Organizing the Health Insurance Market

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*Econometrica* is currently published by The Econometric Society.

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This paper presents a new approach to organizing universal health insurance. First the government divides the entire population into many large groups. Then, the government creates a Federal Health Insurance System (HealthFed), modeled on the Federal Reserve System, to fill the role now played by the benefits office of a large firm. The HealthFed would create a short menu of alternatives, solicit bids for insuring the entire group, and price alternatives. There would be redistribution between groups and pricing of alternatives to reflect optimal social insurance principles. There would be no connection between health insurance and employment.

**KEYWORDS:** Health insurance, medical care, social insurance, group insurance.

It may seem odd that this Presidential Address is my first publication in health economics. At the time when I might have been working on an alternative address, I was chair of an Expert Panel for the Advisory Council on Social Security looking at issues in both retirement income and medical care. In the process of this work, I have come up with a new approach to organizing universal health insurance. That is the subject of this paper.

Before starting on health insurance, I will say a few words about a wider context, offering what I will say as an example in that setting. A great deal of attention has been focused on the exciting issue of reorganizing economies dropping central planning. Commonly, economists from those countries embrace capitalism, or more specifically laissez-faire competition, with an enthusiasm which exceeds that of western economists, although not necessarily western businessmen. Yet laissez-faire capitalism has received little serious support in the West for a very long time. We all know the fundamental welfare theorem which shows many ways that capitalism can be imperfect. We have also seen a growth in discussion and analysis of the many ways governments can mess up resource allocation. The real question is the design of arrangements that try to integrate the things that each type of institution does better. This is hard for two reasons. One is that it is in the realm of second best with many constraints. The more the constraints the harder the analysis. The second is that we do not have good positive theories of government behavior. Good examples yes, good theories no. Thus the analysis is more intuitive, less theory driven than in our picture of private markets. But also in our private market analyses we have been greatly complicating our picture, recognizing all sorts of information imperfections that affect the way that private markets work.

1. Presented at the 1991 Econometric Society Meetings in Philadelphia, Punta del Este, and Cambridge. Research supported by the National Science Foundation.
3. The link between health care reform in the Netherlands and general economic reform in Eastern Europe has also been made by van de Ven (1991).
markets do better with something that government does better. It won't solve the medical care problem. But then we know it is impossible to achieve a fully satisfactory allocation of resources in medical care; we can only try to optimize against a background of shifting conditions.

We are all familiar with the difficulties of resource allocation in medical care that were laid out in the classic article by Kenneth Arrow in 1963. I do not propose to review them in any detail. My focus is health insurance, not medical care, although the two subjects cannot really be separated. In order to make sense of my discussion of health insurance, you need to have some image of a model of medical care. Let me give you the key pieces in my image of medical care in the U.S. This is a monopolistic competitive market, not a competitive one. There are not only differences across suppliers in goods offered, but significant barriers to evaluation of alternatives—the kind of situation that search theory tries to capture and where the high level of market power implied by that theory seems very relevant. In individual transactions between provider and patient, there are obvious problems in evaluating the quality of services provided. There are obviously problems for the patient in judging the quality of the doctor, for example. It is also useful to keep in mind that there are problems for the provider too in deciding what would be good treatment. Since the provider supplies both advice and services, there is a principal-agent problem of real severity. There is the social concern for the distribution of the use of medical services that goes beyond our usual concern for income distribution issues. (This concern can be based on viewing medical care as a merit good or as involving good-specific altruism or based on considering medical care as a basic right or entitlement.) And, of course, there is the effect of insurance against high expenditures on the performance of the medical care industry.

The administration of health insurance is expensive, and not adequately approached by a model of ideal insurance with no loading, i.e., with premiums equal to expected benefits. It is estimated that roughly 12 percent of the revenue of the U.S. health insurance industry goes for administrative expenses (Division of National Cost Estimates (1987, Table 21)). Moreover, this percentage is widely variable across different types of organization of insurance. Arrow wrote: "It is very striking to observe that among health insurance policies of insurance companies in 1958, expenses of one sort or another constitute 51.6 percent of total premium income for individual policies, and only 9.5 percent for group policies." A recent Congressional Budget Office report (1991a) cites a Hay–Huggins Company estimate ("based on underwriting practices of major insurers") relating administrative expenses to benefit costs for different size employee groups. For groups of size 1 to 4, the ratio is 40 percent. For groups of 10,000 or more, the ratio is 5.5 percent.

These numbers are primarily a reflection of returns to scale in transactions, including advertising and commissions. Adverse selection also contributes to cost through the need to underwrite in detail and through the high turnover that characterizes the small group market. This may be an area where the tradeoff between diversity and transactions costs looks very different from that
with most consumer goods. We don’t want our employers selecting our food, clothing, or books. But, there doesn’t seem to be much objection to their narrowing down the array of alternative health insurance policies to a small menu or a single policy. Some of this is the recognition that rational selection of an insurance policy is difficult and expensive. Some of it is the sense that, income and important preexisting conditions aside, there may not be too much diversity in preferences. Keep this in mind while I turn to the problems in medical care; I will return to it.

Repeatedly, the problem of medical care has been a major feature in U.S. newspapers. There are three reasons why medical care has been receiving so much attention. One is the access issue, primarily the 35 million or so people without health insurance (one in seven of the nonelderly population), but also the difficulty in many places in receiving good care when on Medicaid, the government program for the poor. The second reason for news coverage is the cost issue. Aggregate costs are high—medical expenditures are 12 percent of GNP. Also high are the costs falling on sensitive payers—governments\(^4\) and big business. The third reason is the rise in costs. Whenever some price rises significantly it is news, and a cause for political noisemaking, if not necessarily action. The change in any situation makes it particularly salient. The ongoing steady rise in the cost of medical care (relative to either other prices or incomes) is the changing feature. The share of U.S. GNP going for medical expenditures has grown from 5.3 percent in 1960 to 7.3 percent in 1970, 9.1 percent in 1980 (Committee on Ways and Means (1990, page 265)) and to its current 12.2 percent (1990). Naively projecting the trend in real per capita medical expenditures of the past decade, medical costs are projected to be 36 percent of GNP in 2020 (HCFA projections reported in Expert Panel on the Future of Income Security and Health Care Financing (1991)). Using the slower trend of the past two decades, the projection is still 31.5 percent (ibid.). And this is before the baby boom generation hits 85 and long-term care costs really take off.

While the U.S. devotes a larger share of GNP to medical care than any other OECD country, the presence of a rising share is nearly universal among these countries. In 1960, the mean share of GNP going for health expenditures for the OECD countries was 3.8 percent; in 1970, the mean share was 5.3 percent; by 1985, the mean was 7.4 percent (Schieber and Poullier (1989, Table 1)). A rising trend has been present for a long time. From 1960 to 1987, nominal health spending in the U.S. grew 34 percent more rapidly per year than did nominal GNP. For Germany, this elasticity was almost the same, with 33 percent more rapid growth. Other countries had substantial growth in the share going for health, with France, Italy, and Japan between 20 and 25 percent more rapid, and Canada and the U.K. at 14 and 17 percent respectively (Schieber (1990, Table 1)). While growth has slowed lately in many OECD countries and one can find references to the share having “stabilized,” it seems to me that it may be too early to reach such a conclusion.

\(^4\) The Medicare Trust Fund is projected to hit zero in 2005 (Board of Trustees (1991)).
Let me switch now from why medical expenses are news to how an economist might feel about resource allocation in this sector. Except when I turn explicitly to the Netherlands, below, I will be discussing the U.S. It is common to discuss medical care in terms of three factors: access, cost, and quality. With the political focus on cost, one particularly hears about proposals to improve the quality when it is thought that these quality improvements will decrease costs. There is good reason to think that there is considerable scope for further public intervention to improve quality. Generation and dissemination of information about the value of different medical procedures is a natural role for government. But discussing this would require a focus on medical care rather than insurance. So, I will skip the quality issue and start with access.

Except for a few totally unable to purchase insurance (given the current organization of the insurance market), it is natural to say that people are without insurance because it costs more than it appears to be worth to them. In evaluating this decision, it is useful to keep in mind that it is insurance that these people are doing without, not the opportunity to buy medical care within their (without insurance) budget constraints or the opportunity to receive some care and not pay for it. As a very rough guess, the uninsured in the U.S. receive about half the medical care they would receive if they were insured. It seems useful to divide the population without insurance into three groups. Some are without insurance because they misperceive the risks or consequences of this decision. It is natural to attribute a part of the concentration of the uninsured among the 19–24 year olds (18.6 percent) as coming from this. (Although lack of insurance also comes in part from the jobs young workers tend to hold, which are more commonly without employer provided health insurance; but that too is endogenous.) Some are without insurance because they are poor. One-third of those without insurance are below the poverty line; 60 percent below twice the poverty line. For these people, medical care is expensive relative to incomes and some degree of free care is available. Some are without insurance because the premium is very high relative to the premium charged others (and so relative to their incomes, which are not necessarily low). Here is where the merit-good aspect of medical care becomes relevant.

Relative premiums vary for two reasons. One is differences in transactions cost described above, associated with the organization of the demand side of this market. Also important is the question of whether the risk associated with a particular individual is pooled with other risks, resulting in an averaged price. This issue is very important for risk allocation, so let me expand on it.

We can divide lifetime medical expenditure risks into two categories. One is associated with the difference between the random annual expenditures and the expected values of these expenditures, with the expectations taken at the start of each year. The second is with the randomness in the annual expected values

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5 See the survey results reported in Garrison (1990).
6 Some workers do not purchase employer offered insurance because they are lower risks than the average in the group. However, this does not explain why these people do not purchase individual insurance.
when the expectation is taken now, or at birth, or conception, or behind the veil of ignorance. While it is a small mathematical step to use the analysis of a single period’s market for all time, the collapsing of all future transactions into a single market clearing step does not happen. Foley (1970) and Hahn (1971) have argued that transactions costs will make some future transactions or transactions for sufficiently low probability states of nature not worth doing now. So we would like to see people insure their over-time risks, ideally preserving the price link between future insurance costs and behavior, but not between future insurance costs and random outcomes. That is, we want higher premiums for smokers and hockey players, not necessarily for those who have contracted lung cancer or bad knees. Keeping in mind this set of goals for the insurance market, I turn to the actual workings of the U.S. health insurance market.7

In the U.S., people get their primary health insurance in a variety of ways. Medicare, a federal program, covers about 13 percent of the population (both aged and disabled) (Committee on Ways and Means (1990, Table 22)). Medicaid, a combined federal-state program for the poor, covers 6 percent of the population. 29 percent of the population receive their insurance as group coverage through their own employer; 28 percent as group coverage through a family member’s job. 9 percent of the population is in the other insurance category, including both individual purchase and CHAMPUS for the military, and 15 percent are uninsured. In thinking about grouped coverage however, one needs to keep in mind that 30 percent of workers are employed in firms with fewer than 25 employees; less than 40 percent in firms with more than 1000 employees (CBO (1991b, page 28)).

Markets for large and small groups work very differently (Bolnick (1991), Committee on Health, American Academy of Actuaries (1990a, 1990b)). For large employers (over 1000), 70 percent self insure, with insurance companies providing transactions services but not insurance. In contrast, the small group market is much like the individual insurance market. For individual policies, the market has three features. One is a variety of insurance premiums for people in different categories, with a wide range of premiums. Second is the underwriting, which is the technical term for screening applicants in order to determine risk class and acceptability, including the possibility of refusing to sell to individuals because they are not viewed as profitable given the risk classification and rates used. Third, in some states, there is a government organized residual pool, without underwriting so that everyone in that state can buy some coverage. This residual pool is similar to that in the more familiar auto insurance market.

The insurance market is subject to the familiar adverse selection problems that can result in a failure of existence of competitive equilibrium (Rothschild and Stiglitz (1976), Wilson (1977)). The use of underwriting is part of the problem, since it increases the differences across risk pools. However, the design of policies is another way in which self selection can be induced to

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generate similar problems, with some policies much more attractive to the healthy.

In term life insurance, guaranteed renewability is a standard feature in policies, providing some insurance against an increase in the premium from an increase in the perceived risk of mortality. However, the typical policy only guarantees that insurance will be available at some price, with the choice of price restricted only by the requirement that the insurance company not price in a discriminatory fashion. The restriction on price changes coming from this contract clause will depend on the marketing strategy being followed by the company for the set of current insurees and on the ability to distinguish new business from old business without running afoul of the nondiscrimination rules. To see how this guarantee could be of little value, consider the following possibility. Assume (as was true) that at first life insurance companies charge the same rates to smokers and nonsmokers. Then some companies introduce new policies available only to nonsmokers. By evaluating new applicants, unhealthy nonsmokers are excluded from buying these policies. All healthy nonsmokers switch to this new class of policies. Guaranteed renewability then becomes a right to purchase insurance at the rates applicable for a pool of smokers and unhealthy nonsmokers. Thus the insurance for a nonsmoker against becoming judged unhealthy has been eroded.

Similarly, health insurance policies are frequently renewed. However, the presence of risk categories makes this work differently than is typically true with term life insurance. Premiums can rise enormously at present. Moreover, insurance companies sometimes drop entire lines of insurance. In June, 1991, Empire Blue Cross and Blue Shield (New York) dropped all of its coverage for professional and trade groups, affecting over 100,000 people (New York Times, June 13, 1991, page D1). The promise to sell insurance at an unstated price is not insurance. The question is: to what is the price indexed? The fact that the expected cost of insuring different groups can vary enormously and the fact that the market is in flux so that individuals are frequently switching sources of coverage (e.g., by switching jobs) are reasons to think that guaranteed renewability is unlikely to be an adequate solution to these problems.

In addition, health insurance is much more complex than life insurance, with a much greater likelihood of wanting to change insurance companies. That is, with life insurance, one is concerned with the solvency of the company and so its ability to pay a promised amount. One is also concerned about the tendency of a company to invoke some of the fine print to try to avoid paying or at least make it expensive to collect. With health insurance there is a large additional issue coming from managed care. Part of the role currently being filled by insurance companies is the attempt to affect the delivery of medical care by negotiating over price and by setting rules on what medical care deliveries are covered by insurance. Any change in the managed care rules of a company may be a reason for wanting to be insured by a different company. The value of a long-term contract which is not fully specified depends critically on the institutional behavior of the parties to the contracts. In turn, this will depend on both
the strategies being followed by the parties and the particular personnel making decisions. Thus, there are problems with long-term contracts as a solution to insuring these intertemporal risks.

So we have several problems with the individual and small group markets. One is income distribution. This could be roughly solved by vouchers for insurance purchase (e.g., Pauly et al. (1991)). Making purchase of insurance mandatory would deal with individuals choosing not to insure because some free care is available for the uninsured. Another problem is pricing that does not protect against individual risk of drastically changed premiums. This could be accommodated by community rating, which required insurance companies to charge the same rate to everyone (or everyone in a small number of risk classes based on observables such as age), together with periodic open enrollment, which required insurance companies to accept anyone wanting to purchase insurance. However, this would leave a large incentive to be in a large (possibly self-insured) group, in order to escape the cross subsidization of less healthy people lumped into the open enrollment pools. This also maintains the incentive for insurance companies to induce self-selection and maintains much of the large transaction costs associated with individual insurance. It is unclear how much could be accomplished by the combination of direct regulation of the insurance market and income redistribution. One proposal for reforming the small group health insurance market has been made by the Health Insurance Association of America (1991). The Dutch proposal discussed below is also of this type. My proposal is a more radical reorganization of this market rather than such direct regulation combined with income redistribution. I will return to the Dutch proposal after presenting my own.

In addition to these problems with the individual and small group markets, the large employer group market has some problems. These are the effects of labor mobility. The adverse selection problem of insurance purchase is naturally transferred to the employment process. That is, some workers seek out jobs because of the health insurance available rather than seeking the most efficient match. Insurance companies and employers have been trying to protect against this by some limits on coverage for "preexisting conditions." But this is precisely the renewability need going unsatisfied. While large group problems would become less important with reform of the small group market, some of them would remain as long as health insurance is significantly linked with employment. Unlike "working conditions," health insurance is not necessarily linked to employment. Thus switching jobs because of insurance has adverse efficiency implications not present from switching jobs to have better working conditions.

In a nutshell, the principles for combining regulation and competition that underlie the proposal below are the following. Health insurance should only be provided through large groups. The government forms the groups (on a geo-

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8 The importance of this problem is highlighted by the estimate that close to 7 million workers move either into or out of employment each month.
graphic basis) using its power of compulsion. Market competition is preserved, with private insurance companies competing for the large groups. There are multiple large groups in any area to enhance competition and provide yardstick competition. A new semi-autonomous government agency will be created to serve the role for each group now played by employee benefit offices in large firms. Choice from a short menu will be offered individuals in each group, although the organization and pricing of these choices will be different from that currently followed by large firms. Financing is by a combination of taxes and out-of-pocket payments for premiums. Having all individuals in similar large groups will alter the relationship between insurance companies and medical providers, allowing a negotiation approach to cost containment strategies.

1. PROPOSAL

To have the administrative advantages of large groups and avoid selection problems, it is proposed that the government divide the entire population of the U.S. into many large groups. These groups would replace employment based groups, individual insurance purchase, and going uninsured. This organization also would replace the acute care portion of Medicaid, although there would remain a residual need for financial help for the poor with premiums, coinsurance, and deductibles. Whether Medicare would eventually be replaced by this system depends on its degree of success.

To organize and support these large groups, the proposal envisions the creation of a Federal Health Insurance System, modeled on the Federal Reserve System. There would be both regional and central offices; both some independence and some political accountability. While there is scope for such a HealthFed to help with cost containment and quality assurance, here I focus on its role in group formation and insurance selection.

The first step for the HealthFed is to create groups of families in the U.S. Allocation to a group is done by the HealthFed, not by individual choice. Group sizes would vary both within and across locations reflecting several principles. Groups should be large enough to take advantage of the economies of scale in insurance administration. Groups should be small enough so that most areas will have a number of independent groups, possibly being serviced by different insurance companies; thus allowing yardstick competition. Some groups should be small enough so that competition among insurance companies is not limited to giant companies. Groups should have a geographic base to permit HMO (health maintainance organization, where a single institution provides primary care) and PPO (preferred provider organization, where choice among primary providers is limited) options. Thus changing location and marriage are events that could trigger individual shifts between groups, with reassignment done by the HealthFed. Further reorganization would be done in response to the effects of the passage of time. Group sizes would vary between 20,000 and 200,000.
Initially, to ease the transition, groups would be formed around current employment groups and HMO enrollees.\(^9\)

The existing institutional analog for these groups is the creation of mortgage backed securities by the Federal National Mortgage Association (Fannie Mae), securities created by pooling large numbers of individual mortgages into groups.\(^10\) Then investors can purchase shares of the mortgage pools, examining the characteristics of the set of mortgages in the pool, but not troubling to evaluate individual mortgage borrowers in detail. Similarly, the creation of insurance groups would represent an opportunity where insurance companies would want to know about the makeup of the group in terms of important characteristics (age, sex, location, prior medical conditions) but would not attempt to evaluate the health status of individuals in detail. This forms the basis for some of the economics that come from group operation.

Having formed groups, we need to consider three types of interactions: between the HealthFed and insurance companies, between individuals and their insurance companies, and between HealthFed and individuals.

To begin, various insurance companies would compete for the right to offer insurance to each group. This would be similar to the competition that now occurs for large employment groups. There are some interesting questions about design of this process for determining the menu of insurance policies and the aggregate and individual prices. Would it be better to specify the entire menu of policies and allow competition solely on price or would it be better to allow submissions by insurance companies that vary in details and are subject to design negotiations. If the menu is not specified in detail, I suspect it would be better to let groups of companies bid on the entire menu, rather than having separate companies bid on separate items on the menu. With joint bids on the entire menu, competition among alternative basic insurance options would be based primarily on efficiencies and individual preferences over different ways of managing care, not the attempt to attract the best risks. No doubt the managers of the alternative branches of the single insurer would like to attract the better risks, but this incentive would be greatly diminished. One could have some risk

\(^9\) It would not be disruptive to the proposal to allow large employers (over 1000, say) to opt out for all their employees, although this would continue some of the barriers to the efficient allocation of labor. In this case, the firm would receive money (possibly negative) equal to the estimated cost savings for the groups from which their workers leave, net of the premiums to be paid by the workers. Thus firms that were more efficient in providing care for their workers could do so, although they could not avoid their share of the cost of providing medical care for the poor and sick. It also would be necessary to ensure continuity of coverage for workers joining or leaving such a firm and to have the value of medical insurance above that available in basic coverage, net of the premium, treated as taxable income. In addition to involving an easier transition, allowing opt out could preserve employer provided medical care where that was particularly convenient. I am skeptical that there is significant value from adding, in this way, to the incentive for the firm to provide a healthy environment.

\(^10\) Colleagues have suggested calling this proposal Fannie Medic or Healthy Mae.
sharing of aggregate group expenses either by having a reinsurance market or a partially cost based payment arrangement between the HealthFed and the insurance company. Another process design question is the extent to which group choice is made solely by the HealthFed (taking into account individual comments) or by polling members of the group.

Over time, the insurance company and the group would negotiate premiums for basic coverage for the entire group, preserving the option of considering alternative bids and the option of rejecting the current company as offering inadequate service and opening bidding only to other companies. The ongoing company will have some sunk cost advantage over rivals. Conversely, investment in handling transactions is probably not so group specific as to have an important underinvestment incentive from future negotiations. (For a discussion of such regulated contracts, see Goldberg (1976).) Yardstick competition has an obvious role to play in this process (Shleifer (1985)).

The HealthFed would be in charge of monitoring quality and handling complaints about the insurance company; it would help the insurance company with both quality assurance and cost containment; it would also set minimal standards for the insurance options offered. The funds received by the insurance company would come partially from the insured and partially from the HealthFed, which would redistribute across groups on social insurance principles. That is, the premium paid by an individual should vary with choice of insurance policy, location (reflecting cost differences across locations in wages, rental charges, etc.), and possibly individual characteristics, but not the particular group to which the individual is assigned. That is, the group represents a risk pool from the perspective of the insurance company, but not fully from the perspective of the individual insuree. I'll say more on this later.

The insurance company would offer the members of a covered group a short menu of alternatives. This menu would begin with the basic health insurance policy that we collectively decide is the minimum policy that everyone should have. In addition, the company would generally offer HMO and other managed care alternatives. Individuals in the group would have to take one of the basic options; selection of some basic policy is mandatory. For individuals too poor to pay for their own coverage, Medicaid would help pay for premiums and would either provide for copayments or require the use of an HMO.

The insurance company would also have the opportunity to offer supplemental policies to provide additional coverage. Individuals would pay in full for any supplemental policies that they selected (presumably without tax advantages). These might cover deductibles and copayments, as with Medigap policies. These

11 For a general discussion of the role of cost sharing in regulation and procurement, see Laffont and Tirole (1991).
12 With a vector of prices for alternative insurance policies, only one price (per person) can be the same across groups if the flexibility of different vectors for different groups is to be preserved.
13 Of course, the HMO option might be the one chosen to be the basic standard.
14 Simultaneous optimization of tax and insurance schedules would be an interesting research question.
might cover services not covered in the basic policy because they were not sufficiently important or sufficiently cost effective for the basic policy.\textsuperscript{15} It is an open question whether it would be better to allow individuals to purchase supplemental insurance from other carriers, who would offer such policies to all members of a group. While allowing such offers would increase competition in supply, one would need to correct for the externality that would come from policies that increase utilization (and so costs) on the basic policy. With supplementary policies coming from the same company selling the basic policy, supplementary policies will be priced to reflect marginal cost including the change in cost for the basic policy. I suspect that it would be best to require all health insurance to be from a single source.

Individuals would pay in full for supplemental policies that they might choose. In addition they would pay a premium covering some of the cost of basic insurance. Another design question is the extent to which the premium should vary with the health status or health behavior of individuals. Similarly, the extent to which premiums vary with age and income is open for choice. I'll return to these issues below.

To preserve some aspects of the current financing structure, one could finance part of the premium bill by a tax on employers and part from general revenue. Thus the amount received by the insurance company for a particular group and the amount paid directly by individuals in the group are not tightly related, allowing for cross subsidization to accomplish social insurance goals. This sort of cross subsidization, with flexible prices, does not result in the allocative disruptions of cross subsidization without price flexibility, which tends to interfere with market clearance and has haunted automobile insurance in some states.

Individuals would deal with their insurance companies much as they do now. Dissatisfactions with the services offered by insurance companies could be expressed to the HealthFed as well as directly to companies. Dissatisfactions with the particular HealthFed office handling a group would be expressed to a central HealthFed office. The presence of multiple groups would keep open the ability to contrast the quality of performance of different HealthFed offices as well as of different insurance companies.

To avoid the necessity of annual legislation, the HealthFed should have earmarked revenues. Direct legislation to affect expenditure growth is always available as an option. The political economy of locating different decisions in different types of political authorities is an interesting question. One can consider the possible differences between locating the division between basic and supplemental policies in legislatures or in an analog to the Federal Open Market Committee, which directs short-run monetary policy. Such a division between basic and supplementary affects the choice of what to cover. Without

\textsuperscript{15} The possibility of having separate high tech and low tech Medicare options is raised by the Health Technical Panel (1991).
the division, some other mechanism is needed to determine under what circumstances services are too expensive.

In sum, this approach generates the large groups that are a necessary part of efficient provision of insurance. This approach to group formation is compatible with different approaches to organizing insurance. The approach avoids disrupting the flow of labor to its most efficient uses. The approach is compatible with a wide range of alternative financing patterns. It is also compatible with alternative mechanisms for quality assurance and cost containment. It is the combination of flexibility of insurance organization and the efficiencies of reliance on large groups, competition, and private markets that makes the approach so attractive. The approach represents a mix of political decisionmaking and individual decisionmaking in determining health expenditures, with political decisionmaking dominant for basic coverage and individual choice dominant for supplemental coverage.

There are two reasons I have focused on the access issue. One is that this is the place where I have a new suggestion to make. The other is that I think that, as a decision problem, deciding first on the method for universal access and then on methods of cost control is a better formulated problem than the reverse. There are two types of reform proposals currently being pushed in the U.S. One, modeled on Canada, effectively does away with the insurance industry, placing everyone in a uniform government designed system, possibly varying by state. (Direct government provision of most medical services is not a serious policy option in the U.S.) The other type preserves the insurance industry and some degree of individual choice about the degree of coverage. Cost control possibilities are very different in a Canadian style single payer system and in a multiple payer system. So it is natural to decide first which branch of the decision tree to go down. It is very difficult to project how such a large change as imitating Canada would work in the U.S. I think that politically a fully governmental program is not in the cards, suggesting ignoring that branch of the tree. In addition, in the context of the U.S., making medical care decisions so thoroughly political does not seem attractive to me.

Within the context of preserving the insurance industry and some scope of individual choice, there are two types of decisions. One is whether to let groups form voluntarily or by government organization. For example, Medicare is a government formed group, based on age and disability as a criterion. Secondly, within a group, do we have a government designed plan or choice from a private market designed menu? It seems to me that combining government group formation with private market insurance design is likely to be the best institutional combination.

2. COST ALLOCATION AND PRICING

I return now to the issues raised above of pricing and finance. Whether or not the U.S. government develops a system for universal coverage, it is involved in the allocation of the expense of medical care across the population (including
tax financed benefits and tax expenditures). One question is how to optimize this allocation. Secondly, insofar as individuals have choices about insurance plans, there are issues of efficient pricing for choice of plan. These two questions are distinct from the optimal design of a single insurance policy. As a convenient device for organizing these two questions, I will first assume that there is no choice by individuals about their plans and then consider pricing issues raised by choice.

Since individuals choose where to live, it would be appropriate to preserve geographical variation in pricing that reflected differences in the cost of providing medical services.

Optimal insurance principles call for inducements to expenditure reducing health related behaviors, partially to offset the moral hazard problems induced by insurance. In addition to providing information on improving health, the government can use financial incentives in three ways. One is to tax or subsidize nonhealth purchases insofar as they induce changed behavior. A second is to vary premia with behavior insofar as one can easily measure such behavior. The third is to vary premia somewhat with expenditure experience (Shavell (1976)). I suspect the latter two elements involve little social payoff.

Beyond these efficiency issues, we have a distributional question. Since individuals do not have a single lifetime intertemporal budget constraint, one can ask whether premia should vary with age. Liquidity constraints make an age varying pattern seem attractive, although income varying premia can substitute considerably for age varying premia given the life-cycle pattern of earnings. Furthermore, the deviation of the age related schedule of fees from age based expected costs can be viewed as redistribution across individuals with different life expectancies (in an ex ante sense) and across people with different realized lifetimes. Designing an optimal system seems an interesting research question.

After retirement, income no longer increases with length of life, while expenditures do, suggesting different pricing principles before and after retirement age. Thus it probably makes sense to at least flatten the age related charges after the normal retirement age, as has been done in the U.S. with Medicare, and also to subsidize them. Put differently, the optimal retirement income system depends on the pattern of medical expenses. Since medical expenses might grow at a different rate from incomes, one might have a more stable system by explicitly choosing separate retirement and medical-insurance-for-retirees systems rather than having age independent health insurance premia. Again, this seems an interesting research question.

Since there is also concern with continuity when changing the system, there is reason to expect that a reasonable solution would have income related taxes to finance part of premia and age (and location) varying premia for the rest.

I turn next to the question of the difference in pricing of alternative insurance packages, whether this reflects alternative basic coverages or the possible

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16 The structure of age related premiums is also important for the distributional implications of the transition to the new system.
selection of a supplemental plan. I want to start by indicating reasons why one might want choice in insurance plans rather than a single uniform government designed plan, even if well designed. There are differences in preferences over the way one receives medical services. In particular, different people feel differently about the degree of choice across doctors and other providers. Some people want to be able to choose doctors with no interference from the insurance mechanism. Others want that choice to be made for them. Others fall between these two extremes. Insofar as the cost of providing services and the usefulness of copayments differ across modes, it is efficient to preserve choices and use pricing to guide such choices.

Similarly, different people have different attitudes toward expensive corrective or life extending medical measures. In all medical systems, there are devices for rationing medical care. Sometimes this comes from explicit rules on who gets care. Sometimes it comes from supply limitations with whatever rationing mechanism arises with the limitation. Also, it is common to allocate amenities, such as single hospital rooms, on a price basis, with coverage depending on purchase of supplementary policies. As economists, it is natural to think of using pricing for more of rationing. That is, designing different insurance packages that have different degrees of access to expensive treatments and diagnostic tests seems to me appropriate. With increased availability of expensive diagnostic tests and treatments, this approach will make sense for a growing class of expenditures. For example, if one's ability to continue playing tennis depended on considerable medical expenditures that had little other effect, there seems to be little more reason to treat this as an entitlement than access to tennis courts.17

Apart from these preference issues, there is considerable uncertainty about the efficiency of different ways of organizing the supply and allocation of medical services. Having private insurance companies offering different ways of organizing medical services may well be a useful part of exploring alternatives and of adapting to the ever changing technology, both of medical services and of administration.

This leads naturally to the question of how to price the alternatives. If there is separate competition for each of the items on the menu of alternatives, there will be a tendency for average cost pricing for the different items, or average cost pricing for each of the identified risk classes. This is clearly not an efficient pricing mechanism, since the cost of providing services differs across people who are placed in the same risk class. Even if premia differ by demographic category, there will be significant differences of costs among individuals in single categories. Thus there will be an adverse selection problem across items on the menu offered to a group. Of course, there is no way of avoiding the presence of

17 The division between basic and supplemental policies needs to reflect the ability of society to refuse some medical care ex post to those who did not select supplemental coverage. Some types of care are relatively easier to refuse.
a second-best pricing problem. Insofar as individuals differ in the cost of being provided services, uniform pricing will not be fully efficient. But we can ask about rules for (second-best) efficient uniform pricing. Deriving such rules will involve balancing of alternative distortions.

There are two points I want to make about such variation without going into analysis of optimal pricing. First, if one has a single policy, and so no choice, one can often do Pareto better by introducing a choice. If there is any alternative which will be accepted by some group when priced at or above the marginal aggregate cost, then offering that alternative involves a Pareto gain.\textsuperscript{18} Of course, it is not always the case that there is a price that covers marginal cost and is acceptable. Let me make this argument more carefully. Assume that everyone has the compulsory policy and pays the required premium. Consider the joint distribution in the population of the utility gains from switching to the alternative policy (measured in income units) and the cost increases from switching to the alternative policy. For any price difference for switching policies, those with utility gains in excess of the price difference will switch policies. If the average cost increase for the switching population is less than the price difference, then switchers are better off, nonswitchers are unaffected, and the resource constraint has been eased. Thus there is a Pareto gain.\textsuperscript{19} Note that in this analysis I am assuming no impact of the aggregate distribution of insurance choices on the costs for a single individual. This is not a fully appropriate assumption in health insurance, although it helps us isolate some of the issues. Thus individual differences suggest that Pareto improvement may well be possible if choice is introduced, provided pricing is done right.

To see the importance of doing pricing right, my second observation is that using average cost pricing and going from a single choice to a pair of choices can result in a Pareto worsening. To see this possibility, I will describe an example where there are two Pareto comparable average cost equilibria with two

\textsuperscript{18}This argument, together with conditions for existence of such a breakeven policy, has been used in a different context by Wilson (1977) to conclude that a Pareto improvement from competitive equilibrium was possible.

\textsuperscript{19}This approach to generating a Pareto improvement does not generally yield a welfare maximum. To examine optimal pricing, assume that individual expected utility is linear in income available to spend on goods other than medical care. Assume that social welfare is the sum of utilities expressed in this additive form, so that income distribution issues are not relevant. Assume that there are two medical insurance plans, A and B. Consider the set of people with expected utility for plan A less expected utility for plan B equal to u. Write the difference in average expected insurance costs under the two plans for this set as c(u). We assume that both expected utilities and expected costs are independent of the numbers of individuals choosing the alternative plans. Everyone must choose one of the plans. Let the difference in prices of the two plans be p. Then all of those with \(u > p\) will choose plan A. Aggregate costs will be the costs if everyone chose B plus the difference in costs for those who choose A. Thus social welfare (apart from a constant) can be written as the sum over people with \(u > p\) of \(u - c\). The problem is to select \(p\) to maximize this sum. Assuming that \(c(u)\) is a continuous function, the optimal \(p\) will be set at a point where \(u = c(u)\). Selecting which of the points (if any) satisfying this condition is the optimum is a discrete comparison problem. Having everyone in A or everyone in B are the other candidates to be optima. Clearly the problems of pricing more than two policies and of designing policies and estimating choices and costs as functions of prices are considerably more complicated.
different policies. In the better equilibrium, everyone has the same policy, which could be the single required policy. Consider an economy with two types, differing in both preferences and costs of providing insurance. Start with a single compulsory policy that has a premium equal to the average cost for the two groups combined. Assume there is an alternative policy that is priced at the break even cost of the low cost types. Assume that the high cost types would not switch policies at this price and that the low cost types would switch if the original policy is priced at the cost of the high cost types but would not switch if it is priced at the average cost of both types. Then we have two Pareto comparable equilibria. If the low cost types switch, they are worse off, and the high cost types, remaining with the original policy, face a higher price and are also worse off.

It is the inefficiency of average cost pricing that leads me to want to see groups of companies bid on the entire menu, although alternative cross subsidy rules can be used instead. Bidding by companies then involves bidding both on the cost of the package and on the price differentials associated with different policies since that affects total costs. Since cost minimizing pricing need not be socially optimal pricing, bid acceptance rules need to consider the pricing of alternative policies. Optimal pricing rules represent yet another potentially interesting research agenda.

Over time, individual preferences over policies will change as tastes, medical technology, incomes, and health statuses change. Another interesting design issue is the rules for when policies can be changed and how much to charge new policy holders relative to old ones after a change. Of course, with changing technology and preferences, the division between basic and supplementary policies and their pricing are ongoing problems requiring continuous revision. This is a natural role for the HealthFed, which would develop expertise in addressing these questions.

3. PROPOSED DUTCH HEALTH INSURANCE REFORM

In March, 1987, a government appointed committee published a report recommending introduction of compulsory basic health insurance organized through regulated competition by private insurers. Since 1989, a gradual restructuring of the Dutch health care system has been taking place. At the start

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20 On this possibility in the used car market, see Wilson (1980).
21 To see this formally, call the two types of individuals 1 and 2 and the two types of policies a and b. Assume equal numbers of the two types. Denote by \( c_{ij} \) the cost of insuring type \( i \) with policy \( j \), and by \( u_{ij} - p_j \) the expected utility for type \( i \) from purchasing policy \( j \) at price \( p_j \). With everyone receiving policy \( a \), the two expected utilities are \( u_{1a} - (c_{1a} + c_{2a})/2, \ i = 1, 2 \). To have a Pareto worsening with two policies, we can have type 1 continue to purchase policy \( a \) (\( u_{1a} - c_{1a} > u_{1b} - c_{2b} \)) with a higher price than before (\( c_{1a} > c_{2a} \)), and type 2 purchase policy \( b \) (\( u_{2b} - c_{2b} > u_{2a} - c_{1a} \)) with a lower utility than before (\( u_{2b} - c_{2b} < u_{2a} - (c_{1a} + c_{2a})/2 \)). This combination of values is clearly possible.
of restructuring, the Dutch system was made up of compulsory coverage of exceptional medical expenses for all residents, compulsory coverage for normal medical expenses for around 60 percent of the population with lower incomes, compulsory coverage for civil servants (around 5 percent of the population), and private sector insurance for the remaining 35 percent. In addition there is purchase of supplementary private plans by some of those covered by the public plans.

In summary of its policy document, "Change Assured," the government wrote:

"there are various shortcomings in the present system of care which cannot be solved without major reforms. These include the fragmented funding structure, the lack of incentives to encourage cost-consciousness and efficiency, inadequate coordination of health and social services and the inflexibility of the system due to a plethora of regulations" (Ministry of Welfare, Health, and Cultural Affairs (1988, page 65)).

There are many details in the proposed reform that I will not mention, including new laws on the relationships between insurers and providers. For comparison with my proposal of compulsory group coverage, the essential elements of the Dutch structure are the following. The benefit package in the compulsory basic insurance is designed by the government to cover more than 95 percent of all medical costs. An income related premium will cover at least 85 percent of the aggregate insurance cost, with the revenue going to a Central Fund. The remaining 10 to 15 percent of cost is to be covered by a flat premium paid directly by the individual to the insurance company chosen by the individ-

ual. The Central Fund will pay premiums to the chosen insurance companies based on expected medical costs. Thus insurance companies receive payments from individuals and from the Central Fund. Insurance Companies must community rate for the individually paid portion and must have open enrollment on a two year cycle.

Thus insurance companies negotiate with providers of medical care and set the flat premium. That is, they compete for individual insurees through the level of the flat premium and the combination of choice of medical care providers and rules covering access to medical services. The government reduces the size of the incentive to seek low risk individuals by using risk related payments from the Central Fund. The government reduces the ability to discriminate among risks by open enrollment rules and the government designed benefit package.

Comparing this approach to that of mandatory group coverage, the Dutch approach has more choice across insurance companies for individuals, with presumably greater administrative costs, including advertising and commissions. The cross subsidization across companies from the Central Fund is based on average cost considerations, rather than marginal optimization considerations possible with a short menu from a single insurer. By having such a large fraction of expenses covered by the basic plan, policy design in terms of what services are covered is done by the government rather than through a mechanism
involving both the government and the market. The importance of this distinction depends on the degree of usage of direct budgeting or supply controls in addition to demand organization.

A critical question in the comparison of approaches is the degree to which, under the Dutch proposal, insurance companies will waste resources in the continuing quest for better risks. There are two dimensions to this problem. One is the selection that can be induced by directed advertising and varying availability of easy purchase of policies. Second is the selection that can be induced by design of details of coverage such as selection of specialists. In an article on cream skimming, van de Ven and van Vliet (1990) describe a variety of ways in which companies can both try to attract good risks and try to discourage renewal by poor ones. This element of the drive for profits may be exactly what private firms do best. Moreover, they have argued that the government formula for payments to insurance companies will inevitably fall considerably short of the ability of insurance companies to identify good risks. Thus the incentive for selection will remain sizeable.

One is naturally concerned about the degree of churning in such a system. In this case, I think there is a further basis for concern in the differential willingness to switch insurance companies based precisely on health considerations. That is, those individuals in good health are precisely those who tend to value least their ongoing relationships with medical providers. Evidence for such a correlation with switching has been observed in the U.S. in the tendency to switch from basic coverage to both HMOs and PPOs (Strumwasser et al. (1989)). Insofar as insurance companies differ in access to different providers (an important part of proposed competition) and insofar as creation of new companies attracts good risks, there will be a tendency for churning.

These concerns should become readily testable by Dutch experience since they are not as difficult to observe as some others, such as the impact on efficiency. As van de Ven (1991) has written, there will be interesting lessons to be learned from the demonstration project in the Netherlands.

4. COST CONTAINMENT

While cost containment is not the focus of this paper, I want to say a few words about cost. I suspect that cost issues are the most important element in the political pressure to change the U.S. system, despite the importance of access issues. My proposal focuses on access, not cost; and any proposal that increases access will tend to increase cost. There is indeed some immediate administrative cost saving which is not trivial. As a back of the envelope calculation, start with administrative expenses being 12 percent of health insurance premiums and private health insurance paying for 1/3 of medical expenditures. Cutting the administrative costs in half would save 2 percent of medical expenditures, or 1/4 of 1 percent of GNP. Not trivial, but less than the increased cost for the currently uninsured, not to mention the cost of an improvement for the Medicaid population. An important question for the cost
Discussions of cost are conveniently divided into two types, static and dynamic. Static analyses focus on the determinants of the current level of aggregate medical expenditures. Dynamic analyses pick out elements that are lacking in the static picture. There are two of these. One is the lagged adjustment to underlying static factors. At times this has been substantial. The other is the dynamics of technology. Research and development is encouraged by direct government expenditure and by anticipated profit opportunities. Redesigning reimbursement for medical services affects the latter. Making demand more price sensitive and less quality sensitive would alter research and eventually technology. There are similar considerations in investment decisions, for example in hospitals and diagnostic facilities. Keep this in mind as I discuss static issues.

In thinking about cost (access held constant), it is natural to think in terms of prices and quantities if one keeps fee for service. To the extent that one goes toward capitation systems (fixed annual payments), one has the similar quantity issue of the services to be covered by the capitated fee. A capitated (HMO) option would be part of the ideal menu in my proposal. But let me talk about the fee for service part of the plan, which I think would continue to exist.

In a monopolistic competitive setting, pricing behavior depends on the elasticity of demand. Insurance changes the elasticity of demand. This is true whether there are proportional copayments present and even if there is fixed reimbursement. There are three approaches to the pricing implications of the changed elasticity of demand. One is direct price regulation by the government. Second is to try to influence the elasticity of demand by varying the rules for reimbursement. Third is to engage in ex ante negotiations with providers to determine prices. A typical example of affecting elasticity is a cap on the amount that will be reimbursed. One can do more with rules that vary reimbursement across providers or the charges of providers. For example one could relate reimbursement negatively to the price paid above some cap.

But how does one set such a cap? In long-term contracts it is natural to use some index for a cap. If there were only a few insured, then it would be natural to index the cap for the insured to the prices paid by the uninsured. As soon as the insured became a sufficiently significant part of the market, this stopped being viable. Pricing is being done with an eye primarily on the insured. But, with a lag, price limits are then based on these same pricing decisions. Thus except for the gains that come from the lag structure, this is effectively indexing a price cap to the price itself. It obviously doesn’t work. In practice, the fallback is to limit price changes, but this results in arbitrary pricing over time since the percentage increases do not get indexed to anything useful. The alternative to

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23 For a discussion of the interactions between insurance and research and development, see Weisbrod (1991).
24 For a discussion of managed competition and efficiency in medical care, see Enthoven (1988).
indexing to prices is to index to costs. And that is how I imagine all of insurance covering fee for service medical care will work in equilibrium—either prices will be negotiated ahead of time between the insurers and the providers or reimbursement limits will be cost indexed. Of course one indexes to general costs, not the costs of the particular provider.

There are a variety of incentives to encourage providers to negotiate rather than fee set subject to patient reimbursement rules. These include convenient direct payment mechanisms as well as the threat implicit in the reimbursement rules. My proposal contributes to cost containment in this setting by decreasing the number of group insurance purchasers and the variety in insurance policies, presumably speeding the convergence of this process. Decreased variety in insurance plans will also help reduce provider administrative costs.

Quantities call for a different analysis, based on examining how providers and patients make decisions and examining the many different factors that can affect these outcomes. There is a lot of experimentation going on about modifying the behavior and incentives of providers and directly "managing" care. My casual reading of the literature is that the jury is still out on what works in the sense of being reproducible (i.e., usable as a basis for franchises rather than based on the skills of a particular manager). Preserving private insurance preserves current incentives to explore managed care options. Also, the structure of mandatory groups should help by generating data that are more easily analyzed than at present.

Over the long run, it is important to develop mechanisms for deciding what services are not worth the cost, even when they have some medical benefit. This is a difficult and painful decision to face. My proposal approaches this process through the presence of the large distinction between basic and supplementary policies. In this way, one can give cost considerations a much larger role than at present in basic coverage, preserving the escape valve of supplementary coverage for treatments that people want to purchase, but that do not seem sufficiently valuable relative to cost to be included in the basic plan. With a cost sensitive basis for inclusion in the basic plan, there is an increased incentive for research and development of less expensive substitutes for current diagnostic tests and medical treatments. This complements the altered incentives coming from insurance reimbursement changes that increase the use of prospective payments. Getting everyone group insurance is just the first step in an ongoing process of improving allocation in this market. This process of institution design is a fruitful source of interesting research questions.

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Manuscript received September, 1991; final revision received June 1992.

25 That is how the Resource Based Relative Value Scale (RBRVS) works (Hsiao et al. (1988)).
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