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☐Review Article☐

Physician Payment Reform in the United States

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The United States recently adopted an entirely new system of paying physicians for the services they provide to elderly and disabled patients. The new system is based on a fee schedule in which the relative values among different services are derived on the basis of the cost of providing such services. To control expenditure growth, a system of Volume Performance Standards (VPSs) was adopted, which explicitly links physician fee levels to the success the physician community has in controlling the total volume of services provided. This article presents and analyzes the new payment system and examines its applicability to other countries. It concludes that the methodology used to develop the fee shedule may be useful to other countries, particularly if they are unable to reach a consensus on appropriate physician fee levels, but that the VPS system needs to be refined in a number of ways before it can be successfully exported.

Key Words : Health care expenditures, Medicare, physician expenditures, physician fees, physician incentives, United States, Volume Performance Standards

In 1989, the United States Congress enacted legislation that dramatically alters the way in which physicians will be paid for services they provide to patients enrolled in Medicare, the country's health insurance program for the elderly and disabled. Enactment of the new law, which followed several years of research, is designed to improve the equity of the program while at the same time, controlling costs. The new physician payment system contains several features that may serve to guide other countries that are in the process of establishing health insurance programs that cover physician services.

There are three primary aspects of the legislation : (1) a Medicare physician fee schedule based on the cost of providing services ; in effect, the new fees encourage physicians to provide primary care by raising payment rates for visits, at the expense of rates paid for surgery and testing; (2) patient protections against incurring high out-of-pocket costs by limiting Physicians' ability to charge fees that exceed the program's guidelines; and (3) "Volume Performance Standards" which will allow the government to set and meet a specified target expenditure growth rate for physician services.

This article summarizes and then evaluates this new payment system. The first section provides background on the previous system of physician payment in the United States and the problems it caused. That is followed by a discussion of the new system. The next section evaluates each of the three aspects of the legislation. The final section discusses the potential for -- and desirability of -- implementing the system in other countries.

THE OLD PHYSICIAN PAYMENT SYSTEM

In the United States many physicians and policy makers have long believed that the physician payment system was in need of major restructuring. Both Medicare and private insurers (which provide coverage, usually through employers, for most people who are under age 65) used a payment mechanisms based on "usual, customary, and reasonable charges" (UCR). Under UCRS, physician payment for a particular service was defined as the lowest of three factors : (1) the physician's actual charge for the service; (2) the physician's usual charge for that particular procedure during the previous year; or (3) the customary charge of other physicians in the

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same geographic area and specialty for that particular procedure during the previous year. The lowest of these three fators was called the reasonable charge. Furthermore, if physicians were unsatisfied with the size of the reasonable charge, they were free to charge the patient more.

There were two major problems with the UCR system: it was unable to control costs, and it favored more technically oriented services such as surgery and testing over the provision of primary care services. With respect to cost control, the UCR system was inherently inflationary; Medicare fees to physicians rose in tandem with increases in physician charges. Although the direct linkage between Medicare payments and physicians charges was largely broken in the mid-1970s, ten year's after the program's enactment, cost control has still been problematic because physicians continue to have on incentive to provide more services and more costly ones as well.

The magnitude of the cost problem is hard to exaggerate. Medicare physician service expenses have continued to skyrocket compared to other parts of the U. S. health care sector and the economy as a whole. Per capita health care spending in the United States is 38 percent higher than in Canada and over 60 percent higher than in any European country (Schieber and Poullier 1989). Even after subtracting out the effect of general inflation, Medicare spending on physician and laboratory services rose more than three-fold between 1970 and 1990 (U. S. House of Representatives 1990). It has been estimated that if current trends continue, Medicare spending will exceed that of the Social Security program by the year 2005 (Sullivan 1990). In effect, this means the United States government will spend more on the health care of the elderly than it will spend on all of their other needs.

In 1983, the U. S. Congress adopted the diagnosis-related group (DRG) system, which paid hospitals a fixed amount of money per Medicare admission, based on the patients' diagnosis. Previous to that, hospitals were paid on the basis of their costs, which gave them a strong incentive to spend more. It is generally believed that the DRG system has controlled growth in Medicare hospital expendit ures. For example, between 1985 and 1989, Medicare spending on physicians rose three times as quickly as it did for hospitals (Physician Payment Review Commission 1990). Many members of Congress believed that the government had largely succeeded in its battle with hospital costs; the next item on the policy agenda was to do something about physician costs under Medicare.

It would be a mistake, however, to attribute passage of the legislation solely to the need to control physician expenditures. For many years there had been widespread complaints that the UCR system was unfair to physicians, overpaying for surgery and testing while underpaying for primary care services. In fact, the two research activities that were so instrumental in the composition of the legislation--funding of the so-called Hsiao study and the establishment of the Physician Payment Review Commision (PPRC)--were initially directed not at controlling costs, but rather at correcting the inequities in relative fees.

As just noted, many people had long believed that relative physician fees were out of kilter. In fact, in a study conducted over ten years ago, Hsiao and Stason(1979) showed that surgical fees per unit time may have been as much as four times higher than fees for primary care. It is difficult to know exactly why such a disparity existed in a system where fees were based on physician charges. The general belief is that surgeons, radiologists, and pathologists have enjoyed tremendous increases in their productivity over the last twenty or thirty years due to new medical technologies. Thus, they are now able to do far more services in a given amount of time. In spite of this, their charges have not fallen accordingly, largely because public and private insurers have not insisted that fees decline. In contrast, physicians who specialize in providing visits have not been able to increase their productivity; thus, their relative fees have declined substantially in comparison to physicians who specialize in performing procedures.

THE NEW PHYSICIAN PAYMENT SYSTEM

As noted earlier, there are three aspects to the new physician system. Each will be described in the following subsections.

The Medicare Fee Schedule

The new Medicare fee schedule, adopted by Congress in 1989, will begin to be phased-in starting in 1992 and will be completely in place by the end of 1995. The fee schedule is based on an ongoing study being conducted by William Hsiao and his colleagues at Harvard University, as well as technical corrections made by PPRC and the Health Care Financing Administration, which administers

the Medicare program. Although details of the system continue to be hashed out, enough is known about it to allow the following generalizations.

Unlike the UCR system, where Medicare fees were based on physician charges, under the new system fees are based on costs. Specifically, there are three types of cost that are summed to obtain the total Medicare physician fee : (1) the estimated cost associated with the work it takes a typical physician to provide a service ; (2) the estimated cost of non-physician inputs that is typically expended; and (3) the estimated cost of malpractice insurance associated with providing the service. Furthermore, each of these factors is adjusted for differences in geographic costs.

The vast majority of the effort that has gone into the development of the Medicare fee schedule has focused on how to measure physician work. The estimates that will be used in the Medicare fee schedule are based on methodology developed by the Hsiao study, although PPRC made substantial revisions to the original estimates. Work is divided into three parts : provision of the service itself, pre-service work, and post-service work.

An extremely elaborate methodology was used to develop and validate the measures of work [see Hisao *et al.* (1988a) and PPRC(1989, 1990, and 1991) for details]. Briefly, a large group of physicians in every specialty were surveyed about the amount of work necessary to complete several procedures in their specialty. These physicians were asked to consider several dimensions of work : (1) the time it takes to do the service; (2) mental effort and judgement; (3) technical skill and physical effort; and (4) psychological stress (Hsiao *et al.* 1988a). Once valid measures of total work were obtained for each specialty, a procedure was used to link the specialties, thus allowing the researchers to obtain a single estimate of work for a particular procedure across all specialties. This was crucial because under the legislation, all physicians will be paid the same for providing a particular service; there are no specialty fee differentials.

Research is still being completed on the other two components of the Medicare fee : practice costs, and malpractice insurance expenses. Practice expenses are divided into two groupings: direct and indirect expenses. Direct expenses include things such as staff time and the cost of medical supplies, while indirect expenses include overhead costs such as rent and utilites. Although the methodology for estimating malpractice expenses has not been finalized, it is likely that this component will be based on the malpractice risk associated with a particular procedure; services that tend to result in more lawsuits will receive a higher Medicare fee (PPRC 1991).

Table 1. Anticipated changes in physician Revenues under the Medicare Fee Schedule, by Specialty

Specialty	Revenue Change (%)
Medical	
Internal Medicine	+17
Family Practice	+38
Dermatology	+ 1
Surgical	
Ophthalmology	- 16
General Surgery	- 10
Orthopedic Surgery	- 7
Urology	- 5
Thoracic Surgery	- 20
Otolaryngology	+ 6
Obstetrics/Gynecology	+ 2
Hospital Based	
Radiology	- 21
Pathology	- 25

Source : Physician Payment Review Commission (1989)

The methodology just outlined does not, in itself, determine an actual Medicare fee level for a particular procedure. Rather, it is used to determine relative values for different procedures. The actual fee is then determined by multiplying these relative values by a "conversion factor", which is simply the dollar value given for each relative value unit. If, for example, a procedure's relative value were equal to 5.0, and the conversion factor were equal to $10.00, the total fee for the sevice would be $ 50.00. Thus, the size of the conversion factor is crucial in determining Medicare fees. How it is determined is discussed below, under "Volume Performance Standards".

It is possible to use initial estimates of the size of the conversion factors to calculate how different types of physicians are likely to be affected by the fee schedule. These figures are shown in Table 1. It must be stressed that these estimates are preliminary, and do not take into account that fact that physicians may respond to changes in their fees by providing more or fewer services.

Patient Financial Protection

One concern of policy makers who were in-

volved in enacting the Medicare fee schedule was that Medicare patients could suffer. This might occur, for example, if surgeons--whose fees would be reduced by the new fee schedule--raised their charges to surgical patients ; Medicare pays nothing toward charges above the fee schedule amount.

To deal with this potential problem, the legislation establishes strict limits on how much physicians can charge patients above the fee schedule amount. By 1993, after the phase-in period is completed, the most a physician can charge a patient is 15 percent more than the fee schedule. Furthermore, the legislation contains a number of incentives for physicians to "accept assignment" on all patients, which means that they agree to not charge more than the Medicare fee schedule amount.

Volume Performance Standards

In and of itself, the Medicare fee schedule will not save the government money; rather, it will redistribute money away from surgeons, radiologists, and pathologists, towards generalists and internists. Althought this may be desirable in itself, it was also necessary for the Congress to do something about runaway inflation.

This is the purpose of the Volume Performance Standards (VPSs). Essentially, VPSs allow Congress to meet a targeted rate of growth in Medicare physician expenditures. (A more detailed discussion of the VPS system can be found in Rice and Bernstein, 1990).

Each year, Congress sets a desired target increase in Medicare physician expenditures (say, 10 percent). If actual expenditures exceed the target (for example, suppose they are 12 percent), then cost-of-living updates in the Medicare fee schedule for the next year will be decreased (in this example, by 2 percent). But if actual spending is less than the target, then fees could rise more than the cost of living. One important caveat is that physician fee updates under this system are not based on a formula; the Congress can grant any size increase or decrease in fees that it wishes; however, it will be guided by the extent to which physicians are meeting the target.

EVALUATION OF THE NEW LEGISLATION

This section evaluates each of the three components of the new Medicare legislation.

The Medicare Fee Schedule

The fee schedule appears to be a major improvement in the way in which physicians are paid for providing Medicare services. The old system, which was based on physician charges, was not only inequitable, but gives physicians with strong incentives to provide surgery and testing over primary care and hospital services. By basing fees on the basis of the cost of providing care rather than on historical charges, the fee schedule should dramatically improve the incentive structure that physicians face.

But it should not be viewed as a panacea. There are a number of potential problems that must be faced. The first problem is that because fee-for-sevice medicine is retained, the fee schedule does not change the overall incentive for physicians to increase the volume of services. (In fact, as described below, the VPS system may aggravate the problem.) It is now estimated that perhaps 25 percent of services currently being provided are unnecessary (Brook *et al.* 1989). The legislation does nothing to stimulate the expansion of Health Maintenance Organizations (HMOs), which have an incentive to reduce the provision of inappropriate care. On the positive side, however, another part of the legislation substantially increases federal funding for research on medical care outcomes, which in turn should improve our ability to identify inappropriate care.

A second problem with the fee schedule is that it may not improve efficiency. The entire basis of the system is that services should be paid on the basis on how much it costs to provide the care. Thus, more time-intensive and resource-intensive services will generate higher physician fees. If there is a simple, less costly way to treat a patient, the physician would not have a financial incentive to follow this path because it would provide less financial reward. In contrast, HMOs, which receive a fixed fee per patient per year, do have an incentive to utilize the most efficient treatment regimen.

A final problem of the fee schedule is that it only applies to Medicare patients, who represent less than 15 percent of the U. S. population. Although private insurance companies, which cover the bulk of the remaining 85 percent of the population, would be free to adopt it, they are not compelled to do so. One concern is that physicians whose Medicare fees decline may simply shift more of

their practices to other patients, who might bring in higher fee levels. Not only would this present an access problem to the elderly and disabled, who are covered by Medicare, but it would do nothing to control total national health care costs.

Patient Financial Protection

By and large, the patient financial protections built into the legislation are desirable because they protect Medicare patients from being overcharged by physicians. It is estimated that two-thirds of Medicare patients will pay less money out-of-pocket as a result of the legislation (PPRC 1991). The other side of the coin is that by limiting how much physicians can charge in excess of the fee schedule to only 15 percent, some physicians--who can garner far more revenue from private insurers--may no longer wish to see Medicare patients. This is probably not much of a problem for some specialties, such as ophthalmologists and thoracis surgeons, which rely heavily on the elderly for their businesses. However, it could become a problem for specialties that spend most of their time with the nonelderly.

Volume Performance Standards

The Volume Performance Standards were included in the legislation in order to control growth in Medicare physician expenditures. There is little doubt that the VPS system has the ability to control these costs ; all the Congress needs to do is set strict expenditure targets and use them when updating physican fee levels. Nevertheless, the way in which physicians may respond to VPSs could cause a number of problems.

To understand the potential problems (and possible solutions) associated with VPSs, it is necessary to look at the incentive structure more closely. VPSs differ from previous American efforts to control costs in that they do not provide direct incentives to individual physicians or consumers to change their behavior. Under the system, annual fee updates for all physicians are based on the volume of services provided by all physicians. An individual physician is not penalized if he or she increases service volume or intensity. In fact, to the extent that providing more services or more complex ones is profitable, a physician could gain by doing so.

Rather, VPSs are based on collective rather than individual incentives. It is hoped that all physicians will realize that it is in their collective best interest to control the volume of services they provide, as this will result in higher fee updates for everyone.

The problem is that an individual physician may not feel that it is in his or her best interest to control the number of services provided. To see this, it is easiest to think of the Medicare physician budget as a large pie. The VPS system controls the size of the pie, ensuring that total expenditures do not grow faster than desired. Viewed this way, the incentive facing the individual physician may be to get as large a share of the pie as possible. Since fees for each procedure are set and billing patients amounts above that level is severely restricted, the only way for a physician to obtain additional revenue from Medicare is by providing more services.

However, if all physicians feel this way, total volume will rise substantially, which will trigger a large reduction in fees. What this means is that a physician who does not increase volume--say, for ethical reasons--will be penalized. All physicians' fee levels will decline because other physicians are providing more services. This particular physician will therefore make less money from Medicare if he or she does not provide more services. Thus, it is not hard to imagine that VPSs may actually result in increased rather than decreased volume.

It could be argued that this is desirable because the number of services provided to Medicare patients would be increasing, at no overall cost to the Medicare budget. This assumes, however, that the extra services are of value to patients, and as noted earlier, it is generally believed that too many inappropriate services are already being provided.

The other, more serious problem is that higher volumes will act in a spiraling fashion, leading to lower fee updates in future years. Although some physicians may continue to increase their provision of services year after year in the wake of declining fees, others may not. Rather, they might react to lower fee updates by reducing their particiation in Meidcare. Unfortunately, those who drop out of the program might be those physicians who one would wish to have stay : better physicians who have a higher value of their time, and those who have a strong distaste for providing more and more services.

To avoid this sort of scenario from occurring, it is necessary to try to find a way to ensure that the volume of services does not rise in response to VPSs. An interesting case study in which such a system appears to be succeeding is in West Germany(For a detailed description of the German physi-

cian payment system, see Kirkmann-Liff 1990; PPRC 1990, Appendix D; PPRC 1991, Appendix D).

Under the German system, expenditures for physician care in each region of the country are fixed; thus, if one physician provided an unduly large number of services, this would automatically reduce the incomes of other physicians. Consequently, German physician organizations, in conjunction with the sickness funds that pay for services, collaborate in an elaborate physician profiling system. Under the system, physician billings for each of several types of services (e.g., visits, laboratory tests) as compared to other physicians in the area with similar types of staff, equipment, and patient casemix. If a physician provides substantially more services (40-50 percent) of any type per patient than his or her peers over a three-month period, that physician is brought before a board to justify his or her actions. If the physician cannot do so, he or she will not be paid for the extra services. This system appears to have been successful in controlling growth in service volume (PPRC 1991, Appendix D).

There are two lessons from the German system that are useful in assessing the new Medicare Volume Performance Standards. First, the German system is not national but regional in scope, which implies that Medicare might be more successful if it adopts separate performance standards in each state, rather than the single national system as it currently has. It is much easier to monitor physician practices and to try to influence physician behavior if the impetus comes locally. In the United States, a number of organizations--the insurance carriers that administer the Medicare claims system, peer review organizations that monitor utilization, many specialty societies, and licensing and credentialing boards--all operate at (or nearly at) a state level. These organizations have the potential to work together to develop and use physician practice profiles (Rice and Bernstein 1990).

Second, some organizations must have the authority to oversee the construction of physician profiles and discipline physicians who appear to be overproviding services. For a variety of reasons, it makes most sense that these be physician organizations. Currently in the United States, it is difficult to prevent a physician from providing a great deal of services so long as the services are considered to be consistent with accepted medical practice. Unless some organization is given the authority to have some influence over individual physicians, it will be difficult to overcome the financial incentives built into the VPS system to provide more services.

APPLICABILITY TO OTHER COUNTRIES

Since the physician payment reform legislation was only recently passed by the U. S. Congress and the implementation process has not yet begun, it is impossible to judge its success. Furthermore, given that the United States is nearly unique among industrialized countries in not having adopted a national health insurance system, the applicability of the new physician payment system to other countries is also questionable. In spite of this, a few generalizations may be possible.

The Medicare fee schedule, which is the centerpiece of the new legislation, is unique in that it is based on research that computes the average cost of providing services. In contrast, most other countries that pay physicians on a fee-for-service basis rely on fee schedules that are negotiated between government payers and the medical societies.

Whether there is an advantage to using research as opposed to negotiation for purposes of calculating fees would appear to depend on the inherent reasonableness of a country's current payment system. In the United States, for example, it is often asserted that the sub-specialties are much more powerful than primary care physicians, and that this has contributed to the disparity in fees that is being corrected through the enactment of the new fee shedule. In contrast, Canadian physicians--half of which are generalists--work out relative fees among their medical societies, and the resulting values are surprisingly consistent with the relative values that are contained in Medicare's new fee schedule (Hsiao *et al.* 1988b). This demonstrates that a research study is not a necessary prerequisite for achieving a reasonable fee schedule.

It would therefore appear that the methodology used to construct the fee schedule would be most useful in countries whether either the current system seems to be unfair, or in which the government and medical groups cannot reach agreement on the appropriate schedule of fees. In such situations, there should be no reason that a Hsiaolike study could not be replicated. However, as the Canadian experience demonstrates, there are other means available to construct a fee schedule that apportions fees appropriately between different types of procedures and specialties.

In contrast to the fee schedule, the Medicare Volume Performance Standards are not unique to

the United States. They are similar (although much weaker) than the system used in Germany, and also bear some resemblance to what is being employed in several Canadian provinces (Barer *et al.* 1989).

A system of VPSs, which allows a government to keep expenditure growth to a particular targeted amount, is one of the few ways in which to control inflation in a fee-for-service system. If physicians increase volume more than is deemed appropriate, unit fees will decline so as to meet the targeted level of expenditures.

The problem with the U. S. system is that there does not appear to be an incentive or a mechanism to control the volume of services provided by individual physicians. Thus, if the VPS system succeeds in limiting expenditures, it may do so at the price of increasing the amount of inappropriate care. This, in turn, will reduce unit fees through the VPS mechanism. Eventually, fees might become low enough to dissuade some physicians from continuing to treat Medicare patients.

Any country wishing to retain fee-for-service and still wanting to control expenditures should closely look at the VPS system. However, such countries should ensure that the system they adopt includes a mechanism--whether it be financial incentives or monitoring physician paractice patterns--for limiting growth in the volume of services.

REFERENCES

Barer J, Fooks C, Rice T, Labelle RJ : Paying Physicians in Canada. *Health Affairs 8 : 80-102, 1989*

Brook R, Kamberg C, Mayer-Oakes A : *Appropriateness of acute Medical Care of the Elderly : An Analysis of the Literature.* Santa Monica, California, Rand Corporation, Publication No. R-3717-AARP/HF/RWJ/RC, *September 1989*

Hsiao WC, Braun P, Yntema D, Becker ER : Estimating Physicians' Work for a Resource-Based Relative-Value Scale. *New Engl J of Med 319 : 835-841 1988*

Hsiao WC, Braun P, Dunn D, Becker ER, DeNicola M, Ketcham TR : Results and Policy Implications of the Resource-Based Relative-Value Scale. *New Engl J of Med 319 : 881-888, 1988*

Hsiao WC, Stason W : Toward Dveloping a Relative Value Scale for Medical and Surgical Societies. *Health Care Financing Review 1 : 23-28, 1979*

Kirkmann-Liff BL : Physician Payment and Cost-Containment Strategies in West Germany : Suggestions for Medicare Reform. *J of Health Politics, Policy, and Law 15 : 69-99, 1990*

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

Physician Payment Review Commission : *Annual Report to Congress.* Washington, D. C., *1990*

Physician Payment Review Commission : *Annual Report to Congress.* Washington. D. C., *1991*

Rice T, and Bernstein J :Volume Performance Standards : Can They Control Growth in Medicare Services? *The Milbank Quarterly 68 : 295-319, 1990*

U. S. House of Representatives. Committee on Ways and Means. *Overview of Entitlements : 1990 Green Book.* Washington, D. C., Government Printing office, *1990*