supra* note 17, at 17.

TABLE 3: DISTRIBUTION OF PPS OPERATING MARGINS IN THE FIFTH YEAR OF PPS, BY HOSPITAL GROUP (IN PERCENT)[23]

Hospital Group	Percentile				
	10th	25th	Median	75th	90th
All hospitals	−28.3%	−12.2%	−0.5%	9.8%	18.6%
Urban	−22.2	−9.3	1.2	10.7	19.7
Rural	−33.9	−15.5	−2.6	8.5	17.2
Large urban	−25.5	−12.3	−0.3	10.1	19.8
Other urban	−19.1	−7.5	2.4	1.4	19.3
Rural referral	−14.8	−8.1	1.1	8.0	15.5
Sole community	−45.0	−22.3	−6.3	7.0	14.5
Other rural	−35.2	−16.1	−2.6	8.7	18.0
Major teaching	−5.8	3.4	14.5	22.5	33.0
Other teaching	−17.5	−6.6	2.3	10.1	18.8
Non-teaching	−30.5	−14.2	−1.8	8.8	17.7
Disproportionate share:					
Large urban	−21.7	−7.3	4.2	14.9	23.0
Other urban	−15.5	−5.3	4.0	14.1	22.5
Rural	−29.4	−11.6	1.3	12.8	19.3
Non-disproportionate share	−30.2	−14.1	−2.0	8.0	16.6
Urban < 100 beds	−36.3	−14.7	1.7	13.4	24.0
Urban 100-249 beds	−23.8	−11.7	−0.6	9.5	17.4
Urban 250-404 beds	−16.9	−6.8	1.4	9.7	17.5
Urban 405-684 beds	−11.9	−5.1	4.4	13.1	20.0
Urban 685+ beds	−8.2	1.7	9.8	22.1	38.8
Rural < 50 beds	−48.5	−20.8	−2.4	11.4	20.4
Rural 50-99 beds	−28.2	−13.4	−3.2	6.6	14.0
Rural 100-169 beds	−28.2	−13.3	−1.8	6.5	13.3
Rural 170+ beds	−16.8	−9.2	−1.7	5.3	14.8
Voluntary	−23.5	−10.2	0.4	9.8	18.2
Proprietary	−32.9	−16.9	−2.8	9.4	17.9
Urban government	−22.0	−7.2	3.7	14.9	24.3
Rural government	−44.7	−18.0	−3.5	8.4	18.5

Note: Excludes hospitals in Maryland and New Jersey.

This dispersion becomes more of a problem for PPS, both conceptually and politically, as the system in general gets

23. PROPAC REPORT, June 1990, *supra* note 12, at 35.

tighter and as hospital costs continue to increase faster than PPS payments. The average non-teaching, non-disproportionate share hospital is now losing money treating Medicare patients. Only the continued willingness, however unintentional, of other payers to continue to subsidize those institutions prevents, I believe, the political pressures on PPS from becoming unbearable.

III. QUALITY, ACCESS, AND SO FORTH

In early 1985, both the popular and trade press were filled with stories that helpless elderly patients were being discharged prematurely from hospitals as the result of a fiendish new Medicare program that established limits on how long patients could remain in the hospital. The Department of Health and Human Services's Inspector General began an investigation, and the Senate Committee on Aging held a series of hearings on this phenomenon of "quicker and sicker."[24] The hearings, however, were inconclusive, and the furor died down.

In retrospect, it was perhaps inevitable that consumer advocates and other partisans would welcome a basis for criticism of PPS. These groups were reflexively suspicious of any policy innovation endorsed by a Reagan Administration that had sought to make major cuts in Social Security benefits. It is also hardly surprising that so complex and technical a system, one that had been implemented with so little public discussion or analysis, would have engendered considerable anxiety and confusion. There is also no question that some egregious cases of poor treatment attributed to PPS actually did occur. This occurred in part because many in the hospital industry, particularly at the front-line service level, were as confused about PPS as everybody else. Moreover, as noted above, there was a fair amount of institutional panic in the peri-PPS period, at least some of it fed by consultants and systems vendors eager to sell their products.

The furor over "quicker and sicker" was short-lived largely because much of the Washington policy community quickly closed ranks behind PPS. The early readings of considerable savings helped cement the Administration-industry-Congressional alliance that had enacted PPS so painlessly.

24. *Quality of Care Under Medicare's Prospective Payment System: Hearings Before the Special Committee on Aging of the United States Senate*, 99th Cong., 1st Sess. (1985) (Serial Nos. 99-9, 10, 11).

More serious analyses of the qualitative impacts of PPS followed, however, and are continuing to the present time.

To summarize a wide and disparate body of literature, the reductions in Medicare lengths of stay following the implementation of PPS did indeed result in the discharging of many Medicare patients quicker and sicker, but that was probably not an unambiguously bad thing.[25] Indeed, the desire for reductions in length of stay for all patients was gospel wisdom throughout the health care community. The belief that length of stay should be reduced reflected not only broad clinical consensus about the deleterious effects of overly long hospital stays, especially for the elderly, but also recognition that hospitalizations were systematically much shorter on the West Coast than elsewhere in the nation, without apparent adverse effects on the health of patients.

One possible measure of harmful effects from too early hospital discharges would be an increase in readmissions to the hospital resulting from recurrence or exacerbation of the condition treated in the initial hospitalization. Readmission rates should be an especially sensitive indicator of PPS-induced deterioration in quality because a per-case payment system obviously gives hospitals an incentive to provide as many separate admissions as possible to treat a given illness. For this reason, review of readmissions was one of the major priorities initially assigned to the PROs.[26] Here, the evidence is unambiguous, even if the interpretation is not. Since the inception of PPS, readmission rates among Medicare beneficiaries have fallen rather dramatically for reasons that have yet to be adequately explained.[27]

The most important and complex aspect of the "quicker and sicker" issue has to do with patterns of post-discharge services. It might well be that the earlier discharge of many Medicare patients would be appropriate if they could or should be better served at "alternative" levels of care, such as nursing home care or home health care. PPS began, however, at a time when the long-term care system in most communities in the United States was in considerable disarray. Further, cutbacks in Medicare benefits for nursing homes and home health care

25. Wilensky, *Medicare at 25: Better Value and Better Care*, 264 J. A.M.A. 1996 (1990).

26. L. RUSSELL, *supra* note 5, at 53.

27. PROPAC REPORT, June 1990, *supra* note 12, at 76-78.

were undertaken by the Reagan Administration in the mid-1980s as part of a general budget-cutting strategy. Thus, discharges to long-term care that might have made both clinical sense for many Medicare patients and good public policy became instances of inadequate care because of the inadequacy of Medicare's long-term care policy.[28]

Further, relatively careful analysis has since demonstrated that the overall quality of care of Medicare beneficiaries, to the extent that it is measurable, actually improved after the implementation of PPS. The number of inappropriate premature discharges did increase, but Medicare patients received better care overall, for whatever reasons.[29] It is hard to make a logical connection between those improved outcomes and characteristics of PPS, except perhaps for the generalized prosperity experienced by hospitals in 1984 and 1985. In the aggregate, at least, PPS appears not to have made things worse.

After the political excitement about "quicker and sicker," if not the substantive importance of the issue, died down, the next apparent crisis in PPS was occasioned in 1985 through 1987 by the closing of a number of hospitals, the majority of them in rural areas. The potential vulnerability of small, rural hospitals to a per-case payment system had been a concern since PPS was first proposed, and rural advocates were unhappy from the outset with the establishment of a lower standardized amount for rural hospitals. A very effective lobbying campaign by representatives of rural hospitals soon followed, buttressed by data that demonstrated that many rural hospitals were losing substantial sums of money under PPS.

The logic of payment on a flat, per-case basis in a world of considerable cost variation does suggest that hospitals with relatively small numbers of cases are at higher risk of large random losses. This is essentially because the statistical Law of Large Numbers, which basically holds that concentration around the mean increases with sample size, is so important to making PPS work in actual practice. Nonetheless, extensive analysis has since suggested that rural hospital closings have more to do with changes in rural populations and economies,

28. B. Vladeck, Report to the United Hospital Fund of New York on DRGs and Quality of Care: Facts and Fantasy (December 1985) (copy on file with the University of Puget Sound Law Review).

29. Rogers, Draper, Kahn, Keeler, Rubenstein, Kosecoff, & Brook, *Quality of Care Before and After Implementation of the DRG-Based Prospective Payment System: A Summary of Effects*, 264 J. A.M.A. 1989 (1990).

and the increasing preference of rural residents for treatment in larger institutions with more sophisticated technology, than with the effects of PPS. Access of rural Medicare beneficiaries to needed hospital services does not appear to have suffered.[30] That evidence has not, on the other hand, prevented the Congress from amending PPS at least four times to tilt payments more in the direction of rural hospitals.

In other words, no one has yet demonstrated that PPS has created crises in quality or access. This is not to say that PPS never will create such crises. Prosperity conceals a multitude of sins, and the behavior of hospitals under a prospective payment system in which they are earning profits may differ considerably from their behavior once they begin losing serious money. On the other hand, the relationship between revenue, margins, quality, and access, which is so blithely assumed in public policy discussions of payment systems and so eagerly emphasized by health care providers, may be more complex than is generally assumed.

In simple-minded economic analysis, increases in expenditures for the production of health services may be simply equated with improvements in quality. However, everything we know about the relationship between cost and quality in health care, and in many other sectors of the economy as well, suggests that such a simple equation is not the case. The best hospitals, like the best cars or best meals, are not always the most expensive. It is well-established that, for a broad range of procedures performed at a particular hospital, the higher the volume the higher the quality and the lower the cost.[31] Further, it must be recognized that, in such a labor-intensive industry as health care, the great preponderance of costs are payments to individuals. Higher costs may therefore result from higher incomes (rents, in economic terms) to professionals whose incomes are related only indistinctly to the quality of the services that they provide. This does not mean that the converse necessarily holds true. Cheaper is not necessarily better either. But the tendency of provider representatives to hold out the specter of impaired quality whenever policy interventions threaten their incomes can cause one to feel at least a degree of skepticism on this issue.

Similarly, if one starts, as almost everyone in the health

30. PROPAC REPORT, June 1990, *supra* note 12, at 73-75.

31. *Id.* at 81.

care community does, from the supposition that we have more hospitals in this society than we really need, then the closing of any particular hospital, for whatever reason, may not be such a bad thing. Moreover, such evidence as we do have on hospital closings suggests that sustained financial losses are a necessary but far from sufficient condition for hospital closings. Declining utilization is a far more important predictor of closure. When an institution closes because no one goes there anymore, it is hard to fairly describe that as a reduction in access to care.

IV. IMPLICATIONS FOR THE FUTURE

PPS might be considered an unqualified success if one concludes that the government is saving money, that hospitals, if not prospering, are at least continuing to get by, and that quality and access are not being negatively affected. But of course, things are not that simple. PPS contains, at its core, at least four fundamental problems. All of them can be patched and papered over indefinitely, and none of them alone, or even altogether, may be politically troublesome enough to sink the system. However, all of these problems need to be addressed in one form or another, both as PPS evolves and, more importantly, as the nation tries to reform its health care system.

These four problems are that PPS applies only to Medicare, that it applies only to inpatient services, that it may contain fundamental, structural problems of fairness, and that it may have been designed, or modified, to achieve inherently incompatible goals. Each will be considered in turn.

A. Medicare Only

Most obviously but perhaps most centrally, PPS applies only to Medicare patients and no payment system is, or can be, an island. To the extent that other payers do not play by precisely the same rules, whatever incentives the PPS system contains are weakened or destroyed. Thus, hospitals whose costs exceed their PPS payments may not need to change their behavior if they can subsidize those excess costs from revenues provided elsewhere. This is the problem of "cost-shifting." Even when other payers are not so generous, or obtuse, the strength of PPS incentives may be at least partially a function of the hospital's dependence on Medicare patients, which var-

ies considerably from institution to institution for reasons that may be very difficult for the institution to control.

More importantly, PPS applies only to Medicare in an environment in which a growing number of Americans have no health insurance at all and in which about 25 million Americans are covered by a Medicaid program administered by states that are experiencing increasing difficulty in maintaining the level of payments to providers. These phenomena have led the Congress increasingly, and I think appropriately, to contort PPS in order to compensate for some of these effects. Thus, especially in the last two or three years, Congress has increased the Disproportionate Share Adjustment in an effort to help stem the financial hemorrhaging at hospitals that serve large numbers of the poor. Under current budgetary rules, this increase has necessarily come at the expense of all other hospitals. The rationale for the magnitude of this adjustment and for the analogous maintenance of the size of the Indirect Medical Educational Adjustment is increasingly disconnected from any empirical notion of the costs of "efficient" hospitals. Instead, it is tied to evidence on total hospital margins, which of course are only partly influenced by the effectiveness with which hospitals respond to PPS incentives.[32]

Of course, PPS's creators in the Reagan Administration were very much aware that in limiting PPS to Medicare they were failing to address the needs of hospitals for revenue to serve those without insurance or with inadequate insurance. They rejected all-payer rate setting because it embodied the incarnate evil of regulation. They also explicitly rejected any notion of federal responsibility to pay for anything other than the costs necessary to care for Medicare patients. This position, however ideologically consistent, has not proven politically sustainable, thankfully I think. Efforts to overcome this inherent limitation of a Medicare-only payment system may, however, weaken the entire rationale for the system.

B. Inpatient Only

Second and almost as obviously, PPS applies only to inpatient services. As might have been expected, and as indeed hoped for, the implementation of PPS coincided with significant growth in outpatient services for Medicare patients no less

32. PROPAC REPORT, March 1991, *supra* note 17, at 36-37.

than others. It was also hoped that this shift in the sites of care would save substantial amounts of money. As shown in Table 2, that has almost certainly not happened.

Here again there are two aspects to the issue. First, the simple assumption that moving services from inpatient to outpatient produces significant costs savings may simply be wrong. It is harder to control the volume and quality of services in the pluralistic, decentralized, diversified, and largely undefined world of outpatient care than in the well-defined universe of only 5,000 or so hospitals. More to the point, while an individual procedure or examination may be cheaper to produce in one setting than another, total costs to the system are reduced only if the new setting is operating well down the marginal cost curve and if capacity in the old setting eventually shrinks to accommodate reduced utilization. Hospitals appear to be more expensive sites for many kinds of services because they carry a considerable overhead, a large part of which is standby capacity for expensive but infrequently utilized capabilities, and because they produce a range of "joint products." These costs do not go away when individual services are moved out. Such costs are just reallocated across a smaller base of remaining inpatient services unless, of course, a lot of hospitals close. However desirable such closures may be in the abstract, that appears to be an outcome the political system will not tolerate in practice.

Further, as hospitals derive a larger proportion of their revenues from outpatient services that they control themselves, directly or indirectly, their sensitivity to incentives connected to inpatient payment may decline. Here again, the capacity to generate revenue from non-PPS services weakens the power of PPS incentives. In this case, however, the growth of those non-PPS services is a direct result of the narrowness of PPS, which here is self-defeating.

C. Fairness

Third and perhaps most important politically, PPS may be increasingly unfair and may be perceived as being unfair. The tighter that payment rates get relative to costs and the more that is learned about the system, the more it appears that hospitals suffer or prosper under PPS for reasons at least partially outside their control. The root problem lies in the system of uniform national rates tied to measures of case-mix. These

measures are far superior to any other available tool to measure hospital outputs, but they are still far from adequate as the basis for the kind of system PPS has created. As reasonably homogenous measures of what hospitals produce, DRGs are getting better all the time, but they simply are not that good. At least, DRGs are not good enough to support a system of flat rates.

Having lived through the implementation of two DRG-based payment systems, it is a source of considerable interest to me that before implementation considerable attention is paid to the limitations of the DRG classification system. However, once the system is up and running such interest wanes. Trade associations, legislators, and lobbyists pay progressively less attention to issues of DRG creep and improvements in classification, and increasingly more attention to refinements in the payment adjustments and the creation of hospital-specific or class-specific exceptions. In one sense, that is a very healthy phenomenon, since emphasis on the "adequacy of payment" or the "profit or loss" on any particular DRG in any particular hospital is largely misplaced. The Law of Large Numbers works more often than not, things tend to cancel each other out at the hospital level, and payment dollars are fungible. What counts for hospital managers, and what should count, is total revenue produced by the payment process, however those revenues are determined. But from the system-wide level, shortcomings of the DRG system produce inequities that, if they cannot be redressed by improving the DRGs, tend to get redressed by adding further epicycles to the series of payment adjustments or do not get addressed at all. Either approach weakens the intellectual coherence of the system as well as the power of its "incentives."

I cannot resist noting that one solution to the problem of inadequacies in the DRG classification system, employed partially in New Jersey, fully in Maryland, but explicitly rejected by the architects of PPS, is to base rates wholly or in part on the historical cost experience of individual hospitals. Doing so, however, smacks of the dreaded anathema of "cost-based reimbursement." A complementary approach is to define outliers generously, thus substantially increasing the homogeneity of inlier cases, and to pay outliers on a cost basis. This approach was also rejected on ideological grounds by the architects of PPS.

Markets are not necessarily fair, of course, and the architects of PPS were more concerned with creating market-like efficiency incentives than with fairness. But I think they also misunderstood how incentives work in the real world. The problem with cost-based reimbursement, from a behavioral perspective, is not that it is cost-based but that it is retrospective; hospitals recover whatever they spend. PPS is cost-based, too, or would be if the DRGs were more homogenous. The incentive in the payment system comes from prospectivity, whatever the price, however derived. The motivation that presumably derives from the prospect of gain or loss is created by the fact that the price is fixed in advance, however it is fixed. I believe, and I think the evidence shows, that the likelihood of the desired behavioral response to that price is increased enormously if the price derives from something close to the experience of the institutions whose behavior one is trying to affect. It makes much more sense to tell someone to cut his costs by three percent, for example, then to tell someone to try to beat a price which may or may not be three percent less, or ten percent less, or more, than his costs would be if he did not change his behavior at all.

It is also possible, of course, that the architects of PPS just fell into the common and understandable trap of forgetting what an average really means. If costs are highly dispersed around the mean—as they are, even on a case-mix adjusted basis, with all the other PPS adjustments thrown in—then paying everyone the average produces exactly the same outlays as paying everyone their costs. That is simple arithmetic. But somehow, paying the average feels cheaper. Doing so, however, ignores the fact that while you are really sticking it to the high-cost producers you are simultaneously and symmetrically paying the low-cost producers a lot more than their costs, which is also a lot more than you have to.

D. Goals

More generally, and finally, the shortcomings of PPS reflect, at root, the profound lack of consensus about what policymakers are trying to accomplish with the Medicare hospital payment system or with health care policy generally. There is a considerable school of thought in the public policy literature that programs such as PPS have great attractiveness in the American political system because they seem to offer a

kind of technological fix to a policy dilemma caused by a fundamental lack of consensus about what to do. In that regard the very complexity, mathematical and statistical sophistication, and often literal incomprehensibility of much of PPS is part of its appeal. PPS must address a set of diverse and possibly conflicting policy objectives: to minimize Medicare expenditures, except in key Congressional districts; to keep every "needed" hospital solvent; to maintain or improve access to care for Medicare beneficiaries; to promote competition among hospitals; to promote efficiency in a sector with such pervasive and deep-seated market failure that competition may inherently produce inefficiency; and to encourage technological change while eliminating waste. Proposing and enacting PPS may represent not a solution to these problems but a way of not having to find a solution.

Whether PPS can continue to carry on its back so diverse and self-contradictory an agenda without spinning itself to pieces is an empirical question the answer to which we will eventually find out. One should never underestimate the creativity of the American political system when confronted with inescapable contradictions, nor the capacity of experts to tinker incrementally. Certainly, one should not underestimate the enthusiasm of the shrinking band of cognoscenti with a professional and economic stake in understanding a $60 billion dollar system that is increasingly mysterious to everyone else. It should be apparent, however, and will be increasingly apparent that PPS cannot solve the broader and deeper problems in the American health care system. It will have increasing difficulty solving its own.