

Employee payments for health care services

A new BLS model compares employee expenses for selected health care services, and cites factors in differences among benefit plans

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Employees covered by employer-provided health care plans usually must pay some portion of their health care costs. Employees' costs (or out-of-pocket expenses) can vary widely, depending on family size, types of care received, and the specific provisions of the health care plan. A family of four with \$7,000 in annual health care charges, for example, would pay an average of almost \$1,000 in out-of-pocket expenses. Individual families, however, could incur widely varying out-of-pocket expenses—generally ranging between \$100 and \$1,500, depending upon the provisions of their health care plan.

Required employee insurance premiums also are part of a family's total health care expenses. If a family with low out-of-pocket expenses were required to pay a portion of the plan premium, the family's total cost for health care might approach that of a family with higher out-of-pocket expenses and no required premium.

An employee's share of health care expenses is influenced by both health care needs and plan characteristics, because certain plans are better suited to certain types of families. A family with a sickly member, for example, may choose a plan with high monthly premiums if it covers most charges in full, whereas a healthy individual might elect a plan with low premiums that would only be used in case of a catastrophic illness. This article looks at employee costs for health care and examines a variety of factors that can influence these expenses.

The Bureau of Labor Statistics, through the Employee Benefits Survey, has for the last de-

cade provided comprehensive details on employer-provided health care plans. A limitation of these data, however, is that they make it difficult to compare one plan with another, given the wide variation in plan coverage and funding provisions. One plan might pay the full cost of hospitalization and surgery, but impose an employee premium. Another plan might require an employee to share the cost of health expenses, but to pay no premium. Relative assessment of such different provisions requires a new way of examining health care plans.

To facilitate comparisons, the Bureau used data from its Employee Benefits Survey to create a model of employee expenses for selected health care services. The model incorporates different provisions typically found in health care plans and selected scenarios of health care expenses.¹ The scenarios—representing different family sizes, different levels of health care usage, and different types of health care services—demonstrate the influence of these factors on employee health care expenses.

Health care plans, regardless of their uniqueness or complexity, can be examined in terms of the amount or percent of health care expenses paid for by the plan and by the employee. Moreover, these data can be used to develop averages and distributions of expenses for all employees with health care benefits.

This article describes the new health care model and its resulting estimates of health care expenses. The model computes the employee's and the plan's shares of a variety of health care

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expenses. In addition, it estimates the percent of workers receiving health care benefits who are required to pay certain levels of out-of-pocket expenses.

The model uses scenarios of health care services, expenses for those services, and data on the provisions of individual health care plans to compute the expenses. These inputs are described in the appendix. The box on the third page of this article provides a glossary of terms used in health care benefit plans.

Health care benefits

There are many ways to measure employer-provided health care benefits. Examples include the cost to the employer of providing health care benefits, the provisions available to the employee, the usage of the benefit by the employee, and the value of the benefit to the employee.²

Other Bureau of Labor Statistics programs include measures of the employer's cost and of the provisions of health care plans. The Employment Cost Index (ECI), for example, provides data on the change in the cost to the employer of employee benefits, including health care benefits. Employers' costs for employee benefits increased 5.3 percent for the 12 months ending June 1992.

The ECI program also provides information on the employer's cost per hour worked for specific components of compensation, such as retirement and insurance plans, and the percent of the total cost of employee compensation that each of these components represents. Health insurance cost employers an average \$1.02 per hour worked in March 1992, representing 6.3 percent of the total compensation cost.³

The Employee Benefits Survey provides data on the incidence and detailed characteristics of health care benefits. These data reveal the percent of employees who receive health care benefits and the percent covered by certain plan features. In 1990, for example, about seven-tenths of full-time employees in establishments with fewer than 100 workers were provided health care benefits. Those plans covered all participants for hospital room and board and surgical charges, four-fifths for home health care services, and half for hospice services. Of those participants in plans that imposed deductibles (see box on facing page), the average deductible was \$197 per year.⁴

The new BLS model combines the different provisions found among health care plans into a single measure of employee and plan expenses for each type of plan, and average expenses for all workers with health care benefits. To construct a measure of health care benefits, employee and plan expenses are computed for each plan, based on a fixed set (scenario) of health services and its

total price. In addition, expenses are computed for various types of health care plans or plan features. Finally, employee insurance premiums are used to determine a participant's total expenses for health care.

Out-of-pocket expenses

The scenarios in exhibit 1 represent four different family sizes with varying amounts of annual health care expenses. In the model, these expenses were compared against health care plan provisions to determine the portion incurred by the plan and the portion incurred by the employee. These dollar costs were then aggregated for all employees with health care benefits. The model produced employee expenses in terms of both annual dollar amounts and percentages of total health care charges.

The average out-of-pocket expense for *scenario 1* (a single person with \$87 in annual health care expenses) was \$62, or 71 percent of the total expenses. (Out-of-pocket expenses, defined in the box on page 19, do not include employee insurance premiums, which are discussed later in this article.) The average employee expenses for the other three scenarios were higher, although they represented smaller percentages of the households' total costs for health care services. The family in *scenario 2* (a family of four with \$7,085 in health care charges) would pay an average of \$989 in out-of-pocket expenses, or 14 percent of the total costs; the family in *scenario 3* (two persons with \$12,588 in charges) would pay \$1,369, or 11 percent of the total; and the family in *scenario 4* (six persons with \$41,504 in charges) would pay \$2,639, or 6 percent of the charges. (See table 1.)

Although the average out-of-pocket expense for scenario 1 was 71 percent, about one-half of employees covered by health care benefits would have paid the entire bill for services received. (See table 2.) In scenarios 2, 3, and 4, fewer employees would be required to pay the entire bill. For example, virtually all employees with health care benefits would pay between 1 and 25 percent of the expenses in scenarios 3 and 4.

These findings show wide variations in the share of charges an employee may have to pay for health care. Upon closer examination, several factors appear to influence the employee's share, including the amount and type of expenses.

Amount and type of expenses. The employee in scenario 1 incurred only \$87 in annual health care charges. Under many health care plans, participants must pay a yearly deductible before the plan pays benefits. The annual deductible averages about \$200. Because scenario 1 had low total charges, most employees subject to an annual de-

Glossary of health care terms

Ancillary charges

Charges incurred during a hospital stay in addition to room and board. Such charges include drugs and medications, diagnostic tests and x-rays, and nursing care.

Catastrophic expense limitation

Also known as out-of-pocket expense limit or stop-loss limit. Specific amount of out-of-pocket expense after which the health plan pays 100 percent of remaining expenses. Annual deductibles are not included in the catastrophic expense provision.

Coinsurance

The percentage of a participant's medical expenses not covered by his or her health plan. Most participants pay 20 percent coinsurance, with the plan paying the remaining 80 percent.

Copayment

Small payment made by a plan participant each time a service is required. For example, many HMO's require a \$5 or \$10 copayment per physician's office visit.

Deductible

Amount of expense participants are required to pay before they are eligible for benefit payments. Most deductibles are on an annual basis; the most common annual deductible amounts are \$100, \$200, or \$250.

Employer-provided health care benefits

Benefit plans financed either wholly or partly by the employer. Included in this category are benefit plans sponsored by a union or other third party, so long as there is some employer financing.

Fee-for-service plan

Type of health care plan that pays for specific medical procedures as expenses are incurred. Payments can be made directly to health care providers or to the plan participants. Fee-for-service plans generally include annual deductibles and coinsurance.

First-dollar coverage

Feature of a health care plan in which the plan does not require its participants to pay any deductibles or copayments before benefits are received.

Health maintenance organization (HMO)

Type of health care plan that provides a prescribed set of benefits to enrollees for a fixed premium payment. Enrollees are restricted to specific care providers, and have charges for most services covered in full. Types of HMO's include the group/staff type, in which providers are located in central facilities, and independent practice associations (IPA's), in which providers work from their own offices.

Participants

In the Employee Benefits Survey, all employees in an occupational group are considered participants in a wholly employer-financed health care plan. Where employees share in plan financing, only workers who are making such contributions are counted as participants.

Preferred provider organization (PPO)

Type of health care plan that, like a fee-for-service plan, pays expenses as they are incurred. Participants can choose any health care provider, but receive higher benefits for services rendered by designated hospitals, physicians, and other health care providers.

Out-of-pocket expense

The amount of expenses that a participant pays during the year for medical services. This includes deductibles, coinsurance, and copayments, but does not include monthly premiums.

Usual, customary, and reasonable charges (UCR)

Standard applied to charges assessed by health care providers. Defined as not more than the physician's usual charge, within the customary range of fees in the locality, and reasonable, based on the medical circumstances. Typically, a health care plan will pay all or some portion of expenses incurred up to the usual, customary, and reasonable charge; expenses above UCR charges must be paid by the patient.

Employee Payments for Health Care Services

Exhibit 1. Services and expenses of scenarios 1-4					
Expense	Unit cost	Total cost	Expense	Unit cost	Total cost
Scenario 1			Scenario 4		
Individual 1:			Individual 1:		
1 office visit	\$37	\$37	4 office visits	\$37	\$148
2 prescriptions	25	50	2 x-rays	92	184
Total .....	....	\$87	1 prescription	25	25
Scenario 2			7- day confinement:		
Individual 1:			Room and board ..		
1 office visit	\$37	\$37	Ancillary	621	4,347
2 lab tests	92	184	Surgery	1,012	1,012
2 prescriptions	25	50	7 physicians' visits	39	273
Individual 2:			Individual 2:		
4 office visits	37	148	2 office visits	37	74
2 lab tests	92	184	1 lab test	92	92
4- day confinement:			1 prescription		
Room and board ..	342	1,368	Individual 3:		
Ancillary	621	2,484	1 office visit	37	37
4 physicians' visits	39	156	3 lab tests	92	276
2- day confinement:			4- day confinement:		
Room and board ..	342	684	Room and board ..	342	1,368
Ancillary	621	1,242	Ancillary	621	2,484
2 physicians' visits	39	78	4 physicians' visits	39	156
3 prescriptions	25	75	1 prescription	25	25
Individual 3:			6- day confinement:		
1 office visit	37	37	Room and board ..	342	2,052
4 prescriptions	25	100	Ancillary	621	3,726
2 lab tests	92	184	6 physicians' visits	39	234
Individual 4:			Individual 4:		
2 office visits	37	74	2 office visits	37	74
Total .....	....	\$7,085	2 prescriptions	25	50
Scenario 3			8- day confinement:		
Individual 1:			Room and board ..		
1 office visit	\$37	\$37	Ancillary	621	4,968
2 lab tests	92	184	Surgery	1,012	1,012
2 prescriptions	25	50	8 physicians' visits	39	312
7- day confinement:			Individual 5:		
Room and board ..	342	2,394	2 office visits	37	74
Ancillary	621	4,347	10- day confinement:		
7 physicians' visits	39	273	Room and board ..	342	3,420
Individual 2:			Ancillary		
2 office visits	37	74	Surgery	1,012	1,012
2 lab tests	92	184	9 physicians' visits	39	351
1 prescription	25	25	2-day confinement:		
4- day confinement:			Room and board ..		
Room and board ..	342	1,368	Ancillary	621	1,242
Ancillary	621	2,484	1 physician's visit .	39	39
Surgery	1,012	1,012	3 prescriptions	25	75
4 physicians' visits	39	156	Individual 6:		
Total .....	....	\$12,588	1 office visit	37	37
Scenario 4			3 lab tests		
Individual 1:			92		
Total			276		
....			Total		
....				
....			\$41,504		

Table 1. Percent and dollar amount of health care expenses paid by the individual and by the plan, four scenarios, by type of plan, 1989-90

[Plan premiums not included]

Type of plan	Percentage paid			Dollars paid		
	Total	Individual	Plan	Total	Individual	Plan
Scenario 1: Total health care expenses=\$87						
All plans	100	71	29	\$87	\$62	\$25
Non-HMO	100	81	19	87	71	16
Fee-for-service	100	84	16	87	73	14
PPO	100	66	34	87	57	30
HMO	100	20	80	87	17	70
Scenario 2: Total health care expenses=\$7,085						
All plans	100	14	86	\$7,085	\$989	\$6,096
Non-HMO	100	16	84	7,085	1,148	5,937
Fee-for-service	100	17	83	7,085	1,180	5,905
PPO	100	14	86	7,085	966	6,119
HMO	100	3	97	7,085	189	6,896
Scenario 3: Total health care expenses=\$12,588						
All plans	100	11	89	\$12,588	\$1,369	\$11,219
Non-HMO	100	13	87	12,588	1,605	10,983
Fee-for-service	100	13	87	12,588	1,658	10,930
PPO	100	10	90	12,588	1,301	11,287
HMO	100	2	98	12,588	190	12,398
Scenario 4: Total health care expenses=\$41,504						
All plans	100	6	94	\$41,504	\$2,639	\$38,865
Non-HMO	100	7	93	41,504	3,078	38,426
Fee-for-service	100	8	92	41,504	3,143	38,361
PPO	100	7	93	41,504	2,705	38,799
HMO	100	1	99	41,504	444	41,060

ductible would pay the entire cost because they would not yet have met their deductibles. Deductibles, when required, were rarely less than \$100.

The different set of health care expenses in scenario 3 has the effect of altering the percentage of expenses paid by the plan and the employee. In that scenario, annual health care charges were \$12,588. This total was primarily the result of two hospital stays and related surgical expenses. Hospitalization expenses included room and board (\$342 per day) and associated ancillary charges (\$621 per day). (Ancillary charges include medicine, diagnostic tests, x-rays, and other charges incurred during a hospital stay. They exclude room and board.) The scenario includes four physician's visits during hospitalization (\$39 per visit), five office visits (\$37 per visit), two laboratory tests (\$92 for each test), and two prescription drugs (\$25 each).

The plans paid an average of nine-tenths of expenses for scenario 3, compared with seven-tenths in the lower cost scenario 1. There are two main reasons for this disparity: The difference in the total charges between the scenarios and the presence of hospitalization and surgical expenses in scenario 3.

Because total charges were higher in scenario 3 (largely due to hospitalization and surgery), the annual deductible accounted for a small percentage of expenses. In addition, the presence of limits on an employee's liability for catastrophic expenses in many health care plans held down out-of-pocket expenses. Patients with extensive health care usage are more likely to reach the catastrophic expense limit than are those with less extensive usage. After this limit is reached, plans typically pay 100 percent of covered expenses.⁵

Variations in coverage for hospital stays and surgery also affect the percentages paid by the plan and by the individual. It was far more likely for these services to have "first dollar" coverage (benefits are provided before—rather than after—a deductible or a coinsurance requirement goes into effect) than were either physicians' office visits or out-of-hospital prescription drugs. For example, a plan may provide up to 120 hospital days at no cost to the employee. Beyond that limit, charges are subject to coinsurance rates and yearly deductibles. Such a limit would cover all of the hospital stays in scenario 3.

Employee Payments for Health Care Services

Type of health plan. The type of health care plan also affected the employee's out-of-pocket expenses. Plans were grouped as traditional fee-for-service plans, preferred provider organizations (PPO's), and health maintenance organizations (HMO's). Traditional fee-for-service plans reimburse care providers or patients as care is received. The patients choose their own physicians, hospitals, and other health care providers.

In contrast, the PPO—a type of fee-for-service plan—differs from traditional plans by offering

incentives to seek care from physicians and hospitals who have contracts with the plan. While employees can choose any provider, out-of-pocket expenses are lower if they select a preferred provider. In an HMO, the employee has less choice of health care services and providers. HMO's contract with physicians and hospitals to provide care on a prepaid basis. Employees are directed to the appropriate caregiver by the plan. Any care received outside the plan (or not approved by it) is not covered at all.

The following tabulation shows the percent of

Table 2. Percent of cost paid by individual plan participants, four scenarios, by type of plan, 1989-90

[Plan premiums not included]

Percentage paid by the individual	All plans	Non-HMO	Fee-for-service	PPO	HMO
Scenario 1: Total health care expenses=\$87					
No payment	2	(¹)	(¹)	2	11
1-24 percent	17	7	5	15	67
25-49 percent	8	8	8	8	5
50-74 percent	19	20	17	37	16
75-99 percent	1	1	1	1	(¹)
100 percent	53	63	68	37	(¹)
Average percent paid by individual	71	81	84	66	20
Scenario 2: Total health care expenses=\$7,085					
No payment	2	(¹)	(¹)	2	11
1-24 percent	84	84	83	89	88
25-49 percent	13	15	16	9	(¹)
50-74 percent	(¹)	1	1	(¹)	(¹)
75-99 percent	(¹)	(¹)	(¹)	(¹)	(¹)
100 percent	(¹)	(¹)	—	(¹)	—
Average percent paid by individual	14	16	17	14	3
Scenario 3: Total health care expenses=\$12,588					
No payment	2	(¹)	(¹)	2	11
1-24 percent	94	95	95	96	88
25-49 percent	4	5	5	1	(¹)
50-74 percent	(¹)	(¹)	(¹)	(¹)	(¹)
75-99 percent	(¹)	(¹)	(¹)	(¹)	(¹)
100 percent	—	—	—	—	—
Average percent paid by individual	11	13	13	10	2
Scenario 4: Total health care expenses=\$41,504					
No payment	2	(¹)	(¹)	2	11
1-24 percent	97	98	98	97	89
25-49 percent	1	1	1	(¹)	—
50-74 percent	(¹)	1	(¹)	(¹)	(¹)
75-99 percent	(¹)	(¹)	(¹)	(¹)	(¹)
100 percent	—	—	—	—	—
Average percent paid by individual	6	7	8	7	1

¹ Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Where applicable, a dash indicates no participants.

health care participants covered by each type of plan in 1989-90:

	<i>Percent of participants</i>
All plans	100
Fee-for-service	72
PPO	12
HMO	15

In general, employee out-of-pocket expenses were directly related to the degree of choice of health care providers available. Fee-for-service plan participants paid higher out-of-pocket expenses than PPO participants, who in turn paid higher out-of-pocket expenses than employees covered by an HMO.

Traditional fee-for-service plans typically require health care charges below a given dollar amount to be paid largely by the employee, whereas higher charges are paid largely by the plan. Nearly all fee-for-service plan participants, for example, were required to pay an annual deductible before any expenses were paid by the health plan. For an employee with low annual health care usage, such as the one represented in scenario 1, a deductible will account for all or most of the total charges.

After the deductible had been met, fee-for-service plans typically paid 80 percent of the bill for health care services. As noted previously, the employee's share—20 percent—was frequently limited by a catastrophic expense provision, averaging about \$1,000 per person and about \$2,000 per family. Once an employee's charges reached these limits, the plan would pay 100 percent of any additional expenses. Families with higher usage, such as those in scenarios 3 and 4, would be likely to reach the catastrophic expense limit.

Compared with traditional fee-for-service plans, PPO's offer a higher percentage of coverage for selected services if patients use designated physicians and hospitals.⁶ Overall, PPO participants pay less for the same services than do employees covered by a traditional fee-for-service plan. In scenario 3, for example, PPO participants would pay 10 percent of total expenses, compared with 13 percent for fee-for-service participants; in scenario 2, the corresponding payments were 14 and 17 percent. (See table 1.)

As table 2 shows, the distribution of employee expenses for PPO's is very similar to that of fee-for-service plans, except for scenario 1, with its low health care usage. A larger percentage of employees in fee-for-service plans than of those in PPO's paid 100 percent of the charges for scenario 1. This may result from the frequent elimination of annual deductibles for PPO participants if desig-

nated health care providers are used.

HMO's, which limit employee choice of physicians and hospitals, are designed to keep employee out-of-pocket expenses down. Almost none of the participants in HMO's are required to satisfy a yearly deductible or pay a percentage of expenses for health care services. Doctors' office visits, however, generally require a copayment, most commonly \$5 or \$10 per visit. Hospital room and board is typically covered in full or is subject to a copayment, such as \$100 per admission. Most other services generally are covered in full. Therefore, HMO participants pay a lower out-of-pocket dollar amount for care than do those in non-HMO plans.

In scenario 1, HMO participants paid an average of \$17 in annual out-of-pocket expenses, while non-HMO participants paid an average of \$71. (See table 1.) Similarly, in scenario 2, HMO participants paid an average of \$189, while non-HMO participants paid an average of \$1,148. As the scenarios include more and more services, these differences in annual out-of-pocket expenses continue to grow. The differences are part of the trade-off between fee-for-service plans and HMO's: fee-for-service plans offer nearly unlimited choices of care but require employees to share the cost of that care; HMO's limit employee choices but also reduce out-of-pocket expenses.

Compared with participants enrolled in non-HMO plans, a larger percentage of participants enrolled in HMO's pay nothing for their care. However, there were few other differences between the distributions of HMO and non-HMO participants. For scenarios 2, 3, and 4, virtually all participants paid less than 25 percent of the cost, regardless of the type of plan in which they were enrolled. For scenario 1, with total charges of \$87, the majority of non-HMO participants paid more than 50 percent of the total cost, while the majority of HMO participants paid less than 50 percent.

Influence of hospital care. In addition to the four scenarios of health care services just described, additional scenarios were designed to isolate the effect of hospital care on employee expenses. Table 3 shows two scenarios with nearly identical total charges, \$962 and \$963, but different types of services. In the first, all charges were incurred for hospital care, while in the second, all charges were the result of office visits. Without hospitalization, the individual's average payment was 29 percent of total expenses (\$274), compared with 22 percent (\$216) for the scenario with hospitalization.

In addition to the variation in the average employee expenses, there were differences in the percentage of workers required to pay different levels of the total cost. (See table 4.) With hospital care, more than one-fifth of the fee-for-service partici-

pants had their health care charges paid entirely by the plan, compared with fewer than 10 percent for the doctors' visits scenario.

The gap widens between these two scenarios when the analysis is restricted to HMO's. In the scenario with a hospital stay, more than four-fifths of HMO participants would pay nothing for health care expenses, compared with about two-fifths for the office visits scenario. These differences can largely be explained by the coverage patterns of hospitalization. It was more common for hospital care provisions to include "first dollar" coverage than provisions for physicians' office visits.

In the scenario with doctors' visits alone, 70 percent of the non-HMO participants would pay between a quarter and a half of total expenses, compared with 50 percent of the participants in the scenario with a hospital stay. Again, this difference is largely due to the way in which physicians' office visits are covered under non-HMO plans. Such care was more often subject to a deductible and a coinsurance requirement before benefits were paid than was hospitalization.

Hospital cost differences. Differences in the cost of hospitalization can also affect the distribution of total charges paid by the individual and by the plan. To illustrate this effect, scenarios were developed in which the dollar amounts of all expenses except for hospitalization costs were held constant; three different sets of hospital costs for room and board and ancillary charges were used for this comparison. The scenario consisted of a 7-day hospital stay plus \$489 in additional services. Hospital cost information came from claims data compiled by Mutual of Omaha Insurance Co.⁷ (See table 5.)

According to the Mutual of Omaha data, a typi-

cal daily hospital expense was \$963 (room and board of \$342 and miscellaneous charges of \$621). Given these amounts, the total annual health care charges in this scenario were \$7,230. Employees paid an average of 10 percent of this total. This relatively low percentage paid by the individual is explained to a large extent by the high level of total health care charges. In this scenario, the annual deductible accounted for a small portion of charges. Similarly, the presence of a limit on the employee's liability for catastrophic expenses in a great many plans contributed to the low cost to the patient.

A clear pattern emerges when comparing the percentages of the total charges paid by the individual and by the plan with the cost of hospitalization. In the scenario with high per-day hospital costs, the individual paid the lowest percentage of total expenses. For example, where the average daily hospital cost was the highest (\$1,725), the percentage of total charges paid by the individual was the lowest (7 percent). On the other hand, for a scenario with low hospital cost per day (\$654), the individual paid the highest percentage of the total (13 percent). This pattern is consistent throughout all the scenarios; that is, the higher the daily hospital cost, the lower the percentage of the total paid by the individual.

It is also true, however, that the individual pays higher absolute dollar amounts when the costs of hospital care are greater. In the scenario with the highest per-day hospital expense, the individual paid the largest dollar amount (\$877); in the scenario with the lowest hospital expense, the individual paid the least (\$641).

Finally, it should be noted that the variation in absolute dollar amounts paid by the individual between scenarios is relatively small, given the dif-

Table 3. Percent and dollar amount of health care expenses paid by the individual and by the plan, for similar total expenses but different types of care, by type of plan, 1989-90

[Plan premiums not included]

Type of Plan	Percentage paid			Dollars paid		
	Total	Individual	Plan	Total	Individual	Plan
1-day hospital confinement = \$963						
All plans	100	22	78	\$963	\$216	\$747
Non-HMO	100	26	74	963	252	711
Fee-for-service ..	100	27	73	963	258	705
PPO	100	22	78	963	215	748
HMO	100	4	96	963	35	927
26 office visits at \$37 per visit = \$962						
All plans	100	29	71	\$962	\$274	\$688
Non-HMO	100	32	68	962	312	650
Fee-for-service ..	100	33	67	962	319	643
PPO	100	28	72	962	273	689
HMO	100	9	91	962	83	879

Table 4. Percent of cost paid by individual plan participants for similar total expenses but different types of care, by type of plan, 1989-90

[Plan premiums not included]

Percentage paid by the individual	All plans	Non-HMO	Fee-for-service	PPO	HMO
1-day hospital confinement = \$963					
No payment	32	21	22	21	84
1-24 percent	17	18	15	32	11
25-49 percent	45	53	55	42	3
50-74 percent	4	5	5	4	1
75-99 percent	(¹)	(¹)	(¹)	1	(¹)
100 percent	2	2	2	(¹)	(¹)
Average percent paid by individual	22	26	27	22	4
26 office visits at \$37 per visit = \$962					
No payment	10	3	3	6	41
1-24 percent	22	18	15	31	47
25-49 percent	61	71	73	56	12
50-74 percent	4	5	5	4	1
75-99 percent	1	1	1	1	1
100 percent	2	2	2	1	(¹)
Average percent paid by individual	29	32	33	28	9

¹ Less than 0.5 percent.

Note: Because of rounding, sums of individual items may not equal totals. Where applicable, a dash indicates no participants.

ference in total health care expenses. Total charges ranged from a low of \$5,067 to a high of \$12,564. Thus, an increase in total charges of \$7,497 translated into an increase of only \$236 paid by the individual.

Employee premiums

In 1989-90, half of employees receiving health care benefits were required to make contributions toward their own health care coverage, and two-thirds were required to contribute toward family coverage. Participant contributions were typically fixed monthly premiums, averaging \$25 for individuals and \$94 for family coverage.

For all scenarios, plans wholly financed by the employer paid a higher percentage of costs than those requiring employee contributions, although the differences were usually small. In scenario 2, for example, jointly financed plans paid 85 percent of the total, while wholly employer-financed plans paid 88 percent. In non-HMO plans, those that were wholly employer-financed paid 87 percent of the charges, while jointly financed plans paid 82 percent. Wholly employer-financed HMO's paid 98 percent of the total cost, while jointly financed HMO's paid 97 percent. These patterns occurred across all types of plans and all scenarios.

The following tabulation shows the percent of

health care expenses paid by the individual and the plan for scenario 2, by type of plan. It compares wholly employer-financed and jointly financed health care plans:

	Wholly <i>employer-financed</i>		<i>Jointly financed</i>	
	<i>Individual</i>	<i>Plan</i>	<i>Individual</i>	<i>Plan</i>
All plans .	12	88	15	85
Non-HMO . . .	13	87	18	82
HMO	2	98	3	97

While the data already described show employees' out-of-pocket expenses, total expenses for 1 year equal the out-of-pocket payment plus any required contributions toward the plan premiums.⁸ The percentage of an employee's total expenses that is due to out-of-pocket expenses varies widely, depending in part on the total expenses incurred for the year. (The following data relate only to those participants in health care plans that impose a fixed monthly premium on the employee.) In scenario 2, out-of-pocket expenses accounted for 47 percent of the participant's total, while they accounted for 71 percent in scenario 4. (See table 6.) In both scenarios the average annual family premium was \$1,122. However, the total out-of-pocket expense for scenario 4 was \$2,706, while

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the total out-of-pocket expense for scenario 2 was \$1,011.

The employee in scenario 1 was assumed to have paid the average annual individual premium of \$303, rather than the family premium. For this employee, 83 percent of the total cost was for premiums, and 17 percent was for out-of-pocket expenses. In this case, the employee would have had lower annual health care expenses by not having insurance, because total health care costs were only \$87, and premiums totaled \$303. Of course, this person could not have predicted any catastrophic illness or accident that would have increased the total charges. The coverage thus served to reduce risk.

The division of the employee's total expenses between premiums and out-of-pocket expenses also depends on the type of health care plan involved. Employees enrolled in HMO's pay a lower

percent of their total costs in out-of-pocket expenses than do employees covered by a fee-for-service plan because of the different structures of these plans. The only expenses that HMO enrollees pay, other than premiums, are small copayments for certain services; in fee-for-service plans, enrollees must satisfy a deductible and share the cost of certain health care services. In scenario 3, premiums accounted for 85 percent of the employees' total expenses for HMO's, compared with 39 percent of the total for non-HMO's.

The differences in out-of-pocket costs between HMO's and non-HMO's led to large differences in the participant's total cost. For example, families with charges similar to those assumed in scenario 3 would save more than \$1,000 if they were enrolled in HMO's. This savings arises almost entirely from differences in out-of-pocket expenses, as the average annual family premiums for HMO's and

Table 5. Percent and dollar amount of health care expenses paid by the individual and by the plan for similar usage but different hospital costs, by type of plan, 1989-90

[Plan premiums not included]

Type of plan	Percentage paid			Dollars paid		
	Total	Individual	Plan	Total	Individual	Plan
Lower-than-average case						
				7-day hospital charges (at \$654 per day) = \$4,578		
				Additional annual costs ¹ = 489		
				Total annual costs = 5,067		
All plans	100	13	87	\$5,067	\$641	\$4,426
Non-HMO	100	15	85	5,067	749	4,318
Fee-for-service	100	15	85	5,067	778	4,289
PPO	100	12	88	5,067	587	4,480
HMO	100	2	98	5,067	99	4,968
Average case						
				7-day hospital charges (at \$963 per day) = \$6,741		
				Additional annual costs ¹ = 489		
				Total annual costs = 7,230		
All plans	100	10	90	\$7,230	\$737	\$6,493
Non-HMO	100	12	88	7,230	864	6,366
Fee-for-service	100	12	88	7,230	891	6,339
PPO	100	10	90	7,230	711	6,519
HMO	100	1	99	7,230	106	7,124
Higher-than-average case						
				7-day hospital charges (at \$1,725 per day) = \$12,075		
				Additional annual costs ¹ = 489		
				Total annual costs = 12,564		
All plans	100	7	93	\$12,564	\$877	\$11,687
Non-HMO	100	8	92	12,564	1,030	11,534
Fee-for-service	100	8	92	12,564	1,051	11,513
PPO	100	7	93	12,564	909	11,655
HMO	100	1	99	12,564	116	12,448

¹ Each example shows the total annual expense for a 7-day hospital stay (including room and board and ancillary charges), added to the following charges for other services:

2 office visits	\$37/visit	\$74
1 laboratory test	\$92/test	\$92
2 prescriptions	\$25/prescription	\$50
7 physician visits	\$39/visit	\$273
Total charges (except hospital)		\$489

Table 6. Premium cost and out-of-pocket expenses for health plan participants, by type of plan, 1989-90

Type of plan	Percentage			Dollars		
	Total	Premium	Out-of-pocket	Total	Premium	Out-of-pocket
Scenario 1: Total health care expenses=\$87						
All plans	100	83	17	\$364	\$303	\$61
Non-HMO	100	81	19	384	311	73
Fee-for-service	100	80	20	388	312	76
PPO	100	85	15	363	309	54
HMO	100	94	6	293	276	17
Scenario 2: Total health care expenses=\$7,085						
All plans	100	53	47	\$2,133	\$1,122	\$1,011
Non-HMO	100	48	52	2,295	1,099	1,196
Fee-for-service	100	45	55	2,282	1,037	1,245
PPO	100	60	40	2,358	1,407	951
HMO	100	85	15	1,441	1,223	219
Scenario 3: Total health care expenses=\$12,588						
All plans	100	44	56	\$2,532	\$1,122	\$1,410
Non-HMO	100	39	61	2,786	1,099	1,687
Fee-for-service	100	37	63	2,806	1,037	1,769
PPO	100	52	48	2,686	1,407	1,279
HMO	100	85	15	1,446	1,223	223
Scenario 4: Total health care expenses=\$41,504						
All plans	100	29	71	\$3,828	\$1,122	\$2,706
Non-HMO	100	25	75	4,310	1,099	3,211
Fee-for-service	100	24	76	4,370	1,037	3,333
PPO	100	35	65	3,994	1,407	2,587
HMO	100	69	31	1,764	1,223	542

Note: Includes data for only those plan participants required to pay a fixed monthly premium for plan coverage.

non-HMO's were similar. Other scenarios also showed substantial differences in the total costs between HMO's and non-HMO's.

Plans for additional study

The information here presents just a sampling of measures that the new health care expenses model can provide. The Bureau of Labor Statistics intends to continue producing these data as part of its annual Employee Benefits Survey bulletins. Scenarios of health care services and corresponding expenses will be reviewed each year

before tabulations are provided. The scenarios may change based on requests for specific mixes of services or based on data concerning health care usage. Estimates of charges for the scenarios will be updated using the latest available data.

Users of Employee Benefits Survey data and the model are invited to suggest changes to the methodology, as research into expansion of the model will continue. One of the areas to be explored is the inclusion of additional health care services, such as home health, hospice, and mental health care. □

Footnotes

¹ Calculations of health care benefit expenses were made using the 1989 and 1990 Employee Benefits Surveys. The data represent full-time employees in private establishments and State and local governments who participated in an employer-sponsored health care plan.

² For information on the value of employee benefits, see Melissa Famulari and Marilyn E. Manser, "Employer-provided benefits: employer cost versus employee value," *Monthly Labor Review*, December 1989, pp. 24-32.

³ Complete details on employer costs for compensation are available in *Employment Cost Indexes and Levels, 1975-91*, Bulletin 2389 (Bureau of Labor Statistics, 1991). See also *Employer Costs for Employee Compensation, March 1992*, USDL 92-391 (Bureau of Labor Statistics, June 1992).

⁴ See *Employee Benefits in Small Private Establishments, 1990*, Bulletin 2388 (Bureau of Labor Statistics, 1991). See also *Employee Benefits in Medium and Large Firms, 1989*, Bulletin 2363 (Bureau of Labor Statistics, 1990); and *Em-*

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Employee Benefits in State and Local Governments, 1990, Bulletin 2398 (Bureau of Labor Statistics, 1992).

³ Plans continue to pay 100 percent of covered expenses until a lifetime maximum, if imposed, is reached. Where lifetime maximums are imposed, they are typically \$1 million or more.

⁴ When analyzing benefit provisions for employees enrolled in a preferred provider organization, the Employee Benefits Survey assumes that the enrollees will choose the preferred provider. Therefore, data for the provisions that are most advantageous to the employee are tabulated.

⁷ The data are from Mutual of Omaha's business group, and may not be representative of other population subgroups. For complete information, see Mutual of Omaha, *Current*

Trends in Health Care Cost and Utilization, 1991.

⁶ About three-fourths of participants required to contribute to their plans paid for individual or family coverage in fixed monthly contributions. The remainder of participants paid health care premiums either through a composite rate or through a flexible benefits plan. In each of these two cases, the actual employee contribution cannot be calculated. Participants who pay a composite rate pay one premium for several insurance benefits, for example, health and life insurance. The premium can not be separated into the components. Participants enrolled in a flexible benefits plan may be required to pay a premium for all the benefits they choose. Again, the contribution for individual benefits cannot be determined. Employers must pay at least some of the insurance cost for the plan to be included in this study.

APPENDIX: Calculation methods and data limitations

The model of health care benefits expenses required three inputs: Scenarios of health care services, data on charges for those services, and data on how health care benefit plans cover the services. This appendix describes these inputs.

Health care services. Comparing employee expenses among health care plans begins with a fixed set of health care services. Any set of services can be used, so long as the same set is applied to all plans. This article used several sets of services (scenarios) designed to represent varying health care needs and to test the effects of different types of usage.

Each scenario represents an annual set of services received by an individual or a family. An annual total of expenses is required because many health care plans have provisions based on annual expenses. For example, most plans with deductible provisions require the deductible amount to be met each year.¹ Because of this feature, it is difficult to show employee expenses for an individual service, such as a physician's office visit. The cost to a given employee and to the plan of one doctor's office visit could be different, depending upon when the service was received and what other services had been received in the year. If the annual deductible had not yet been met, the employee might pay the full cost, whereas if the deductible had been met, the plan might pay all or nearly all of the cost.

Despite this limitation, the effect of specific health care services on employee expenses can be seen by developing scenarios limited to those services. By comparing similar levels of health care expenses made up of different services (for example doctors' office visits versus hospital room and board charges), the effect of the services on the employee's expenses can be calculated. This was shown in table 3.

An alternative to preparing several scenarios of health care services is to analyze data on all health care received in the United States, and to construct an average set of services that represents the Nation. Such a measure may represent all employees combined, but may not represent any one individual or pattern of usage common to groups of individuals. By designing several scenarios of health care services, the data should be more representative of a variety of users.

The scenarios are not meant to indicate the exact usage of specific health care services for a particular illness. For this reason, the generic terms "surgery," "x-ray," and "laboratory test" are most often used, rather than designations of specific services. It is not the intention of these data to show the expenses associated with a given procedure, such as an appendectomy. Rather, the data should be looked at as expenses for a general set of health care services that might cover a variety of procedures.

While the Bureau of Labor Statistics has produced health care expense data for a variety of scenarios, the model used to produce these data was designed to accept any input. Therefore, other researchers may in the future be able to examine expenses for an average of U.S. health care services or for the specific services associated with a given medical diagnosis.

Health care expenses. Once the set of health care services is determined, charges for those services must be established. For purposes of this model, the most comprehensive data available are from the Mutual of Omaha Insurance Co. These data are compiled from health care claims paid over the latest 3 years. Data are available on the average charges for a variety of health care services. Furthermore, data are available for generic services, such as surgery and x-rays, which correspond with the scenarios prepared.

Several other sources of health care charges were consulted before the Mutual of Omaha data were selected. Other sources yielded similar estimates. Where Mutual of Omaha data were not available for a service included in a scenario, these other sources were used.²

Plan provisions. The health care services and charges can now be compared to the individual health care benefit plan provisions. However, a few additional concerns must be addressed. First, the model assumes that the costs fall within the "full usual, reasonable, and customary (uacr) charges" allowed by a given plan. That is, if a health care provider asks for more than what the plan considers to be full uacr charges, the excess charges are typically paid entirely by the employee. Such excess charges are not considered in the model.

Exhibit A. Computing employee and plan shares of medical expenses

Each scenario of health care expenses is compared to all health care benefit plans on the Employee Benefits Survey data base. The calculations below demonstrate how employee and plan costs are calculated for three typical plans. Services and expenses are from text exhibit 1, Scenario 3 (page 20), which shows total health care expenses at \$12,588.

Example 1: Traditional fee-for-service

Participant must satisfy a \$200 annual deductible, after which the plan pays 80 percent of all expenses, until the participant reaches the catastrophic expense limit of \$1,200 (\$6,000 in total expenses) in excess of the deductible. At that point, the plan pays 100 percent of expenses for the remainder of the year.

Expense	Total expenses	Deductible	Expenses paid at 80 percent by plan	Expenses paid at 100 percent by plan
Individual 1				
1 office visit	\$37	\$37	—	—
1 lab test	92	92	—	—
1 lab test	92	171	\$21	—
1 prescription	25	—	25	—
1 prescription	25	—	25	—
7- day confinement:				
Room and board	2,394	—	2,394	—
Ancillary	4,347	—	3,535	\$812
7 physicians' visits	273	—	—	273
Total	\$7,285	\$200	\$6,000	\$1,085
Individual:				
Deductible	\$200	—	—	—
20 percent of \$6,000	1,200	—	—	—
Total	\$1,400	—	—	—
Plan:				
80 percent of \$6,000	\$4,800	—	—	—
100 percent of \$1,085	1,085	—	—	—
Total	\$5,885	—	—	—
Individual 2				
1 office visit	\$37	\$37	—	—
1 lab test	92	92	—	—
1 office visit	37	37	—	—
1 lab test	92	134	\$58	—
1 prescription	25	—	25	—
4- day confinement:				
Room and board	1,368	—	1,368	—
Ancillary	2,484	—	2,484	—
4 physicians' visits	156	—	156	—
Surgery	1,012	—	1,012	—
Total	\$5,303	\$200	\$5,103	—
Individual:				
Deductible	\$200	—	—	—
20 percent of \$5,103	1,021	—	—	—
Total	\$1,221	—	—	—
Plan:				
80 percent of \$5,103	\$4,082	—	—	—
Total	\$4,082	—	—	—
			Individual	Plan
Individual 1, total			\$1,400	\$5,885
Individual 2, total			\$1,221	\$4,082
Combined total			\$2,621	\$9,967
Percent of charges			21	79

See footnotes at end of exhibit.

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Exhibit A. Continued—Computing employee and plan shares of medical expenses

Example 2: Preferred provider organization

Room and board and ancillary charges are covered at 90 percent by the plan with a \$100 per admission deductible, but no annual deductible. All other expenses are covered at 80 percent by the plan.

Expense	Total expenses	Deductible	Expenses paid at 80 percent by plan	Expenses paid at 90 percent by plan
Individual 1				
1 office visit	\$37	—	\$37	—
1 lab test	92	—	92	—
1 lab test	92	—	92	—
1 prescription	25	—	25	—
1 prescription	25	—	25	—
7-day confinement:				
Room and board	2,394	\$100	—	\$2,294
Ancillary	4,347	—	—	4,347
7 physicians' visits	273	—	273	—
Total	\$7,285	\$100	\$544	\$6,641
Individual:				
Deductible	\$100	—	—	—
10 percent of \$6,641	664	—	—	—
20 percent of \$544	109	—	—	—
Total	\$873	—	—	—
Plan:				
90 percent of \$6,641	\$5,977	—	—	—
80 percent of \$544	435	—	—	—
Total	\$6,412	—	—	—
Individual 2				
1 office visit	\$37	—	\$37	—
1 lab test	92	—	92	—
1 office visit	37	—	37	—
1 lab test	92	—	92	—
1 prescription	25	—	25	—
4-day confinement:				
Room and board	1,368	\$100	—	\$1,268
Ancillary	2,484	—	—	2,484
4 physicians' visits	156	—	—	156
Surgery	1,012	—	—	1,012
Total	\$5,303	\$100	\$1,451	\$3,752
Individual:				
Deductible	\$100	—	—	—
10 percent of \$3,752	375	—	—	—
20 percent of \$1,451	290	—	—	—
Total	\$765	—	—	—
Plan:				
90 percent of \$3,752	\$3,377	—	—	—
80 percent of \$1,451	1,161	—	—	—
Total	\$4,538	—	—	—
			Individual	Plan
Individual 1, total			\$873	\$6,412
Individual 2, total			\$765	\$4,538
Combined total			\$1,638	\$10,950
Percent of charges			13	87

See footnotes at end of exhibit.

Exhibit A. Continued—Computing employee and plan shares of medical expenses

Example 3: Health maintenance organization

Hospital charges are covered in full. In-hospital physicians' visits and surgery are covered in full. Physicians' office visits covered after a \$5 copayment, with lab tests included. Prescriptions are covered after a \$3 copayment per prescription.

Expense	Total	Individual	Plan
Individual 1			
1 office visit	\$37	\$5	\$32
1 lab test	92	—	92
1 lab test	92	—	92
1 prescription	25	3	22
1 prescription	25	3	22
7- day confinement:			
Room and board	2,394	—	2,394
Ancillary	4,347	—	4,347
7 physicians' visits	273	—	273
Individual 2			
1 office visit	\$37	\$5	\$32
1 lab test	92	—	92
1 office visit	37	5	32
1 lab test	92	—	92
1 prescription	25	3	22
4- day confinement:			
Room and board	1,368	—	1,368
Ancillary	2,484	—	2,484
4 physicians' visits	156	—	156
Surgery	1,012	—	1,012
Total	\$12,588	\$24	\$12,564

¹Satisfied deductible.

²Reached catastrophic expense limit.

Second, the same health care charges are used regardless of the health care plan. For example, if the scenario includes 7 days of hospital room and board charges at \$500 per day, that total expense (\$3,500) is applied against all plans. In fact, an HMO may not incur such a cost for a 7-day hospital stay, because care providers are paid a fixed fee. Thus, much of the analysis concerning HMO's focuses on what the employee must pay, rather than the cost to the HMO.

Finally, the health care charges are nationwide averages and are being compared to a nationwide data base of health care plans. However, health care costs differ substantially by geographic area.³ At this time, the Employee Benefits Survey sample of establishments cannot support regional or area estimates.⁴

The 1989-90 Employee Benefits Survey, which develops data on benefit provisions, is the source of benefit plan data for the model.⁵ As part of this survey, the written descriptions of employer-provided health care benefits are analyzed, with specific provisions entered into a computer data base. From this data base, the incidence of selected provisions is tabulated and published as part of the annual Employee Benefits Survey. Until now, such provisions were typically examined independently of one another.

The new model considers all the provisions in a single plan together. For example, if a plan imposes a \$200 per year deductible that applies to all expenses,

this amount is charged to the individual only once, regardless of the number of individual expenses incurred. Similarly, if a plan imposes a deductible just on hospital room and board charges, the model only considers that deductible if the scenario includes a hospital stay.

While the Employee Benefits Survey data base includes information on coverage for more health care services,⁶ the model calculations are limited to seven services: hospital room and board; hospital ancillary charges; inpatient surgery; in-hospital physician visits; physicians' office visits; diagnostic x-ray and laboratory tests; and outpatient prescription drugs.

For each of these services, data are recorded on the coverage or limitations on coverage imposed by each plan. A plan may cover a service in full (with no required employee payment and no limit on the duration or dollar amount paid for by the plan), not cover a service at all, or cover a service subject to limitations. Limitations can include employee and family deductibles, maximum duration of coverage (for example, 120 days of hospital room and board coverage), maximum dollars of coverage, coinsurance rates (the share of costs paid by the individual), and catastrophic expense limitations (the point at which the plan begins paying 100 percent of charges). Exhibit A provides several examples of how the model compares services, expenses, and plan provisions and how it determines employee and plan costs.

Footnotes to the appendix

¹ See *Employee Benefits in Medium and Large Firms, 1989*, Bulletin 2363 (Bureau of Labor Statistics, 1990), p. 51.

² Data on charges for in-hospital physicians' visits were taken from a survey conducted by *Medical Economics*. See Mark Crane, "What your colleagues are charging," *Medical Economics*, Oct. 7, 1991, pp. 124-34.

³ See Mutual of Omaha, *Current Trends in Health Care Costs and Utilization, 1991*, for cost variations by State.

⁴ For more information on the sample design of the Employee Benefits Survey, see the Technical Note to *Employee*

Benefits in Small Private Establishments, 1990, Bulletin 2388 (Bureau of Labor Statistics, 1991).

⁵ The data used are from a sample survey of employee benefit practices in private industry and State and local governments. The survey represents 73 million full-time workers. Of these workers, 83 percent received employer-provided health care benefits.

⁶ Additional health care services included in the Employee Benefits Survey are home health care, extended care facilities, hospices, mental health care, substance abuse treatment, dental care, and vision care.

Investing defensively

Many proponents of "alternative" investments had hoped unions would use pension funds offensively—to launch a campaign to bypass the market and replace market rate-of-returns with a new definition of "value"—a strategy that would take into account the value of creating jobs and stabilizing communities. It was hoped that union control of pension funds would incorporate social needs criteria into investment decisions and steer finance capital away from speculation toward productive investments. Yet, the labor movement primarily has used pension funds defensively, as a tactic in traditional strategies to garner bargaining power and to organize new members. Even when unions bypass capital markets to fund housing projects, the motivation is the loss of union construction and not the dire social consequences of housing shortages, although social concerns do complement and embolden labor's tactics.

—Teresa Ghilarducci

*Labor's Capital: The Economics
and Politics of Private Pensions*
(Cambridge, MA, The MIT Press, 1992), p. 115.
