NATIONAL HEALTH INSURANCE

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Various groups see national health insurance as a means of achieving different, and sometimes conflicting, objectives. These objectives include (1) improving health, (2) protecting Americans against financial devastation from illness, (3) reducing inequality in the distribution of income, (4) promoting social cohesion by making health services available to all, and (5) making the health care delivery system more efficient, or at least less costly.

Unfortunately, the first objective — improving health — is unlikely to be substantially furthered by *any* plan. Although this may seem strange to the layman, mortality rates from the major killers of the day — cancer, heart disease, stroke, accidents, and homicide — are unlikely to be much reduced by a further extension of personal medical care services. Important causes of sick days, such as the common cold, are neither preventable nor treatable to any significant degree. Even potential qualitative gains in health, such as additional relief of anxiety and additional symptomatic relief, cannot come until the supply of services expands, and significant expansion is likely to require several years.

The proposed national health insurance plans differ in their ability to achieve the other objectives enumerated above. To appraise the alternative plans in terms of these objectives, it is necessary to examine four critical issues: (1) the extent of coverage, (2) the reimbursement of providers and the nature of the delivery system, (3) financing, and (4) administration.

The Extent of Coverage

Decisions must be made about who should be covered, what services should be covered, and how well each service should be covered (i.e., what part of the cost, if any, should be left to the patient through deductibles or coinsurance). All major proposals agree on the point that the entire population should be protected against very large ("catastrophic") medical bills (Objective 2); they differ only in the details of how such protection should be provided, especially whether it should be related to income. There is also consensus on the point that the poor should pay little, perhaps nothing, for medical care services, and that Medicaid should be replaced with a uniform federal program or with uni-

form federal standards (Objectives 2, 3, and possibly 4). Beyond these points of agreement, there is considerable divergence of view over whether the nonpoor should make out-of-pocket payments, and over what services should be covered (e.g., dentistry, mental health, vision and hearing, chiropractic, podiatric).

The extent to which the costs of services are insured will affect both the amount of medical services that the population (or physicians acting as their agents) will desire to use ("demand") and the cost of those services. Demand responds to the completeness of insurance coverage. As a rule of thumb, if a medical service that is now uninsured becomes fully covered, the demand for it will roughly double.* Smaller changes in coverage appear to cause proportionally smaller changes in demand.

The magnitude of the increase in demand for a given service caused by a new plan will depend upon how fully that service is now insured. Present insurance coverage varies markedly across services: hospital services are almost fully covered, outpatient physician services are roughly half covered, and such services as dentistry and prescription drugs are hardly covered at all. Consequently, demand increases from a *full-coverage* plan would be little for hospital services, substantial for outpatient physician services, and very large for other services, if they are included. A national health insurance plan, however, need not incorporate full coverage; if a deductible were included for the nonpoor of such an amount that most persons, most of the time, did not exceed it, demand would increase little for all services.**

How then should we appraise a full-coverage plan? It would have the beneficial effect of removing all concern over financial loss from illness, but the increase in demand would be accompanied by certain undesirable effects. Because the number of visits could not be rapidly expanded,

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*Some believe that greater coverage of ambulatory services will reduce the demand for hospitalization. Most evidence does not support this proposition; if anything, the opposite is indicated. To a first approximation, the demand for most medical services is independent of how well other services are covered.

**Coinsurance and copayment have effects that differ from those of a deductible; they are not treated here.

a large increase in the demand for physician and dental services would probably be marked by longer waits for appointments and fewer M.D.s accepting new patients, but little or no increase in total visits (conflicts with Objective 5). Many believe that with a full-coverage plan visits would be more concentrated among the poor. However, because existing health insurance coverage (including public programs) extends approximately equally to various income classes, one can expect improvements in coverage to cause roughly equal increases in demand among all income classes. To avoid large increases in demand under full coverage, the coverage should be phased in over a period of years.

The Reimbursement of Providers and the Nature of the Delivery System

Full coverage raises issues with respect not only to demand, but also to reimbursement of providers. Simply put, full coverage (with premiums or taxes unrelated to individual choice) is incompatible with competition on the basis of price (conflicts with Objective 5). For example, an individual hospital, facing a fully insured community, can increase its costs without fear that physicians and their patients will choose another hospital, will choose to be hospitalized less often, or will choose to consume fewer services when hospitalized. The increased costs are paid when the insurance premium is paid, but the higher medical costs do not discourage purchase of medical insurance. As a result, the hospital has little incentive to keep costs down.

Hospitals justify their large cost increases on the basis of improved quality of care. Even accepting this claim (it is possible to question it), one can ask what quality level the public is prepared to pay for. It does not seem likely that we really wish to pay the cost of "the best"; just as we do not have one teacher for every student, we would probably prefer to trade off some medical care for other goods. However, full coverage sends the medical care system the signal that society is prepared to pay for anything technologically possible. Moreover, prices of medical care services cannot be set in a competitive market if there is full coverage. For both these reasons, simply introducing full coverage is likely to lead to unacceptable cost increases.

Three solutions are possible. The first sets aside full coverage and relies on cost sharing, especially by means of a deductible. If most (nonpoor) individuals, most of the time, pay for their own medical care (i.e., do not receive insurance benefits because they have not satisfied a deductible), one can rely on traditional market forces to set prices and promote efficient means of delivering care for much of medical care. The insurance plan can observe a market price and reimburse at that rate. The operation of market forces could be improved if more information were available to the consumer (Objective 5). This is the justification for such proposals as "truth-in-insurance" and striking down prohibitions against advertising by physicians, optometrists, and pharmacists.

A second solution is public regulation of health planning. This fits well with a publicly provided, full-coverage plan; the government would of necessity determine reimbursement rates, because all payments to providers would be through the insurance plan. As a result, government would be making the choices regarding resource allocation in medical care that have traditionally been left to market forces. If the government is passive in this role—i.e., tends to accept the demands of the medical system—costs are likely to rise rapidly. (The initial experience of the British National Health Service is a case in point.) If the government is active, it runs the risk of labor conflict (as in some activities now in the public sector) and also of imposing an undesired degree of rationing.

The issue between these two approaches—catastrophic versus full coverage with regulation—is how well a centralized decision in the public sector can allocate resources in medical care in comparison with the aggregate of millions of decentralized decisions that characterize the market; this issue is a key one in the debate over national health insurance. Proponents of government intervention believe that the government can improve on the outcomes determined by the marketplace (Objective 5). They point to the lack of coordination in the present industry (e.g., duplication of equipment in adjacent hospitals) and note that governments in other countries (such as the United Kingdom)

perform this role. Opponents of government intervention believe that intervention may do more harm than good (Objective 5). They point out that there is no agreed-upon methodology to determine the appropriate amount of resources (i.e., to carry out health planning), and that, insofar as medical care provides intangibles such as reassurance and symptomatic relief, it is all the more difficult for the planner to know how individuals value such goods. Some opponents of government intervention also point to the poor track record of regulation in other areas of the American economy.

The hospital sector poses a special problem for an approach that relies on price incentives to the consumer to regulate the behavior of the medical care sector. Even deductibles commonly proposed for plans with catastrophic coverage are likely to be exceeded by the hospitalized patient, so that the choice of which hospital to use and how long to stay there will not be affected by the costliness of the hospital. As a result, inefficient hospitals (and physicians who over-hospitalize) will not be weeded out by individual choice (Objective 5).

The third solution to the problem of provider reimbursement would remedy this, yet use market incentives. One variant of this solution is to deliver services through competing Health Maintenance Organizations (HMOs). Differences in the premiums (costs) of the competing HMOs would be paid by their users. Such organizations have the potential virtues, moreover, of organized delivery of care in off-hours and greater peer review to promote quality. However, competing HMOs are probably only feasible in moderately large metropolitan areas, and creating them could well take several years. A similar proposal, one that keeps the competitive advantages of HMOs but does not require major reorganization of the delivery system, is to vary an individual's premium (or taxes) according to the expensiveness of the doctors or hospitals he chooses to use. It would be reasonable to expect consumers not to patronize inefficient producers. Opponents of this proposal argue that the consumer cannot appraise what he is getting for his money; however, it is not obvious that anyone else can appraise it better. Ultimately, the issue comes to this: who can better know the preferences of a (mythical) perfectly informed consumer—the planner or the actual consumer?

Financing

Any health insurance plan transfers income from the healthy to the sick (Objective 2). In addition, national health insurance may or may not redistribute income in other ways, depending upon how it is financed. Four financing mechanisms are available: out-of-pocket payments, premiums, payroll taxes, and general revenues. The greater the use of out-of-pocket payments, the less the transfer from the well to the sick—or, more precisely, the less the transfer from those who use the medical care system sparingly or use inexpensive providers to those who use it a great deal or use expensive providers.

Let us assume that out-of-pocket payments have been set at a given level; then the issue is how to finance the insurance benefits. Premiums are neutral with respect to income distribution. Although they can be characterized as regressive, it is equally correct to say that they merely redistribute from the well to the sick while not attempting to redistribute from the rich to the poor.* By contrast, general revenues have a decided effect on income distribution, because they are raised through progressive taxes (Objective 3). The greater the reliance on general revenues, therefore, the more redistribution from individuals with high incomes to those with low incomes (using the Internal Revenue Service definition of income). Payroll taxes are intermediate between premiums and general revenues with respect to redistribution among income classes. Their major redistributive effect is from the employed to those not in the labor force; in particular, for families of a given income level, they redistribute heavily from families with two earners to those with one or no earners.

Also, national health insurance is likely to redistribute income from small families and single individuals to large families. Because benefits rise markedly with family size, income will be redistributed toward large families unless tax payments or premiums are distributed according to family size. Proposals that rely on premiums do in fact

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*Premiums can be subsidized for low-income individuals, which makes them similar to a payroll tax in their impact on income distribution.

distinguish between single individuals and families, but financing in existing proposals is otherwise unrelated to family size.

The amount of possible redistribution is substantial; a majority of American families could easily have their purchasing power increased or decreased annually by several hundred dollars under many of the proposed financing methods.

Administration

Three options are available for administering a plan: (1) private companies pursuing private business (including a mandated national plan), (2) private companies used as intermediaries in a public plan (as in Medicare), and (3) a public agency at the federal or state level.

The first option has the advantage of preserving competition in administrative services; if the insured does not like the service or the price he obtains from one company, he takes his business elsewhere. (This is especially applicable to large employee groups.) Inefficient insurers will therefore tend to perish (Objective 5). This alternative has the disadvantage that not all the population will be covered (Objective 2); hence, a residual public plan or private insurance pool must be available to achieve universal coverage. Such a scheme poses difficult, though not insuperable, technical problems.

The second option is unlikely to preserve competition. While the public sector can in principle obtain bids from a variety of contractors and select the lowest, to move administrative services from one contractor to another will undoubtedly be costly. The original winning bidder will thus have a considerable advantage over any potential competitor. There will also be short-run dislocation effects, as some insurance firms and health and welfare plan administrators are forced out of business.

The public-agency option relies on management techniques in the executive branch and on legislative oversight, rather than on competition, to instill incentives for high performance. How well such incentives will work is an issue in the debate. The public-agency approach will cause substantial dislocation effects, but the effects

should be short-run ones; in principle, a roughly equivalent number of jobs will be created in the public sector for those lost in the private sector. Arguments for public-sector administration appeal to many, including organized labor, on the grounds that the role of "profit" in health care delivery would be reduced. The basis of this argument is ideological; the current industry appears reasonably competitive, and so has an incentive to be efficient and to respond to consumers' wishes. "Truth-in-insurance" legislation and elimination of certain tax preferences that favor Blue Cross and Blue Shield, however, could improve the performance of the industry.

Applying the Analysis: Some Proposed Plans

Three approaches to national health insurance can now be appraised: (1) the catastrophic approach, (2) an "intermediate" approach, and (3) the full-coverage approach.

The catastrophic approach is most prominently represented in the current debate by the Long-Ribicoff bill. Part of this bill provides coverage for the entire population for expenses above $2000 per person per year. The budgetary cost of such coverage will be low (roughly $4 billion for the coverage now envisioned, much of which is already spent in the private sector). The bill also provides for federalization of Medicaid, to be financed through general revenues. The Long-Ribicoff approach has the advantage of providing much of the population with protection against financial devastation; it also preserves competition in the administration of insurance. It has the disadvantage that $2000 in expenses may itself be a "catastrophe" for a near-poor family, especially if a medical problem recurs in successive years. This problem can be addressed by relating the deductible to family income (say 10 percent of income), rather than specifying a fixed dollar amount.

The issue of supplementary insurance sometimes enters the discussion of catastrophic plans. If many consumers merely purchase private insurance that covers the deductible, the population has, in effect, full coverage with its attendant possibilities for high costs. Estimates show, however, that while there might be some supplementation, especially for hospital services, it is unlikely to proceed to the point where most

people, most of the time, are fully insured for their care. This is particularly true if premiums paid by employers for health insurance that supplements the public catastrophic plan are considered as taxable income, and the deduction for individually paid health insurance premiums is ended. Considering such payments as part of the tax base would make complete insurance relatively unattractive, and so would preserve market incentives for nonhospital parts of medical care. Hospitals must be treated differently in any event to preserve price competition, as explained above.

The 1974 Administration bill and the Kennedy-Mills compromise bill might be characterized as intermediate approaches. They too protect against catastrophic illness (in a fashion related to income). They provide for generally smaller out-of-pocket payments than do catastrophic approaches, and so rely less upon market incentives to keep the health industry efficient. Reimbursement policy becomes correspondingly more important. Nonetheless, an intermediate approach leaves considerable scope for market incentives. The tax changes described in the previous paragraph are probably also necessary here. The 1974 Administration approach was to mandate certain levels of benefits to be provided by employers; this preserves competition in administration and necessarily uses premiums to finance the plan.

The full-coverage approach is typified by the Kennedy-Corman bill. The bill recognizes that there is no basis for price competition with full coverage and uses certain mechanisms to promote an efficient medical care sector. Budgets would be negotiated with each hospital by a public agency, and a fixed sum of money would be set aside to reimburse physicians. This sum would be allocated among physicians in accordance with the proportion of procedures that they perform; organized prepaid group practices could negotiate a per-person rate with the plan. The public sector would thus be firmly in charge of resource allocation both to and within medical care. Proponents of this approach view such control as a strength; opponents view it as a drawback, as discussed above.

There would undoubtedly be short-run dislocation problems if full coverage were instituted immediately. In addition to dislocation among private health insurance carriers, demand for ambulatory medical ser-

vices would exceed the supply, necessitating a rationing scheme. Proponents of the Kennedy-Corman approach see rationing as a strength, arguing that medical services would be rationed on the basis of medical need; opponents see it as a drawback, arguing that medical need cannot be well defined, and even if it could, that there is no guarantee of services being rationed accordingly. Such dislocation could be substantially avoided by an appropriate phasing in of the plan.

Social Objectives and National Health Insurance

We are now in a position to appraise the three types of plans in terms of the objectives of national health insurance listed at the outset. (1) None of the plans is likely to improve substantially the nation's health, at least as health is conventionally measured. (2) All of the plans attempt to protect against catastrophic illness, although they vary in their definition of catastrophic. (3) The plans vary considerably with respect to amount of income redistribution. All redistribute from the healthy to the sick, and most redistribute toward large families. An approach that relies heavily on general revenues, such as the Kennedy-Corman bill, also redistributes substantially toward the poor. (4) Proponents of full coverage argue that such a plan will promote social cohesion by making services equally available to all. Of course, it is an exaggeration to say that services will be equally available. Some persons will live farther away from services than others, especially from specialty care; and queues will make care more accessible to those who place a lower value on time (e.g., the aged) at the expense of those who place a higher value (e.g., the self-employed). Nonetheless, it is argued that cohesion has been promoted in other countries by a full-coverage approach. It is difficult to muster evidence for or against this proposition, because social cohesion is difficult—if not impossible—to measure. While other countries have rarely repealed their plans (indicating some satisfaction), they have nevertheless frequently modified them (indicating some dissatisfaction). (5) All of the proposed plans hold some promise of making the medical care system more efficient, depending upon how they are implemented; unfortunately, all the proposed plans could also make the system less efficient.

A fundamental choice must be made as to whether efficiency is best promoted by market incentives, or whether a centralized, public-sector approach is most promising. If the former is adopted, policy designed to improve consumer information and tax reform to reduce the existing incentives to overinsure are in order. If the public-sector approach is adopted, extension of regulatory control and control of budgets, particularly for inpatient services, are indicated. It is also possible to use the public-sector approach for hospital services and the market approach for ambulatory services. The choice will profoundly influence both the allocation of 8 percent of the gross national product and the well-being of the American people.

BIBLIOGRAPHY

Primarily for a Nontechnical Audience:

Davis, Karen, *National Health Insurance*; Washington: The Brookings Institution, 1974.

McClure, Walter, "The Medical Care System Under National Health Insurance: Four Models," *Journal of Health Politics, Policy, and Law*, 1:1, Spring 1976, pp. 22-68.

Mitchell, Bridger M., and William B. Schwartz, "The Financing of National Health Insurance," *Science*, May 14, 1976.

Newhouse, Joseph P., "Health Care Cost Sharing and Cost Containment," Testimony Before the Subcommittee on Public Health and the Environment of the Committee on Interstate and Foreign Commerce, House of Representatives, February 24, 1976.

Newhouse, Joseph P., "Inflation and Health Insurance," in *Health: A Victim or Cause of Inflation?*, ed. Michael Zubkoff; New York: Prodist, 1976.

Newhouse, Joseph P., and Jan P. Acton, "Compulsory Health Planning Certificates of Need and National Health Insurance," in *Regulating Health Facilities Construction*, ed. Clark Havighurst; Washington: American Enterprise Institute, 1974.

Newhouse, Joseph P., Charles E. Phelps, and William B. Schwartz, "Policy Options and the Impact of National Health Insurance," *New England Journal of Medicine*, Vol. 290, No. 24, June 13, 1974, pp. 1345-1359.

Primarily for a Technical Audience:

Acton, Jan P., "Nonmonetary Factors in the Demand for Medical Services," *Journal of Political Economy*, 83:3, June 1975, pp. 595-614.

Keeler, Emmett B., Joseph P. Newhouse, and Charles E. Phelps, "Deductibles and the Demand for Medical Services: A Theory of the Consumer Facing a Variable Price Schedule Under Uncertainty," *Econometrica*, 1977, forthcoming (available from The Rand Corporation as R-1514-OEO/NC).

Keeler, Emmett B., Daniel Morrow, and Joseph P. Newhouse, "The Demand for Supplementary Health Insurance, or Do Deductibles Matter?," Santa Monica, California: The Rand Corporation, R-1958-HEW, July 1976.

Mitchell, Bridger M., and Charles E. Phelps, "Employer-Paid Group Health Insurance and the Costs of Mandated National Coverage," *Journal of Political Economy*, June 1976.

Mitchell, Bridger M., and R. J. Vogel, "Health and Taxes: An Assessment of the Medical Deduction," *Southern Economic Journal*, April 1975.

Newhouse, Joseph P., "Medical Care Expenditure: A Cross National Survey," *Journal of Human Resources*, Winter 1977.

Newhouse, Joseph P., and Charles E. Phelps, "New Estimates of Price and Income Elasticities," in *The Role of Health Insurance in the Health Services Sector*, ed. Richard N. Rosett; New York: National Bureau of Economic Research, 1976 (Universities-NBER Conference Series No. 27).

Newhouse, Joseph P., and Charles E. Phelps, "Price and Income Elasticities for Medical Care Services," in *The Economics of Health and Medical Care: Proceedings of a Conference Held by the International Economics Association at Tokyo*, ed. Mark Perlman; London: Macmillan, 1974.

Newhouse, Joseph P., and Vincent Taylor, "How Shall We Pay for Hospital Care?," *The Public Interest*, No. 23, Spring 1971, pp. 78-92.

Phelps, Charles E., "Effects of Insurance on Demand for Medical Care," in *Equity in Health Services*, ed. Ronald Andersen, et al.; Cambridge: Ballinger Publishing Company, 1975.

Phelps, Charles E., and Joseph P. Newhouse, "Coinsurance, the Price of Time, and the Demand for Medical Service," *Review of Economics and Statistics*, 56:3, August 1974, pp. 334-342.

Phelps, Charles E., and Joseph P. Newhouse, "Effects of Coinsurance: A Multivariate Analysis," *Social Security Bulletin*, 35:20-29, 1972.