ASSOCIATION OF AMERICAN MEDICAL COLLEGES

HOW THE MEDICARE PROGRAM PAYS HOSPITALS FOR INPATIENT SERVICES:

A PRIMER ON THE PROSPECTIVE PAYMENT SYSTEM

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AAMC ASSOCIATION OF AMERICAN MEDICAL COLLEGES

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Introduction

As an association of medical schools, teaching hospitals and academic societies, the Association of American Medical Colleges (AAMC) works with its members to set a national agenda for medical education, biomedical research and health care. A key role of the Association is to explain the special characteristics and concerns of teaching hospitals to Congress, executive branch agencies, regulatory bodies and private payers. As part of its public education and advocacy role on behalf of the nation's teaching hospitals, the AAMC monitors federal initiatives in Medicare hospital payment policy.

The purpose of this document is to educate and inform AAMC constituents about the principles and procedures used by the Medicare program to pay hospitals for inpatient acute care services. It describes the main characteristics of the Medicare prospective payment system (PPS), demonstrates how a payment is calculated for a teaching hospital, and concludes with an overview of the effects of the PPS on the Medicare program expenditures and on the financial performance of hospitals.

Overview of the Medicare PPS. The PPS was quite a departure from the old way of paying for hospital services. Before the PPS, hospitals were paid their actual historical costs, subject to certain rules. Under the PPS, payment is prospective. A single lump-sum per case rate, set before services are delivered, pays for the entire hospital stay.

The Medicare PPS pays nearly all short-term, general acute care hospitals in the United States for inpatient services. As of August 1992, just under 5,400 hospitals were receiving payments under the PPS. This represents about 83 percent of all hospitals that participate in the Medicare program.

Overview of the Medicare PPS

- Fixed "prospective" per case rates set in advance of service delivery
- Includes most, but not all, U.S. hospitals
- Implemented gradually beginning October 1, 1983
- Uses DRG patient classification system
- Applies only to inpatient acute care services
- Excludes certain types of costs
  - Direct graduate medical education
- Prospective capital payments beginning October 1991

Federal hospitals, such as those run by the Departments of Defense and Veterans Affairs, are excluded from the PPS. Children's hospitals, long term care hospitals, and psychiatric and rehabilitation hospitals also are exempt. Separate and distinct psychiatric and rehabilitation units in acute care hospitals are excluded because the diagnosis-related group (DRG) patient classification system used to calculate PPS rates is considered inappropriate for these types of cases.

At the start of the PPS, several states had rate setting systems that applied to all payers, including Medicare, and four were permitted to retain their existing "Medicare waivers." Today, Maryland hospitals are the only ones that remain exempt from the PPS; hospitals in Massachusetts, New Jersey and New York have been included in the national Medicare payment system.

Not all hospitals entered the PPS at the same time. Hospitals were brought under the system at the start of their usual fiscal year. Some started on October 1, 1983, while others waited as late as September 1984. On October 1, 1992, the Medicare PPS entered its tenth year, federal fiscal year 1993. Policy analysts refer to FFY 1993 as PPS-10.

When Congress approved the PPS in 1983, it recognized the dramatic change in the way hospitals would be paid by establishing a phase-in period to ease the transition from cost-based reimbursement. During the phase-in period, hospitals received Medicare payments based on a blend of their specific costs, regional and national (federal) average rates. By 1988, however, most hospitals were paid on the basis of 100 percent federal rates.

The foundation for prospective rates is a patient classification system called Diagnosis-Related Groups, or DRGs, which sorts patients into groups according to their medical condition. The DRG system was developed at Yale University in the late 1960s. The prospective payment rate is the same for every patient in a given group, regardless of how long the patient stays in the hospital or what else is done during the stay. PPS payment rates are designed to cover hospitals' inpatient acute care operating costs. These include costs for room and board, nursing care, ancillary services such as lab tests, and intensive care.

Some costs, most notably direct graduate medical education costs, are excluded from the PPS.

Medicare makes separate prospective payments for a share of the direct costs of graduate medical education (GME), such as the salaries of interns and residents, supervising faculty and overhead. Some other hospital costs, such as kidney acquisition costs, are paid outside the PPS.

A separate prospective payment system for inpatient capital-related costs-interest and depreciation costs-was implemented in October 1991. The capital PPS has many of the same features as the PPS for operating costs. Capital-related costs were considered to be too difficult to include in the prospective rates at the outset. The Health Care Financing Administration (HCFA) tried three times to incorporate inpatient capital-related costs into the PPS. To illustrate the prospective payment system for capital would make the payment example in this paper too complicated. It is important to know that the capital PPS is relatively new, runs separate from but parallel to the operating PPS, and has a ten-year transition period.

Two Objectives of PPS. From the beginning, prospective payment was recognized as a dramatic change in the Medicare program. Congress and others expected it to achieve two major objectives. *First, the federal government expected to gain greater control and predictability over inpatient hospital expenditures.* Until the PPS, hospitals had been paid their actual costs, which were unpredictable. By 1982, Medicare outlays had far exceeded the program's original projections. Since hospital costs represented 70 percent of Medicare's total spending, payment reform was focused on inpatient hospital services.

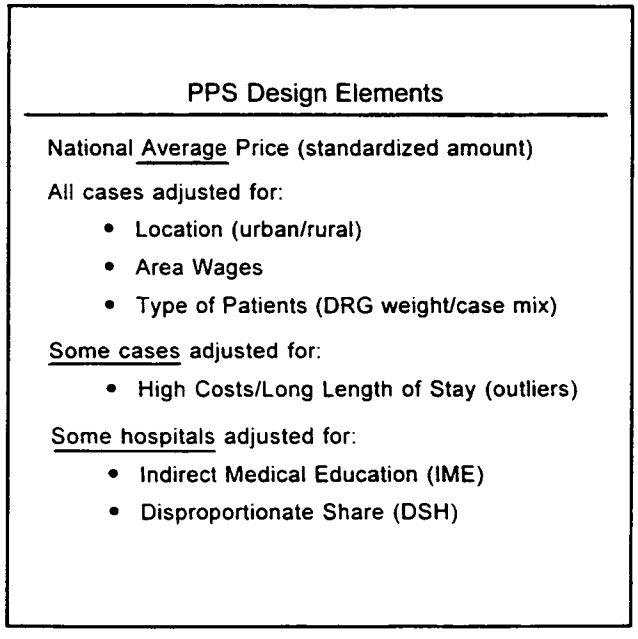
Second, Congress expected that hospitals would become more efficient. Many believed cost reimbursement had made hospitals wasteful. The PPS gave hospitals an incentive to deliver care efficiently. If hospitals could keep their costs below the fixed payment rate, which was set in advance, they could keep the excess payment. On the other hand, if their costs were above the rate, they would lose money on the case.

PPS Design Elements. The PPS balances the concept of an average price with the recognition that costs vary among hospitals, often due to factors beyond their control. The national average price, which is called the standardized amount, is adjusted in several ways to account for differences in costs.

All hospitals' per case PPS payments are adjusted for location (whether hospitals are located in urban or rural areas); differences in the wages hospitals pay to their workers; and the types of patients hospitals treat as determined by their classification into DRGs.

Depending on the case, a hospital can receive an extra payment for part of the costs of special cases called outlier cases. These cases have unusually high costs or long lengths of stay. In a system with fixed payments based on average costs, outlier payments may be viewed as insurance against extraordinary losses.

Some, but not all, hospitals receive additional payments based on certain hospital characteristics. Unlike the other adjustments



which are based at the patient or case level, the indirect medical education (IME) and disproportionate share (DSH) adjustments are institutional level payments. These payments are made on the basis of whether hospitals have graduate medical education programs and/or the volume of low-income patients they serve.

Distribution of Estimated FFY 92 PPS Payments by Type. The amount and distribution of PPS payments are major policy issues. Each year Congress and the Health Care Financing Administration make changes in the Medicare program that affect both elements. In federal fiscal year 1992, hospitals received an estimated $54.9 billion in PPS payments.

Distribution of Estimated FFY92 PPS Payments by Type

Payment	*$ Billions*	*% of Total*
Basic DRG	$47.0	85.6
- Includes wage/case mix adj.		
IME	3.1	5.7
DSH	2.2	4.0
Outliers	2.6	4.7
Total	$54.9	100%

For the 5,400 hospitals paid under the PPS, the basic DRG payment, which reflects the hospital's location, the level of local wages hospitals pay, and the relative costliness of the case, constitutes on average nearly 86 percent of all PPS payments. IME, DSH and outlier payments represent about $8 billion or 14 percent of PPS payments. In contrast, there are significant differences in the distribution of aggregate PPS payments for teaching and nonteaching hospitals. By definition, teaching hospitals receive all IME payments. They also tend to get large shares of DSH and outlier payments. This has an important impact on teaching hospitals' financial performance under the PPS.

Computing a Hospital's Prospective Payment. With that brief introduction to the PPS, a hospital's payment for a specific case may be calculated. To determine the hospital's prospective payment, one must know certain facts about the patient and the hospital. In this example, the patient underwent a coronary bypass with cardiac catheterization at St. Elsewhere Hospital in Chicago, Illinois. The patient was assigned to DRG 106 and discharged in federal fiscal year 1993; thus FY 1993 payment rules apply. The costliness weight for DRG 106, a surgical procedure, is 5.6583 in FY 1993.

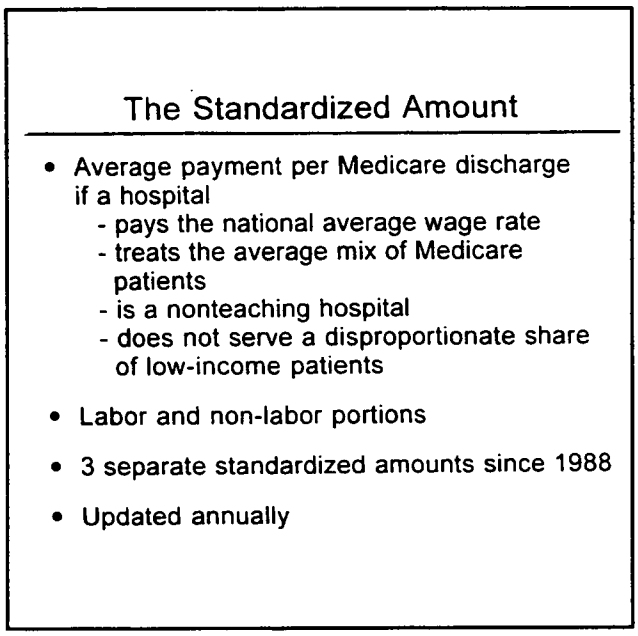
Computing a Hospital's Prospective Payment
The Example of St. Elsewhere

Medicare inpatient discharged November 3, 1992
DRG 106 - Coronary bypass w cardiac cath
Location: Chicago, IL

For FFY93
Chicago Area Wage Index (AWI) = 1.0513
DRG Costliness Weight (DRG) = 5.6583
Interns/Residents = 200
Beds = 666
Low-Income Patient Load = 25.2% of patient days

Because it's located in Chicago, St. Elsewhere receives the standardized (national) amount for hospitals in large urban areas of over one million population. However, under FY 1993 payment rules some hospitals in the U.S., including those located in the East North Central states (Illinois) may choose to receive the higher of a blended national/regional standardized amount or a 100 percent federal rate. Chicago has an area wage index of 1.0513.

In addition, St. Elsewhere is a 666 bed teaching hospital with 200 interns and residents on-site. The hospital serves low-income patients paid for by the Medicaid or the Medicare Supplemental Security Income (SSI) programs so that 25.2 percent of its inpatient days are attributed to these low-income patients.



The Standardized Amount. The rate calculation starts with the standardized payment amount per case. The method used to create the standardized amount involves several steps and is quite complex, but it should be thought of as the average cost of a Medicare case in an average, nonteaching, non-disproportionate share hospital.

The standardized amount is partitioned into labor and non-labor portions. This information is calculated and published by the HCFA. Today, there are three separate standardized amounts: one for hospitals located in large urban areas with over one million population, one for hospitals in other urban areas of less than one million, and one for rural hospitals. By 1995, the differential between rural and "other urban" hospitals will be phased out, leaving two separate standardized amounts.

Each of these standardized amounts is updated annually by the rate of inflation for medical goods and services which is referred to as the marketbasket rate. In recent years, though, Congress has limited the annual update to less than the marketbasket inflation rate. Rural hospitals have received higher updates than urban hospitals. For FY 1994, the Prospective Payment Assessment Commission has recommended that all urban hospitals receive an update of 3.4 percent to the standardized amount and rural hospitals receive an update of 4.9 percent. The Administration's FY 1994 budget proposes an average update of the marketbasket inflation rate minus one percent. Currently, this would be about 3.3 percent.

Area Wage Index (AWI). To account for variation in wage rates across geographic areas, the labor-related portion of the standardized amount is adjusted by a wage index for the hospital's labor market area. The wage index measures the relative level of wages for hospital workers in each urban or rural area compared to the national average level of hospital wages.

Since the beginning of the PPS, the area wage index has been constructed using labor market areas based on county boundaries. Urban labor market areas have been defined by metropolitan statistical areas, or MSAs. Rural hospitals use a single wage index for all rural areas in the state. The use of fixed boundaries for the construction of the AWI has been problematic.

Another weakness of the area wage index is that it always has been based on old data. The current wage index is based on 1988 data, but starting in Federal FY 1994, the Secretary of HHS must update the wage data annually.

Changes in the area wage index do not affect the aggregate level of PPS payments, but the AWI is one of the key determinants of the distribution of PPS payments. It significantly affects the hospital's base payment rate. A 10 percent difference in the wage index for a hospital's labor market area will lead to about a 7 percent difference in its total PPS payments.

The fairness of the wage index has been and will continue to be one of the hot policy issues in the PPS. Over the years Congress has received many complaints about the wage index. Basing the wage index on fixed county boundaries is problematic because large differences in wage index values often exist across the boundaries of adjacent areas. Thus, nearby hospitals located on opposite sides of a labor market boundary may have substantially different wage indexes and PPS payment rates.

Area Wage Index (AWI)

- Measures the relative level of wages for hospital workers in an area compared to the national average
- Based on MSAs and 1988 wage data
- Key determinant of distribution of payments
- Geographic reclassification

In 1989 Congress attempted to alleviate the problem by creating a process that allowed hospitals to request changes in geographic classification to receive a higher standardized amount and/or a higher area wage index. This was primarily aimed at rural hospitals so they could apply to be reclassified as urban hospitals to get the higher rates. By law, however, a change in status has to be cost-neutral. So, extra dollars given to reclassified hospitals must be taken from the funds earmarked for urban hospitals. For FY 1992, the Medicare Geographic Reclassification Review Board (MGCRB) approved 1,061 reclassification requests and denied 90, which redistributed hundreds of millions of PPS dollars. In 1992, the HCFA attempted to correct the problem by tightening the criteria for hospitals seeking reclassification, estimating that up to 75 percent of hospitals currently reclassified would be unable to meet the revised criteria. For FY 1993, the MGCRB approved 314 requests while denying 665 requests. Many hospitals have filed protective appeals because the new criteria have been challenged in the courts.

Another recent development has added fuel to the debate. In December 1992, the Office of Management and Budget (OMB) issued revised MSA definitions based on the 1990 census data. Old MSAs were expanded and several new ones were created. The Secretary of Health and Human Services (HHS) has proposed to adopt the new MSAs for defining labor market areas for FY 1994. If adopted, the new definitions will have large redistributive effects because the wage index is based on MSAs. Urban hospitals will be hurt because wages in outlying areas that are now included in new MSA definitions are generally less than in inner cities. Thus, the wage index of the expanded MSA will decrease. The OMB added rural counties to 60 MSAs and combined 24 existing areas. Some western cities like Phoenix will not be as affected because wages tend to be the same across the area. But in Washington, DC, for example, the newly expanded MSA will redistribute money from the hospitals in the District of Columbia to hospitals in Virginia and other outlying areas.

In response to requests from the Congress, the Prospective Payment Assessment Commission (ProPAC) has developed alternative hospital-specific labor market definitions based on hospital geographic proximity. In its March 1993 report to the Congress, the commission recommends the repeal of geographic reclassification and the development of a hospital-specific wage index based on

a "nearest neighbor" approach. In other words, hospitals would be grouped based on air miles distance from each other and a wage index would be calculated for each hospital based on a group of hospitals that face similar labor market conditions. ProPAC also recommends an occupational skill mix adjustment on the grounds that the skill mix of labor purchased by the hospital is within its control. Differences in missions, services offered, and patient mix are already accounted for by other hospital-specific PPS adjustments such as case mix and the IME and the DSH adjustments.

Step 1: Calculate the Wage-Adjusted Standard Price. To calculate St. Elsewhere's payment for a Medicare patient in DRG 106, the standardized amount must be adjusted. First, the part of the standardized amount that reflects labor costs, about 71 percent, is adjusted up or down to reflect hospital wages in that area. The 71 percent is based on the HCFA's estimate of the share of labor-related components of the hospital market basket. St. Elsewhere in Chicago has a wage index of 1.0513. This means labor costs in Chicago are slightly higher than the average across the nation.

Step 1: Calculate the Wage-Adjusted Standard Price

- Area Wage Index applies only to 71 percent of standardized amount (labor-related portion)
  - 29 percent is non-labor related

(Labor portion of std amt * Chicago AWI) + Non-labor portion = Wage-adjusted standard price

($2613 * 1.0513) + $1079 = $3,826

In this example, the labor portion of the standardized amount ($2613) which is published by the HCFA in the **Federal Register**, is multiplied by the Chicago area wage index. The non-labor portion of $1079, also published by the HCFA, is added to the labor portion of the standardized amount. The result of Step 1 is $3826, the wage-adjusted standard price.

DRG Weights/Case Mix. The next step is to account for the relative costliness of the patient by assigning a DRG weight to the case. The DRG classification system groups patients who have similar treatment resource requirements. Each DRG is assigned a weight that reflects its costs in relation to an average case. Brain surgery has a higher weight than a tonsillectomy. A liver transplant has a weight of about 20. A GI obstruction without complications (DRG 181) has a weight of about 0.5. A hospital's case mix index is the average DRG weight for all cases in the hospital paid under PPS.

Although the original DRGs were developed from data for all hospital admissions, the DRG weights are based on data for Medicare patients specifically.

As treatments and patterns of care change, the DRGs must change with them. To improve payment equity a case may be reassigned to another more appropriate DRG, or a new DRG may be created. Over nine years, only 25 new DRGs have been added. Every year the DRG relative weights are recalibrated to create an entirely new set of weights that more accurately reflect the relative costliness of current medical practice. Annual changes in the DRGs affect the distribution of PPS payments across hospitals.

Changes in the case mix index continue to be a major source of payment increases under the PPS. In fact, during the first five years of the PPS, changes in case mix increased payments to hospitals more than the annual updates and all other policy changes combined. DRGs were not designed

DRG Weights/Case Mix

- Each DRG is assigned a weight that reflects its costs in relation to an average case
- Based only on Medicare patient data
- DRGs changed annually to improve payment equity

  467 DRGs ⟶ 492 DRGs
- Problems: some DRGs show wide variation in cost
  DRGs do not reflect severity or other factors that influence resource use

originally for payment purposes. It is difficult to tell whether changes in the case mix index are due to real changes in patient resource use or to improved medical record keeping and coding practices.

While the major advantage of DRGs is their ability to relate resource consumption to the type of patient, they have some significant disadvantages. Within some DRGs, there is wide variation in treatment costs. Variation can arise from the different diagnoses or procedures captured in a given DRG. Variation can also come from individual patients with the same diagnosis within a given DRG. DRGs fail to differentiate levels of severity of patient illness, and they do not reflect factors such as the patient's socioeconomic status or the type of patient admission (emergency or elective, for example).

Step 2: Multiply Wage-Adjusted Standard Price by DRG Weight. In this example, the patient is classified in DRG 106, a surgical DRG with a weight of 5.6583. The wage-adjusted standardized amount is multiplied by 5.6583. The basic DRG prospective payment for this patient is $21,649. This payment is the cornerstone of the PPS. If St. Elsewhere were a nonteaching hospital and served few low-income patients, this would be its total prospective payment amount for this case.

Step 2: Multiply Wage-adjusted standard price by DRG Weight

(Wage-adj std price * DRG Weight) = Basic DRG Payment

($3826 * 5.6583) = $21,649

If St. Elsewhere were a nonteaching hospital and served few low-income patients, this amount would be the total payment for DRG 106.

For many hospitals, though, the PPS supplements the basic DRG payment with a series of adjustments for factors thought to deserve special consideration or to be beyond the individual hospital's control. St. Elsewhere has a teaching program of about 200 residents and serves a number of low-income patients. These institutional characteristics allow St. Elsewhere to receive two special payment adjustments, the indirect medical education (IME) and disproportionate share (DSH) adjustments.

Indirect Medical Education (IME) Adjustment. The IME adjustment is a percentage add-on payment to the basic DRG payment. A formula is used to determine the amount of the adjustment.

The IME adjustment compensates teaching hospitals for their higher costs compared to nonteaching hospitals. These higher costs are associated with the more severely ill patients who are cared for in teaching hospitals and require specialized services and treatment programs. The DRG classification system fails to account fully for severity of illness. Teaching hospitals also incur additional costs in association with the teaching of residents, such as a more costly staffing and services mix.

Indirect Medical Education (IME) Adjustment

- Percentage add-on payment to basic DRG payment
- Compensates teaching hospitals for higher inpatient operating costs due to:
  - severity/DRG weaknesses
  - operating costs associated w education programs
- Based on statistical analysis using intern and resident-to-bed ratios (IRB)
  - Major teaching $\geq$ .25 IRB
- Current level is 7.7% for every 0.1 increase in IRB
  - major teaching @.25 IRB = 17.9% IME
- 1,183 hospitals receive $3.1 billion in FFY92

The IME adjustment is based on a statistical analysis using data on hospital costs. It is calculated using the ratio of interns and residents-to-beds (IRB). There are very specific rules about how trainees and beds are counted.

Policy analysts group teaching hospitals into two categories: major teaching hospitals have IRBs of .25 or greater. "Other teaching" hospitals have IRBs less than 0.25. Of approximately 1,200 teaching hospitals paid under the PPS, the average IRB is about 0.10. The average university hospital's IRB (among hospitals belonging to the AAMC's Council of Teaching Hospitals) is slightly over 0.50.

Since October 1988 the level of the IME adjustment has been 7.7 percent for every 0.1 increase in the IRB. This does not mean each teaching hospital gets a 7.7 percent add-on payment. Rather, the IME payment percentage increases as the IRB increases. Using the current IME formula, a major teaching hospital with an IRB of 0.25 receives a percentage add-on payment of almost 18 percent. Thus, IME dollars are very important to teaching hospitals. Overall, 1,183 hospitals received about $3.2 billion in IME payments in federal fiscal year 1992. Based on the current law scenario of the FY 1994 Clinton budget, the HCFA estimates IME payments will increase to $4.2 billion in FY 1994.

For FY 1994, ProPAC recommends a decrease in the IME adjustment to 7.0 percent for each 0.1 increase in a hospital's IRB. That reduction represents about $125 million which, ProPAC states, should be returned to all hospitals through corresponding increases in the standardized amounts. The Clinton FY 1994 budget, issued in February 1993, proposes no reduction in the IME adjustment until FY 1996 when it would begin to reduce the IME adjustment gradually to 5.65 percent.

Calculate the Payment Adjustments: Indirect Medical Education (IME). There are three steps in the calculation of the IME payment amount. First, the hospital must calculate its IRB. This step isn't shown here, but St. Elsewhere is a major teaching hospital with 200 residents and 666 beds. So, it has an IRB of .30.

The second step (Letter A) is to use the payment formula to calculate the percentage add-on to the basic DRG payment. The formula is not shown here. Instead, the IME percentage add-on is calculated for a number of different IRBs to demonstrate how the payment add-on changes with

increases in the IRB. With an IRB of 0.30, St. Elsewhere receives a 21.2 percent add-on to its basic DRG payment for this case.

The third step is to calculate the dollar amount of the IME payment. The basic DRG payment of $21,649 is multiplied by the 21.19 IME percentage add-on. The result is an additional $4,587 for this case.

Disproportionate Share Adjustment. In 1986, the HCFA added the disproportionate share adjustment (DSH) to the PPS in recognition of the higher operating costs associated with treating low-income patients. Recent analysis by the Congressional Budget Office, however, has shown that the higher costs associated with serving low-income patients, which were based on 1981 data, had disappeared by 1987. Today, the DSH adjustment remains a way of assisting some financially distressed hospitals.

Step 3: Calculate the Payment Adjustments: Indirect Medical Education (IME)

A. Use the Payment Formula and IRB to calculate IME %:

IRB	*% Add-On to DRG*	
0.05	3.77 %	
0.10	7.44	
0.20	14.48	
0.30	21.19	← St. Elsewhere
0.40	27.59	

B. Calculate the IME Payment

(Payment for DRG 106 * IME %) = IME Payment

($21,649 * 21.19%) = $4,587

About 600 hospitals receive both IME and DSH payments. Teaching hospitals receive about 70 percent of all DSH payments. Recognizing that the two payments would overlap, Congress reduced the level of the IME adjustment in 1986 to finance part of the DSH adjustment.

Like the IME adjustment, the DSH adjustment is a percentage add-on to the basic DRG payment. The size of the adjustment varies by the type of hospital. For example, urban hospitals with 100 or more beds have a different payment formula than rural hospitals. Certain types of hospitals, such as sole community hospitals and rural referral centers, receive special treatment.

Disproportionate Share (DSH) Adjustment

- Added to PPS in 1986; originally for higher costs of low-income patients
- Teaching hospitals receive 70% of all DSH payments
- Like IME, percentage add-on to DRG payment
- DSH payment formulas apply to 12 different hospital categories
- Basis is an index:
  - % Medicare SSI days + % Medicaid days
- Minimum threshold applies (15%); second threshold kicks in @20.2%
- 1,473 hospitals receive $2.2 billion in FFY92

The adjustment is based on a DSH index, which continues to be defined as it was in the legislation that created it. The index is the sum of two ratios: the first ratio is the proportion of all Medicare patient days that are attributable to beneficiaries of Supplemental Security Income (SSI), a means-tested cash benefit program for the aged and disabled. The second ratio is the proportion of all patient days for which Medicaid is the primary payer. The value of the index determines both the hospital's eligibility for any DSH payments, and the size of the adjustment.

A hospital's DSH index must have a minimum value for the institution to qualify for any DSH payments. The minimum threshold differs based on the type of hospital. Urban hospitals

with 100 or more beds must have DSH indexes of 15 percent or more to receive a 2.5 percent DSH add-on payment. Urban hospitals with indexes of 20.2 percent or more receive additional funds through a change in the formula.

In federal FY 1992, 1,473 hospitals received $2.2 billion in DSH payments. OBRA 1990 increased the DSH adjustment, adding about $1 billion over five years.

Calculate the Payment Adjustments: Disproportionate Share (DSH). Like the IME payment calculation, there are three steps in determining the DSH payment. First, St. Elsewhere must determine its DSH index-that is, the sum of the two ratios. As shown earlier, its DSH index is 25.2 percent.

Second, the index is entered into the DSH formula for urban hospitals with 100 or more beds. The formula calculates a 9.12 percent add-on to the basic DRG payment for this case. The third step is to multiply the basic DRG payment of $21,649 by 9.12 percent to calculate an add-on of $1,974.

Step 3: Calculate the Payment Adjustments: Disproportionate Share (DSH)

A: Use the appropriate formula based on St. Elsewhere's DSH Index to calculate DSH %:

DSH Index	*% Add-On to DRG*	
15%	2.50%	
20	5.50	
25.2	9.12	← St. Elsewhere
30	12.62	

B: Calculate the DSH Payment

(Payment for DRG 106 * DSH %) = DSH Payment

($21,649 * 9.12%) = $1,974

Calculate the Total Payment for DRG 106. After the two payment adjustments are determined, they are added to the basic DRG payment to calculate St. Elsewhere's total payment for this case-$28,210. Without the IME and DSH payment adjustments, this hospital would have received $21,649 for the same case, a difference $6,561.

Step 4: Calculate the Total Payment for DRG 106

Add DRG Payment + IME Payment + DSH Payment

($21,649 + 4,587 + 1,974) = $28,210

Outlier Payments. In this example, the case was routine in that it was not extraordinarily costly nor did it involve an unusually long length of stay. Outlier payments, an original provision in the PPS, can be thought of as insurance against the losses associated with very expensive cases. There are two types of outliers: cases with unusually long lengths of stay are called day outliers and cases with extraordinarily high costs are called cost outliers.

A case does not qualify for outlier payment unless it exceeds the day or cost outlier threshold. The threshold can be thought of as the hospital's "deductible." The estimated cost and the payment amount for each case is adjusted by the hospital's IME and/or DSH payment adjustments.

Outlier Payments

- Protect hospitals from financial risk
  - cases with very long length of stay (day)
  - cases with extraordinarily high costs (cost)
- Paid on a cost basis before payment adjustments
- Outlier pool between 5-6% of DRG payments financed through reduction in standardized amounts
- Teaching hospitals receive 63% of all outlier payments
- $2.6 billion in FFY92

The pool available for outlier payments is set by statute at between 5 and 6 percent of the federal portion of total PPS payments excluding the IME and DSH adjustments. The outlier pool is financed by a reduction in the basic DRG amounts for all hospitals. This can be thought of as the hospital's "premium."

As might be expected, outlier payments are not evenly distributed across hospitals. Certain hospitals treat a more diverse mix of patients and face a greater risk that some patients will require extraordinary resources. Teaching hospitals account for only 44 percent of all PPS discharges, but they receive about 63 percent of all outlier payments. Outlier payments totalled about $2.6 billion in federal FY 1992. In its March 1993 report, ProPAC recommends the eventual elimination of day outlier payments, which would affect some groups of hospitals, particularly in the mid-Atlantic region, significantly.

The Example of St. Elsewhere by Type of PPS Payment. To review this example, the payment for DRG 106 is disaggregated by the contribution of the various payment adjustments to St. Elsewhere's total payment for this case. The effect of the area wage index is separated from the basic DRG payment which is shown as the standardized amount unadjusted for area wages multiplied by the DRG weight.

Because St. Elsewhere, located in Chicago, receives a blended regional/national standardized amount and has a relatively low area wage index, the area wage index contributes less than 1 percent to the total DRG payment. IME and DSH payments together represent over 23 percent of the total payment, with the IME payment more than twice the amount of the DSH payment.

The Example of St. Elsewhere by Type of PPS Payment

	$ Amount	*% Total*
Basic Payment for DRG 106	$21,515	76.3
Area Wage Index	134	0.5
IME Payment	4,587	16.2
DSH Payment	1,974	7.0
Total Payment for DRG 106	28,210	100%

The Power of the Area Wage Index. Hospitals in different locations receive different payments for the same patient, all other things being equal. In the St. Elsewhere example, the area wage index had little impact on the total DRG payment, but what if St. Elsewhere were located in an area with a high wage index like San Francisco?

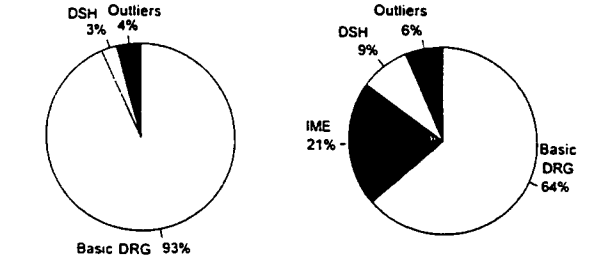
In this comparison, the only element that changes is the value of the area wage index. If St. Elsewhere were located in San Francisco, it would receive over $7,000 more for the same case. While the San Francisco standardized amount is less than Chicago's (because of Chicago's regional/national blended rate), San Francisco's area wage index is much higher. Thus, San Francisco's wage index contributes $1,170 to its standardized amount compared to the Chicago AWI's contribution of $134. Because all other adjustments are made on a higher base, like the IME and DSH payment adjustments, a St. Elsewhere located in San Francisco receives over $35,500 for the same case.

The Power of the Area Wage Index
What if St. Elsewhere were located in San Francisco?

	San Francisco	*Chicago*
Standardized Amount	$3,655	$3,692
Area Wage Index	1,170	134
Wage-adj Std Amt	4,825	3,826
DRG Weight	22,476	17,823
IME Payment	5,785	4,587
DSH Payment	2,490	$1,974
Total Payment	$35,576	$28,210
Difference	$7,366	

How are PPS Payments Distributed Among Hospitals? The distribution of various types of PPS payments varies greatly between teaching and nonteaching hospitals and affects hospitals' financial performance under the PPS. As shown later, major teaching hospitals have performed much better under the PPS than nonteaching hospitals as measured by PPS operating margins.

How are PPS Payments Distributed Among Hospitals?



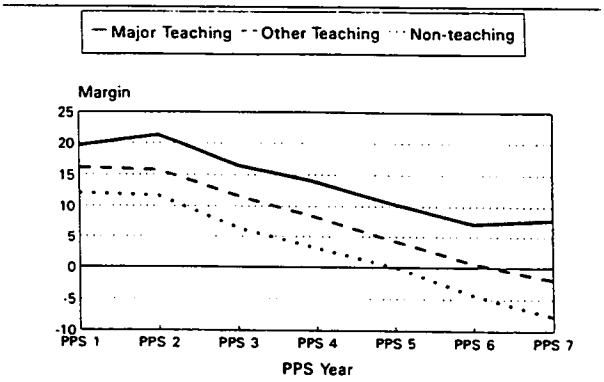
Source ProPAC

On average, the basic DRG payment-after adjusting for wages and DRG weight-represents 93 percent of nonteaching hospitals' total PPS payments. Since nonteaching hospitals receive no IME payments, DSH and outlier payments make up the remaining 7 percent. In contrast, the 228 major teaching hospitals depend heavily on IME, DSH and outlier payments. For teaching hospitals the basic DRG payment represents less than two-thirds of the total PPS payment.

PPS Operating Margins. Major teaching hospitals-those with IRBs of .25 or greater-consistently have had higher PPS operating margins than other teaching and nonteaching hospitals. Teaching hospitals also tend to receive DSH payments. In recent years, the level of the IME adjustment has remained stable and the Congress has increased and expanded the DSH adjustment. The most recent preliminary data from the eighth year of PPS, which are primarily 1991 data (not shown), indicate major teaching hospitals' PPS margins are over 5 percent. Hospitals that get neither IME or DSH have PPS operating margins of around negative 10 percent.

Overall, however, the trend in PPS margins for all hospital groups is downward. While the hospital community generally supported the adoption of the PPS, now it is not as satisfied with the system. Changes to the PPS often have been budget neutral or cost-savings approaches. Hospitals have received updates less than the marketbasket rate of inflation and are now pitted against each other in a zero-sum game. Not surprisingly, new hospital interest groups have been formed, such as the Association of Medicare Dependent Hospitals. Others have suggested organizing an association for unadjusted hospitals-hospitals that don't receive IME or DSH payments.

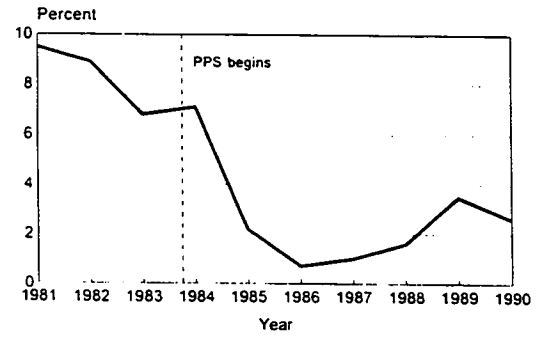
PPS Operating Margins, by Teaching Status, First Seven Years of PPS



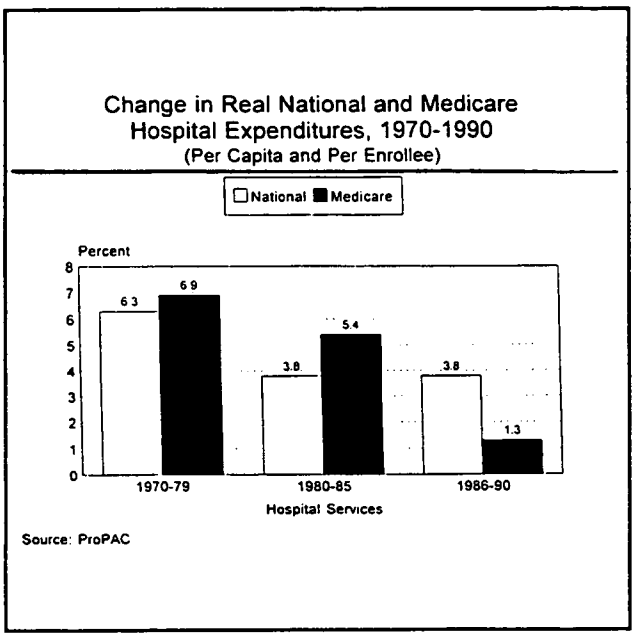
Source: ProPAC

Percent Change in Real Medicare Benefit Payments. In evaluating whether the PPS has achieved its intended objectives of greater control over expenditures and providing financial incentives for hospital efficiency, one would say that the results are mixed. The Medicare PPS has been one of the key initiatives in the federal government's efforts to slow the growth in health care expenditures. Most policymakers would say the PPS has been fairly successful in holding down the growth in Medicare spending for inpatient services. Even after adjusting for inflation, the growth in Medicare inpatient expenditures dropped dramatically after 1984 and rose less than the population growth until 1989. However, Medicare payments for physician and outpatient hospital services have continued to rise at rapid rates.

Percent Change in Real Medicare Benefit Payments for Inpatient Hospital Services, 1981-1990



Source HCFA Actuary



Changes in Real National and Medicare Hospital Expenditures. Until the mid 1980s, Medicare hospital expenditures per enrollee grew faster than per capita national expenditures after adjusting for inflation. After 1986, Medicare hospital expenditures grew at a much slower pace than national per capita expenditures.

But What About Costs? While the Medicare program has demonstrated that spending for hospital services can be controlled somewhat through prospective payment, it has had less impact on controlling costs. Per case PPS payments may have increased 4.8 percent per year since October 1988, but per case costs have increased almost 9 percent. This explains the negative PPS margins we saw in the earlier chart.

Even though the Medicare program is the dominant payer for inpatient hospital services, it is only one payer. By itself, Medicare cannot hold down the growth in overall hospital costs which have risen between 8-10 percent each year.

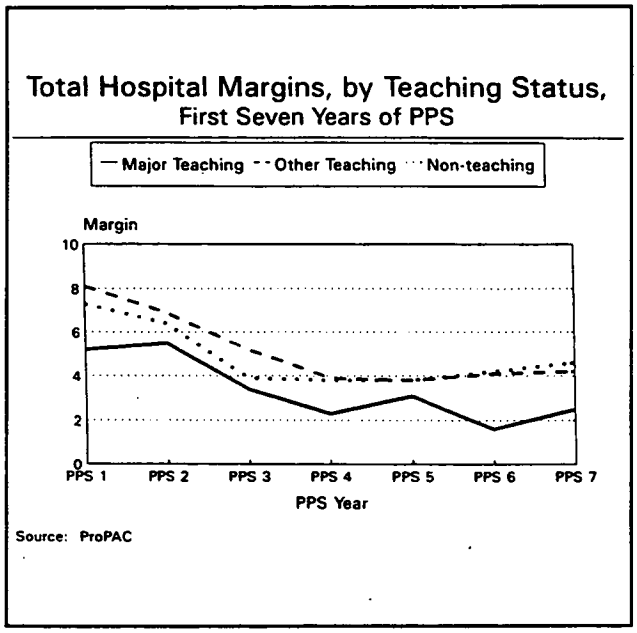
But What about Costs?

PPS has NOT slowed the growth in costs.

Since October 1988, per case PPS payments have increased 4.8 percent per year, while the corresponding average cost increase has been 8.8 percent.

Total Hospital Margins. Hospitals' total margins-the financial margins from services to all patients-remain relatively healthy, particularly those of nonteaching and other teaching hospitals. In the eighth-year of the PPS (not shown), average total margins for all hospitals were over 4 percent and had increased on average for all groups of hospitals. Many nonteaching and other teaching hospitals have been able to generate sufficient revenue to make up the losses they incur from below cost PPS payments. Much of the revenue comes from charging privately insured patients more than the cost of their care-this is usually referred to as cost shifting.

For major teaching hospitals the situation is different. These hospitals have always had lower total margins than other groups of hospitals. Major teaching hospitals have used their positive PPS operating margins to fund the losses incurred on non-paying and Medicaid patients and on discounts offered to private insurers. In recent years, disproportionate share payments from state Medicaid programs also have contributed positively to major teaching hospitals' total margins.



How long teaching and other hospitals can continue to maintain positive total margins through cost shifting remains unclear. Regulatory and competitive strategies such as those being set forth in many health reform proposals will curtail cost shifting as a revenue source. Teaching hospitals particularly may be threatened because they have added costs that make them non-competitive. Additionally, the pressure to reduce the federal deficit makes the IME and the DSH payment adjustments ripe targets.

As long as Medicare exists separately from other service delivery programs (as most health reform proposals promise), the PPS must continue to be improved and refined to assure adequate and equitable payments that recognize differences in costs among hospitals. For its part, the hospital community must continue to respond to the incentives in the PPS by controlling its costs and improving productivity.