

A NEW APPROACH TO HOSPITAL INSURANCE

Joseph P. Newhouse  
and  
Vincent Taylor

January 1969

P-4016

## A NEW APPROACH TO HOSPITAL INSURANCE

Joseph P. Newhouse  
and  
Vincent Taylor \*

The RAND Corporation, Santa Monica, California

### SUMMARY

Existing private and government hospital insurance plans minimize consumer concern about price as a factor in choosing a hospital, with the undesirable consequence that a major restraining influence on hospital costs is disappearing as insurance coverage spreads. As a step towards re-establishing consumer concern with price, we propose the immediate introduction of a new type of hospital insurance: Variable Cost Insurance (VCI). Major features of Variable Cost Insurance are:

- (1) The insurance premiums vary directly with the "expense class" of coverage chosen by the subscriber.
- (2) In the event of hospitalization, the proportion of the hospital bill covered by insurance varies inversely with "expense class" of the hospital used.

The effect of these two features of VCI will be to make an individual's overall cost of hospital care (including insurance premiums) directly dependent upon his choice of hospitals. If he chooses an inexpensive hospital, he reaps the full monetary savings. Conversely, if he chooses an expensive one, he bears the full monetary costs of his choice.

---

\* The authors wish to thank The RAND Corporation for its support of this research effort. Any views expressed in this paper are, of course, those of the authors. They should not be interpreted as reflecting the view of The RAND Corporation or the official opinion or policy of any of its governmental or private research sponsors. Papers are reproduced by The RAND Corporation as a courtesy to members of its staff.

We believe that the concept of Variable Cost Insurance offers an important opportunity to slow the rise of hospital costs. It can make the individual consumer an active seeker of economical care, instead of merely an interested observer of the efforts of others to control costs. It gives the hospital an incentive to be efficient. Most importantly, VCI can be introduced without substantial prior research or the development of a large administrative structure. It avoids the quality-comparison problems inherent in incentive payment plans based on "target costs," and the bureaucratic complexities of central planning and franchising. Another important feature of VCI is its adaptability to all types of insurance programs. Variations of the basic plan can be applied to individual insurance, group insurance, and government sponsored programs, such as Medicare and Medicaid.

#### THE PROBLEM

At the present time, neither the premiums nor payment terms of hospital insurance plans depend upon a subscriber's choice of hospital. Payment terms and premiums are the same whether a subscriber chooses a \$100 per day hospital or a \$50 per day hospital. Co-insurance features, typically requiring the subscriber to pay 20 percent of the bill, make subscribers responsible for only a small fraction of the cost differences between hospitals. The result is that insured persons have an understandable tendency to want the best of everything, with expense being at most a minor consideration.

The demands of consumers, thus, exert strong pressures on hospitals to raise standards of service -- with the inevitable impact on expense. Added to consumer forces are the demands of medical staff for new equipment and facilities -- demands made with little consideration of cost. Under present circumstances, a hospital that wants to remain "competitive" with respect to attracting medical staff and patients must respond to these pressures for "more and better" (and more expensive) hospital services. The normal countervailing force against undue expense is consumer concern with price -- but the spread of hospital insurance is steadily weakening this restraining force.

Our system of hospital insurance, thus, must bear a significant share of the blame for the rapidly escalating costs of hospital care.

#### CURRENT SOLUTIONS

The strong pressures pushing hospital costs upward, and the lack of countervailing forces, have been widely recognized and decried. Solutions have not been so apparent, however. Greater reliance on areawide planning appears meaningless unless accompanied by some type of "franchising" authority. But, this type of regulation is difficult to administer and, since it inevitably protects existing institutions, would decrease competition and innovation.

Another approach to controlling costs is the use of "incentive payments." A variety of plans have been suggested. The central feature of all of them is to establish "target costs" (or "reasonable prices") and to penalize or reward hospitals in relation to whether they exceed or come under the targets. A major and perhaps fatal difficulty is the setting of target costs. No two hospitals provide exactly the same services or treat the same mix of patients. How does one allow for such differences in setting targets? The answer is not simple either conceptually or administratively, although the benefits of finding a workable answer would be substantial.

#### A NEW SOLUTION -- VARIABLE COST INSURANCE

As a first step toward introducing a restraining influence on costs, we propose the introduction of Variable Cost Insurance (VCI), in which the premium charged the subscriber would vary with the expensiveness of the hospital (or hospitals) chosen by the subscriber. The main aspects of Variable Cost Insurance are as follows:

- (1) An insurance organization offering VCI would determine the expense class of each hospital in a community by applying standard actuarial techniques to historical experience.
- (2) Subscribers would designate, in consultation with physicians, their preferences in hospitals.

- (3) The insurance premium charged subscribers would be made proportional to the expense class of their preferred hospitals.
- (4) The insurance organization would pay hospitals on the basis of either billed charges or costs, whichever is mutually agreed upon.
- (5) In the event that a subscriber enters a hospital, the proportion of the bill paid by VCI would vary inversely with the expense class of the hospital used.

Various features of VCI are discussed in more detail in the following sections.

#### Expense Class Determination

Insurance organizations offering VCI would rate hospitals in a community according to their expensiveness. The "expense class" rating for a hospital would be the best estimate of the expense to the insurance organization of having the average subscriber receive his care from that hospital. The expense rating would be based on historical data of per diem and per case expense, adjusted for factors such as age and disease distribution of cases. Hospitals could be rated separately for surgery and medicine. (See below for further discussion.)

A very important aspect of the proposed insurance plan is that extreme accuracy in expense rating is not critical to its success. Even with moderate errors in ratings, VCI would represent an improvement over current plans. Errors would diminish the favorable effects of making price an element in consumer choice of hospitals but seem unlikely to eliminate them unless the errors are substantial. Moreover, the possibility of errors in the ratings of individual hospitals under VCI is not of crucial importance to either insurers or hospitals. Insurance organizations are concerned primarily with overall income and expenses, and errors in expense ratings will have only modest influence

on these totals. Accuracy of rating is more important to individual hospitals, but not critically so. The functions of expense ratings are to influence consumer choice and to determine the expense incurred by the consumer for his hospital insurance and care. The rating of a hospital does not determine its payments under VCI; it receives payment on the basis of charges or costs. If a hospital is placed in an unjustifiably high expense class, the only financial impact is through the loss in patient load due to the high rating. Unless the errors in rating are substantial and persistent, they should not place serious unfair financial burdens on hospitals. And, there is every reason to expect the accuracy of expense ratings to improve rapidly as experience with VCI is gained, since the best interests of both hospitals and insurers are served by such improvement. (By contrast, it is in the interest of hospitals to deceive insurers under "target price" plans, making the setting of fair prices increasingly difficult as hospitals gain more experience with the plan.)

A hypothetical example of expense rating for a community with five hospitals is presented in Table 1, assuming \$5 steps between expense classes. The example assumes expense rating on the basis of adjusted per diem expense, but this is merely illustrative; adjusted per case expense may be a preferable alternative.

Table 1

<u>Hospital</u>	<u>Average per diem (\$)</u>	<u>Adjustment factor</u>	<u>Adjusted per diem (Col. 1 x Col. 2)</u>	<u>Expense class (\$5 brackets)</u>
A	50	1.1	\$55	\$50-\$55
B	58	.9	52	50- 55
C	78	1.0	78	75- 80
D	45	1.3	59	55- 60
E	63	1.0	63	60- 65

The charge for insurance would vary directly with the expense class of coverage designated by the subscriber. For instance, if the monthly cost for insurance covering the \$50-\$55 class were \$10, the monthly cost for the \$75-\$80 class would be \$15.

Subscribers would be given a list showing the expense class of all of the hospitals in the community and would be asked to designate an expense class based on their preference in hospitals. They would be expected to consult with their physician in making the choice. For people who wish to go to different hospitals for medicine and for surgery, the insurance rate would be based on a weighted composite two hospitals' expense classes.

#### Payment for Care

The proportion of the hospital bill paid by VCI would depend upon both the expense class of the hospital utilized and the class of coverage. When the expense classes of coverage and hospital used are the same, the standard payment terms apply. These standard terms may include a deductible and/or coinsurance, but neither are essential features.

If a person is hospitalized in an institution in an expense class that differs from his insurance coverage, there are several possibilities: The insurance would ignore expense class in emergency cases where other facilities were not available and pay on the usual basis. In non-emergency cases, one possibility would be to pay costs in proportion to the ratio of the designated (d) to the actual (a) expense class.

For example, if the bill were \$1,000 and d/a were 1.2 (that is, the designated hospital was 20 percent more expensive than the actual), the subscriber would receive \$1,200 -- \$200 more than his hospital bill. If the plan includes coinsurance, say 20 percent of the bill, then the plan would pay  $\$1,000 \times .8 \times 1.2 = \$960$ . Conversely, if d/a were .8 (i.e., the designated expense class was 20 percent less than the actual), the plan would pay only \$800 (no coinsurance) or \$640 (20 percent coinsurance).

A variation of the previous payment plan, one which may be preferable, would be to apply the factor  $d/a$  to the regular insurance payment only up to the point where total hospital costs are paid, but not beyond. Thus in the first example, the subscriber would receive \$1,000 when  $d/a$  was 1.2 and there was no coinsurance. He would receive the same amounts as before in the other illustrative cases.

An advantage of applying  $d/a$  without an upper limit is that it would provide maximum encouragement to people to use low cost facilities. A disadvantage is that it would encourage people to inflate their bills when they expect to make a "profit" on their hospital bills. Although this latter effect is clearly undesirable, it is impossible to predict whether the overall impact is favorable or not without some actual experience. Both an upper limit at 100 percent of the bill and no-upper-limit might be tried on a trial basis.

#### Payments to Hospitals

A hospital would be paid by the insurance organizations on the basis of charges or costs, whichever basis is mutually agreed upon. We would urge that charges be given serious consideration as the standard basis for payment under VCI. Use of charges eliminates the administrative and philosophical complexities of determining "allowable costs," and consumer concern with price should prevent overall charges from getting out of line. If VCI succeeds in making consumer choice a reflection of the value offered by different hospitals, payment of charges is economically preferable to payment of costs.

As pointed out above, the usual market check against excessive cost is consumer concern with price, but under existing reimbursement plans services at an inefficient hospital are paid for by all who buy insurance, not just patients at the inefficient hospital. Under VCI a hospital's costs are transferred to users; thus, inefficient hospitals will tend to lose patients to more efficient hospitals. In this way VCI will reward well-managed hospitals and provide poorly managed hospitals a powerful motive to improve their performance.



Furthermore, VCI offers a way to cope with needless duplication of facilities that avoids the pitfalls of centralized control over capital expenditures. Since the hospitals themselves have the best information about what capital expenditure consumers are willing to pay for, they should make decisions regarding capital expenditure, provided that they face the correct incentives. We believe VCI gives them the correct incentives. With VCI, if the hospital decided to install an expensive piece of equipment which would be little used, its expense class would rise, and it would presumably lose patients.

#### Instalment Payment Feature

Since people will always have some fear that they may need to go to a more expensive hospital than their regular one, every effort should be made to minimize the undesirable consequences of this event -- otherwise people will choose a higher expense class to protect themselves against this contingency.

One way of doing this is to provide automatically for instalment payments on any portion of the bill not covered by insurance. For example, suppose that insurance covered only \$760 of a \$1,000 hospital bill; the insurance plan would pay the hospital the remaining \$240 and bill the subscriber for the remainder on the instalment plan. The instalment payments could simply be added to the insurance charges. Suppose that the insurance cost \$10 per month and the instalment plan were for 24 months, then in the example given, the subscriber would be billed \$20 per month or \$60 per quarter. The costs of interest and bad debt on instalment debt would be built into the basic insurance charge in this approach. An alternative would be to add them to the instalment payments (adding \$1 to \$2 per month to the example payment).

#### Group Insurance Plans

An important aspect of the proposed approach is its adaptability to group plans. It even seems possible that VCI can be made more attractive than current plans to both employers and to employees.

In a group VCI plan, the employer would cover the insurance cost for the average expense class. Employees would pay or receive additional amounts, depending upon whether they chose an expense class above or below the average. A particularly important variation of this plan would be to include coinsurance in the plan, with the extent of coinsurance decreasing as one moves to expense classes below the average. This plan is illustrated in Table 2.

Table 2

<u>Expense class</u>	<u>Insurance cost (\$ per mo.)</u>	<u>Employer contribution (\$ per mo.)</u>	<u>Employee contribution (\$ per mo.)</u>	<u>Percent Coinsurance</u>
1	13	13	0	0
2	13	13	0	6
3	13	13	0	13
4*	13	13	0	20
5	14	13	1	20
6	15	13	2	20
7	16	13	3	20
8	17	13	4	20
9	18	13	5	20
10	19	13	6	20

---

\* Average expense class of hospitals used by employees under current plan.

The basic approach of Variable Cost Insurance should appeal to employers because it promises them lower costs over the long run (by holding down rises in insurance rates) and no increase in costs over the short run. It should appeal to employees because they will be able to save themselves money by choosing economical hospitals. Those who pay additional amounts under the proposed plan would, of course, prefer the existing plans. It appears likely, however, that such persons will be in a minority when the employer contributes the same total amount to the proposed plan (since approximately one-half will

be below average to begin with, and others will choose to save money by designating a below-average expense class).

#### Government Insurance Plans

The plan illustrated in Table 2 is directly applicable to government sponsored medical insurance programs. It could be applied to Medicare, Medicaid, or any other program involving government contributions to hospital insurance. In effect, the government replaces the employer as the primary supporter of a group insurance plan. All of the discussion of group insurance is, therefore, relevant.

#### Arguments Against VCI

Arguments that may be raised against VCI are that consumers do not have the expertise required to intelligently choose a hospital; and that they will choose hospitals on inappropriate grounds and may discourage the provision of quality care by unwillingness to pay the full costs of such care. Although perhaps superficially appealing, these arguments are not damaging to the proposal. On the matter of consumers' lack of knowledge of hospitals, the consumer will be in the same position under the proposed plan as he is now -- in both cases he must rely upon his physician. With respect to the argument that consumers will be unwilling to pay the full costs of quality care, this seems doubtful. Even if true, however, it is a person's own choice to make. If his physician indicates that the more expensive hospital is preferable, and the person chooses the cheaper one, that is up to him. More importantly, however, the proposed plan seems likely to create a strong demand from consumers for better information on the quality rating of different hospitals -- improving their ability to choose wisely. The reason for this effect is that the choice of hospitals will have monetary meaning to the consumer. If he can find a cheaper hospital of good quality, he stands to save money. Under current plans, he is merely interested in being assured of good quality. If his physician assures him that Hospital A provides good care, he will be satisfied. It doesn't matter if Hospital A is 20 percent more expensive than

Hospital B. It will not cost him much if any more. Under the proposed plan, however, he would like to know how Hospital A compares to Hospital B, C, D, etc., in quality -- not simply whether the quality is "good" or "bad." His choice of hospital will make a real monetary difference, and he will want to know at which hospital he can get acceptable care at the cheapest price. This requires comparative information on quality. The government could provide such information. It might well be that privately sponsored quality rating services would come into being in the absence of government action. The increased consumer demand for quality information is one of the major benefits of the proposed Variable Cost Insurance.

Another argument against the proposal is that it requires freedom of consumer choice to be effective -- but such freedom may be illusory, since the consumer must be treated in a hospital in which his physician has staff privileges. Two points can be made in reply. First, since some physicians have multiple staff appointments, there may be enough consumers with freedom of choice to make the plan workable. Second, some physicians may reconsider their staff appointments, and some patients may reconsider their physicians, since it now becomes more expensive to use a physician with an appointment at a high cost hospital.

#### CONCLUSION

We would be the first to admit that Variable Cost Insurance will not entirely solve the problem of escalating hospital costs. The specialized and esoteric nature of medical care limits the effectiveness of consumer choice in penalizing the inferior producer and restraining increases in cost. Accepting this limitation, it seems very clear that we have much to gain and little to lose by placing the monetary consequences of hospital choice back onto the shoulders of the hospital user. Variable Cost insurance will greatly increase the concern of insured persons about the cost of hospital care and, consequently, their concern over quality. Both of these effects are beneficial and, in combination, offer significant promise of bringing hospital costs back under control without impairing quality.

Variable cost insurance appears sufficiently superior to current plans that every effort should be made to introduce it quickly. Action need not wait for government, since the proposed approach would be economically sound for both Blue Cross-Blue Shield and private companies.