

Using the Employment Cost Index to adjust Medicare payments

Increases in the Employment Cost Index resulted in increased Medicare payments of more than \$2 billion per year to hospitals; payments to other medical providers were also influenced by this index

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At first glance, a Federal Government statistic designed to measure the rate at which employers' wage and benefit payments are rising may appear to have very little to do with Medicare, the \$200 billion-per-year program of health insurance benefits that covers 40 million mostly older Americans. But such relationships often occur in the world of Federal statistics and Federal benefit programs. For instance, the U.S. Congress has established that Bureau of Labor Statistics data on consumer prices be used to determine annual increases in Social Security payments. Similarly, Bureau data on employee wages are used to determine salary increases for a variety of government employees—including judges and members of Congress—and, since the mid-1980s, the Bureau's Employment Cost Index (ECI), a quarterly measure of the rate of change in employer costs for wages and benefits, has been used as an input to annual adjustments in Medicare payments to service providers.

ECI data are used as part of a process to determine allowable increases in payments to hospitals, skilled nursing facilities, home healthcare organizations, physicians, and other healthcare providers under Medicare's Prospective Payment Systems (PPS). The PPS designates the level of payment for Medicare-covered services, based on the diagnosis and geographic location of care. Such payments are adjusted annually based on a number of factors, including changes in compen-

sation for medical and related personnel. ECI data are used for many of these compensation changes. For example,¹

- ECI data account for about 71 percent of the input price index used to determine allowable increases in payments for hospital charges. Thus, a 1-percent increase in the ECI would result in a 0.71-percent increase in hospital payments. In 1999, Medicare inpatient hospital payments totaled more than \$85 billion. A 1-percent increase in the ECI would result in an increase of about \$600 million in annual hospital payments; a 3.5-percent annual increase in the ECI (typical of the late 1990s) would result in an increase of about \$2.1 billion in annual hospital payments.
- ECI data account for about 69 percent of the input price index used to determine allowable increases in payments for charges for skilled nursing facilities. Medicare reimbursed more than \$12 billion in skilled nursing facility charges in 1999.
- ECI data account for about 78 percent of the input price index used to determine allowable increases in payments for charges for home healthcare services. Medicare reimbursed nearly \$10 billion in home healthcare charges in 1999.

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- ECI data account for about 27 percent of the Medical Economic Index used to determine increases in Medicare payments for physician's services. Medicare reimbursed more than \$33 billion in physician service charges in 1999.

This article looks at two Federal programs—the Bureau of Labor Statistics Employment Cost Index and the payment process of the Department of Health and Human Services Medicare program—and explains how they work together. Each program is looked at separately. What is the Employment Cost Index and what is the Medicare payment process? How was each developed? From the answers to these questions, the discussion will consider how the two work together.

One purpose of this article is to provide a better understanding of the relationship between the ECI and Medicare. For example, it is important that data providers, particularly those in the health services industry, understand the relationship between the data they provide on wages and benefits and the payments they receive from Medicare. This article first describes the Employment Cost Index and Medicare and its payment system. Then it provides details on adjustments to the Medicare payment system, including some examples of payment calculations. Finally, it discusses future changes that are being considered for both the ECI and the Medicare payment process.

The Employment Cost Index

The ECI was developed in the early 1970s to provide a measure of change in the cost of labor as a factor of production. The ECI was designed:

- to be a timely and comprehensive measure covering all elements of employee compensation (wages, salaries, and benefit costs) and all employees in the U.S. civilian economy;
- to be a fixed-weight index free from the influence of employment shifts among occupations, industries, and establishments with different wage and compensation levels;
- to include internally consistent sub-series (for example, occupational and industry groups) that describe the forces contributing to aggregate wage and compensation change.

The ECI is a quarterly series that relates to payroll periods including the 12th day of March, June, September, and December. ECI estimates, first published for the period September–December 1975, initially covered only wage and salary change for the private nonfarm economy including changes for broad occupational and industrial groups, as well as changes by union status, geographic region, and area size. In 1980, rates of compensation change (wages plus employer-provided benefits) were added

for the private nonfarm economy and for a selected number of sub-indexes. In 1981, wage and compensation indexes for State and local governments were added, as well as indexes for the combined private nonfarm and State and local government work force. Since then, a number of more detailed industries have been added, such as health services and hospitals.²

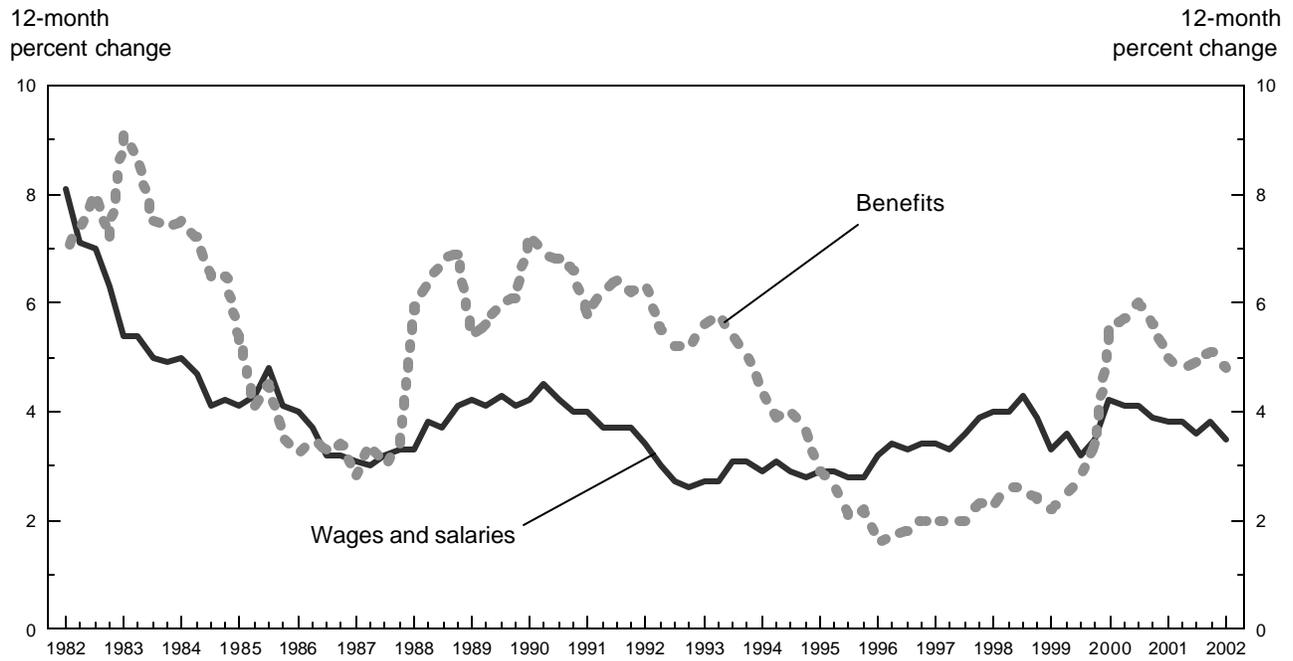
Since its inception in 1975, the ECI for wages of private industry workers has increased 247.3 percent, or 4.8 percent per year. Benefit costs for private industry workers have increased 222.6 percent since first surveyed in 1979, an average of 5.3 percent per year. Except for the mid-1980s, when wage and benefit increases were very similar, benefit cost increases exceeded wage increases throughout the 1980s and early 1990s. That trend reversed in the mid-1990s, when wage increases dominated, only to reverse again around the turn of the century. Chart 1 compares wage and benefit costs over the past two decades; chart 2 compares changes in health insurance costs to those of all benefits. The rapid increase in employer health insurance costs during the late 1980s and early 1990s, which mirrors large increases in Medicare costs during the same period, is discussed later.

One advantage of the ECI for analyzing compensation cost change is that it permits comparisons across industries and occupational categories. For example, the following tabulation compares average annual percent changes in wages and compensation costs for all civilian workers with those for workers in health services over selected time periods.³

	<i>Wages and salaries</i>		<i>Compensation costs</i>	
	All civilian workers	Workers in health services	All civilian workers	Workers in health services
June 1986–December 1990	4.0	5.6	4.5	5.9
December 1990–December 1993	3.1	3.7	3.8	4.2
December 1993–December 1998	3.3	2.4	3.1	2.1
December 1998–June 2002	3.6	4.1	3.9	4.4

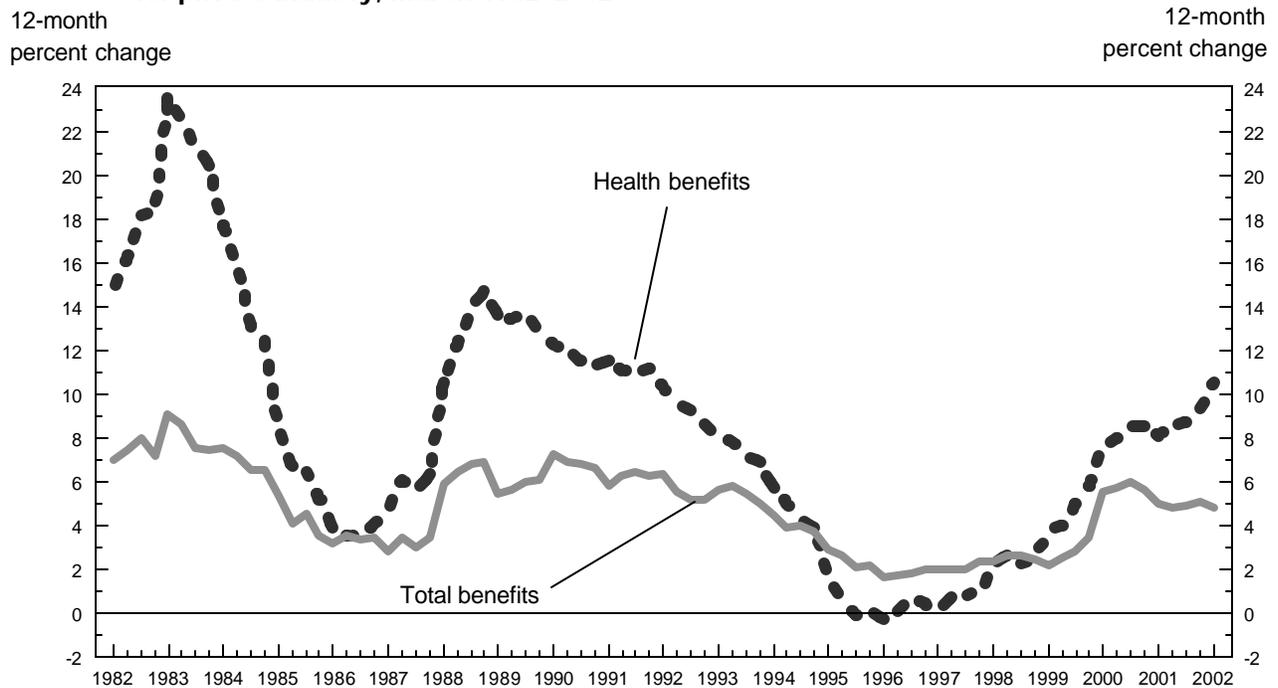
The different time periods show very different patterns. For the June 1986–December 1990 period, both wages and salaries and compensation rose nearly 2 percentage points faster for health service workers than for all civilian workers.⁴ The health service advantage over civilian workers declined to less than 1 percentage point during the December 1990–93 period and was negative during the December 1993–98 period. Since the end of 1998, wage and compensation costs in health services are once again rising faster than for all civilian workers.

Chart 1. Changes in wages and salaries and benefit costs in the Employment Cost Index for private industry, March 1982–2002



NOTE: ECI data are updated quarterly—March, June, September, and December.

Chart 2. Changes in total benefit and health benefit costs in the Employment Cost Index for private industry, March 1982–2002



NOTE: ECI data are updated quarterly—March, June, September, and December.

Uses of ECI

In addition to Medicare payment escalation, the ECI is used for a variety of purposes. It is used to forecast wage trends and to facilitate wage and benefit cost planning and is a guide in collective bargaining negotiations. Increasingly, it is used as a labor cost escalator in long-term purchasing and service contracts in both the private and public sectors in the United States as well as in other countries.

The ECI is used in the Federal pay-setting process. The Ethics Reform Act of 1989 specifies that the pay of Congress, Federal judges, and top Government officials will be increased each year by the percent change in wages and salaries for private industry workers (an ECI measure), less 0.5 percentage points.⁵ The Federal Employees Pay Comparability Act of 1990 specifies that the ECI will be used in the process to adjust pay for General Schedule employees.⁶

The ECI also is used to develop measures of national economic performance and welfare. For example, the ECI is used to update the income side of the National Income and Product Accounts of the U.S. Department of Commerce, Bureau of Economic Analysis. Also, the Centers for Medicare & Medicaid Services (formerly HCFA—Health Care Financing Administration) of the U.S. Department of Health and Human Services uses the ECI to estimate aggregate expenditures for healthcare.

Medicare and the Prospective Payment System

Medicare, established in 1965, provides health insurance benefits to Americans aged 65 and older, and those who suffer permanent disabilities. In 1970, Medicare expenditures totaled \$7.7 billion annually; such expenditures rose rapidly during the late 1980s and early 1990s, and first exceeded \$200 billion in 1997. (See table 1.) Medicare provides insurance for hospital, surgical, and medical services in one of two ways: (1) payment of charges after services are rendered or (2) prepayment of providers for future services. The latter method, known as Medicare+Choice, allows Medicare beneficiaries to choose to receive services from a private plan, typically a health maintenance organization (HMO). Implemented in 1998, Medicare+Choice may provide beneficiaries with additional services not available under traditional Medicare coverage. Plans may charge additional premiums for such additional services. In 2000, 14 percent of beneficiaries were enrolled in Medicare+Choice; payments to these plans accounted for 16 percent of Medicare spending.⁷

Most employed persons in the United States contribute to the Medicare program. The current Medicare contribution rate is 1.45 percent of earnings, paid by both the employer and the employee. Medicare benefits begin at age 65; dis-

Table 1. Medicare expenditures, 1965–present
(expenditures in millions of dollars)

Year	Expenditures (millions)	Percent of total U.S. health expenditures
1965	\$ 0	0.0
1966	1,842	4.1
1967	4,924	9.7
1968	6,218	10.8
1969	7,045	10.9
1970	7,673	10.5
1971	8,443	10.4
1972	9,325	10.3
1973	10,730	10.7
1974	13,428	11.8
1975	16,336	12.6
1976	19,694	13.2
1977	22,891	13.5
1978	26,668	14.1
1979	30,922	14.5
1980	37,387	15.2
1981	44,770	15.7
1982	52,351	16.3
1983	59,559	16.8
1984	66,207	17.0
1985	71,829	16.8
1986	76,829	16.8
1987	83,081	16.7
1988	88,965	15.9
1989	101,137	16.2
1990	110,182	15.8
1991	120,913	15.9
1992	136,298	16.5
1993	148,336	16.7
1994	165,840	17.7
1995	182,674	18.4
1996	197,456	19.0
1997	208,151	19.1
1998	209,459	18.2
1999	212,567	17.5
2000	224,366	17.3

SOURCE: Centers for Medicare & Medicaid Services, U.S. Department of Health and Human Services, on the Internet at www.hcfa.gov/stats/nhe-oact/tables/nhe00.csv.

abled individuals begin receiving coverage 2 years after the onset of their disability. Individuals not covered by Medicare may buy into the system by contributing toward the cost of coverage at the time they become eligible for plan benefits.

Medicare is administered by the Centers for Medicare & Medicaid Services (CMS). The Medicare Payment Advisory Commission (MedPAC) was established by Congress to review Medicare payment policies and make recommendations regarding payment policies.

When Medicare began, providers of medical services received payments for services rendered on a “cost basis,” that is, they were reimbursed for the “usual, customary, and reasonable charges” for the services provided. According to the MedPAC, this payment method “provided no incentive for

efficiency, and costs and payments rose as a result.”⁸ Changes to the system began in the early 1980s, when Congress enacted the Prospective Payment Systems, which sets payment rates based on the service and the location; the payments are typically less than what the healthcare provider charged.

MedPAC describes the current payment system as follows:

Medicare’s 40 million beneficiaries use thousands of different health care products and services furnished by over 1 million providers in hundreds of markets nationwide; Medicare pays for these services using 15 payment systems that are generally organized by delivery setting. These payment systems share common goals and most have similar design elements that are tailored to accommodate the products Medicare is buying in each setting, the characteristics of the providers that produce them, the extent to which the same product may be furnished in different settings, and the market circumstances that affect providers’ costs.⁹

Prospective payments are defined as predetermined rates paid to providers, unaffected by the actual incurred cost or posted charges.¹⁰ Table 2 lists the 15 payment systems currently used in the Medicare system, and the percent of Medicare spending in each category. Prospective payments for hospital stays are determined by classifying each hospital

discharge into one of 492 diagnostic-related groups, determined by the principal diagnosis, additional diagnoses, procedures performed, and demographic characteristics such as age of the patient.¹¹ Under this system, Medicare payment amounts were first based on 1981 hospital costs incurred by Medicare, and have been adjusted annually based on an update factor. The update factor is tied to the rate of increase in provider labor costs and medical commodity costs. In determining the allowable increase, the labor and commodity cost changes are combined using a set of weights that reflect the importance of the labor, including specific occupations, and commodities for the given medical service. The Centers for Medicare & Medicaid Services and MedPAC make recommendations on the update of the Prospective Payment Systems (PPS) payment rates, based on these factors. Congress considers these recommendations when legislating the actual update amounts. According to MedPAC, “The Congress has legislated the PPS update annually since fiscal year 1986 and has generally stated the update in relation to the forecasted change in the market basket.”¹²

Payments under the Medicare+Choice program work slightly differently. Medicare pays plans enrolled in this program a monthly rate per beneficiary, without regard to the services received. This is similar to the “capitation” payment received by health maintenance organizations for non-Medicare beneficiaries.¹³ In turn, such plans provide beneficiaries with all care. Payments to plans are based on a formula that begins with a floor rate per covered individual per month, an amount that varies by location. These floor rates can be adjusted upward based on historic medical spending patterns in the locality. Floor rates are updated annually by the national average growth in per-capita spending in the traditional Medicare program.¹⁴

Table 2. Medicare payment systems and distribution of spending, 2000

Payment system	Percent of Medicare spending
Hospital inpatient and acute care	34
Inpatient psychiatric	1
Physician	20
Hospital outpatient	7
Ambulatory surgical center	0.5
Outpatient laboratory	2
Skilled nursing facility	5
Home health	4
Inpatient rehabilitation	2
Long-term care hospital	1
Outpatient dialysis	2
Hospice	1
Ambulance and supplies	3
Durable medical equipment	2
Medicare+Choice	16

SOURCE: Centers for Medicare & Medicaid Services, U.S. Department of Health and Human Services.

Medicare adjustment calculations

The PPS Hospital Input Price Index is used to determine allowable increases in hospital charges and, along with other factors, feeds into the process of updating payment rates.¹⁵ The index has the following ECI components:

<i>Price/wage variable</i>	<i>1996 weight (percent)</i>
Total ECI-related	70.798
Occupational wage index	50.244
Occupational benefits index	11.146
ECI wages and salaries for professional specialty and technical workers	2.127
ECI compensation for service workers	7.277

The occupational wage and occupational benefits indexes are

in turn constructed from ECI wage indexes for major occupational groups, each with its weight dependent on the importance of the occupation in hospitals. The remaining 29.202 percent of the weight is accounted for mainly by various BLS Producer Price Indexes for drugs and hospital supplies.¹⁶

Consider the following example of how a 1-percent annual change in the ECI would affect Medicare payment rates for hospital inpatient and acute care:

- Medicare reimbursed approximately \$85.1 billion for hospital inpatient and acute care services.
- Approximately 71 percent of the Medicare payment update will be based on the ECI (see weights from the preceding tabulation).
- Applying this 71-percent weight to the 1-percent change in the ECI results in a 0.71-percent increase in hospital inpatient and acute care payments: 0.71 percent of \$85.1 billion equals \$600 million.
- The result is a \$600 million increase in Medicare payments for hospital inpatient and acute care.

While the various ECI components making up the weight for hospital payments have differing rates of change, the overall index rose about 3.5 percent in 1999. If a 1-percent increase in the ECI results in a \$600 million increase in payments, then the 3.5-percent increase in the ECI resulted in an increase of about \$2.1 billion in hospital payments in 1999.

The ECI is used in payment adjustment formulas such as this for 6 of the 15 Medicare payment components: hospital inpatient and acute care, skilled nursing facility, home healthcare, hospital outpatient departments, hospice care, and physicians payments. In total, these six components accounted for about 71 percent of Medicare expenditures. Other Medicare payment components use different methods of adjusting payment formulas, some of which may indirectly relate to the ECI. The following tabulation indicates the approximate annual adjustment in Medicare payments in 1999—totaling more than \$3.2 billion—that was due to increases in the ECI:

<i>Type of payment</i>	<i>1999 increase in payment resulting from the ECI</i>
Hospital inpatient and acute care	\$2.1 billion
Skilled nursing facility	\$290 million
Home healthcare	\$273 million
Hospital outpatient departments	\$211 million
Physicians	\$310 million
Hospice	\$62 million

Change on the horizon

Both the ECI and Medicare will undergo changes, or are considering changes, that will affect the Medicare payment process.

In 2005, the ECI is scheduled to switch to new methods of classifying industries and occupations. Industries will be classified according to the North American Industry Classification System (NAICS), rather than the Standard Industrial Classification (SIC) System currently used. Occupations will be classified according to the Standard Occupational Classification system (SOC), rather than the 1990 Census of Population classification system. These changes are being made to reflect more accurately the structure of the American economy and to provide consistency among the United States, Canada, and Mexico in their industry and occupational classifications.¹⁷

NAICS has advantages over the SIC system for classifying industries. It includes new and emerging industries that did not exist when the SIC system was developed. Also, NAICS groups together more homogeneous industries, because they are categorized based on a single concept—their production or supply function. That is, NAICS groups establishments with similar raw material inputs, capital equipment, and labor.

The SOC will be used by all Federal statistical agencies collecting occupational information. By providing consistency in occupational definitions and structure, it will maximize the usefulness of the occupational information collected. An important consequence of the switch to SOC is the titles and occupational composition of occupational categories used in the Prospective Payment System will change. It is not known at this time which, if any, ECI occupational categories the Prospective Payment System will use after the ECI changes to the SOC categories. Table 3 shows how the titles will change as well as the extent of overlap (in terms of employment, obtained from the Bureau's National Compensation Survey) between the two classification systems.

The overlap between the two classification systems is greatest for sales, clerical, and service occupations. In the case of sales occupations, for example, 95.6 percent of all workers considered sales workers in the current system will be in Sales and Related category in the new system, while 98.2 percent of all workers considered Sales and Related in the new system would be considered Sales in the existing system.

The biggest discrepancies between the new and old systems are for what are considered blue-collar occupations. For example, even though there is a category "transportation and material moving" in both the new and old systems, that category will approximately double in size in the SOC system; this is true even though nearly all the workers in that category in the new system also were in it in the old system. (The explanation for this apparent anomaly is that a number of occupations have been moved into the category.)

Table 3. Changes in occupational categories and percent of employment, Employment Cost Index (ECI)

Current ECI occupational categories	Proposed occupational categories (based on the Standard Occupational Classification system)	Percent of current category in proposed category	Percent of proposed category in current category
Professional specialty and technical	Professional and related	96.4	91.1
Executive, administrative, and managerial	Management, business, and financial	88.6	84.9
Sales	Sales and related	95.6	98.2
Administrative support, including clerical	Office and administrative support	81.6	95.0
Precision production, craft, and repair	Construction and extraction ¹	67.0	68.4
	Installation, maintenance, and repair	...	93.5
Machine operators, assemblers, and inspectors	Production	99.3	75.8
Transportation and material moving	Transportation and material moving	96.9	50.7
Handlers, equipment cleaners, helpers, and laborers		66.3	...
Service	Service	96.3	97.7

¹ Includes farm and forestry.

Table 4. Annual percent change in the Employment Cost Index for wages and salaries for selected series, 1990–2001

Year	All civilian workers	Civilian professional specialty and technical	Civilian health services industries	Civilian hospital industry
1990	4.3	5.3	6.0	6.1
1991	3.6	3.9	4.4	4.1
1992	2.7	3.3	3.6	3.2
1993	3.1	2.8	3.0	3.1
1994	2.8	2.9	2.6	2.6
1995	2.9	2.8	2.4	2.3
1996	3.3	3.0	2.3	2.1
1997	3.8	3.3	3.0	2.4
1998	3.7	3.3	1.6	2.6
1999	3.5	3.3	3.6	3.3
2000	3.8	3.9	4.1	4.0
2001	3.7	3.7	4.9	5.6

Which SOC-based occupational categories to publish in the ECI have not yet been determined. It is likely, however, that the white-collar and service occupational categories—those given the heaviest weight in the PPS formula—will be considered continuous.

MedPAC makes regular recommendations for changes to the Medicare payment procedure. In early 2002, the group recommended the use of:

...wage and benefit proxies that most closely match the training and skill requirements of health care occupations in all input price indexes used for updating payments. In determining index weights, measures specific to the health sector and to occupation categories in which health care plays a major role should be emphasized.¹⁸

The discussion accompanying the recommendation compares increases in the ECI for the categories currently used in the update process to more specific health-related categories for which ECI data are also available. For example, MedPAC considers using the ECI series for health services workers and for hospital workers, rather than the series for all workers or for all professional and technical workers. Table 4 on page 9 compares ECI data for various series, including those currently used in the Medicare payment process and those specifically covering healthcare workers.

Recent legislation requires the Centers for Medicare & Medicaid Services to develop new prospective payment systems for various categories of healthcare goods and services, including Medicare+Choice.¹⁹ In addition, MedPAC has recommended

that the rate of increase in hospital payments vary for hospitals in large urban areas versus those in other areas. MedPAC would also change the payment process for physician services to look more like that used for hospitals, with payments based on projected changes in input prices, with a productivity adjustment.²⁰ As healthcare costs continue to escalate, it is likely that efforts to change Medicare payment methods will continue.

The aging of the large baby-boom generation, the constant new advances in healthcare technology, and the rising cost of healthcare goods and services all combine to keep healthcare cost issues in the news. Changes to both the Employment Cost Index and the Medicare payment system will no doubt be closely watched by those interested in healthcare issues. □

Notes

¹ These statistics on Medicare payments are for fiscal 1999. For more information, see *2001 HCFA Statistics*, U.S. Department of Health and Human Services.

² Employment Cost Index data may be found on the Internet at <http://www.bls.gov/ncs/ect/home.htm>.

³ Recommendations have been made to use more health-specific data for future updates of Medicare payment amounts.

⁴ No data for health services workers are available prior to June 1986.

⁵ See Public Law 101-154—November 30, 1989.

⁶ See Public Law 101-509—November 5, 1990.

⁷ *Report to the Congress: Medicare Payment Policy*, (Medicare Payment Advisory Commission, March 2002), p. 31.

⁸ *Report to the Congress: Blood Safety in Hospitals and Medicare Inpatient Payment* (Medicare Payment Advisory Commission, December 2001), p. 9.

⁹ *Report to the Congress: Medicare Payment Policy* (Medicare Payment Advisory Commission, March 2002), p. 3.

¹⁰ *Report to the Congress: Medicare Payment Policy* (Medicare Payment Advisory Commission, March 1999), p. 4.

¹¹ Federal Register, August 29, 1997, pp. 45966–71.

¹² A good description of the Medicare payment update process may be found in *Report to Congress – Blood Safety in Hospitals and Medicare Inpatient Payment* (Medicare Payment Advisory Commission, December 2001), p. 9.

¹³ For a discussion of how Health Maintenance Organizations operate, see Dennis F. Mahoney, “Health Plan Designs and Strategies,” in Jerry S. Rosenbloom, ed., *The Handbook of Employee Benefits*, 4th edition, (New York, McGraw-Hill, 1996), pp. 110–120.

¹⁴ For information on issues surrounding Medicare+Choice, see *Report to the Congress: Medicare Payment Policy* (Medicare Payment Advisory Commission, March 2002), pp. 31–32, 124.

¹⁵ The input price index (so called market basket) is one factor among several that is used by CMS, MedPAC, and Congress to recommend or make updates to payment rates. Other factors include productivity increases, cost-increasing health-enhancing technology changes, changes in site of service, and forecast error corrections.

¹⁶ More information on the BLS Producer Price Index is found on the Internet at <http://www.bls.gov/ppi/home.htm>. For specific details on the Producer Price Index in the hospital industry, see Brian Catron and Bonnie Murphy, “Hospital price inflation: what does the new PPI tell us?,” *Monthly Labor Review*, July 1996, pp. 24–31.

¹⁷ A more detailed discussion of these new classification systems for industries and occupations is found on the Internet at <http://www.bls.gov/bls/naics.htm> and <http://www.bls.gov/soc/home.htm>.

¹⁸ *Report to Congress: Medicare Payment Policy* (Medicare Payment Advisory Commission, March 2002), p. 52.

¹⁹ *Report to Congress: Medicare Payment Policy* (Medicare Payment Advisory Commission, March 2002), p. 4.

²⁰ *Report to Congress: Medicare Payment Policy* (Medicare Payment Advisory Commission, March 2002), pp. 63, 74.