The Ongoing Revolution in Health Care:

What It Means for the New England Economy

Summary of Proceedings
of a Conference on Health Reform
Held in May 1994

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Preface

Because of the significant public and private sector reforms sweeping the health care industry and the importance of that industry to this region, the Federal Reserve Bank of Boston held a one-day conference on "The Ongoing Revolution in Health Care: What It Means for the New England Economy" on May 3, 1994. This forum gathered highly respected members of the academic, medical, government, and corporate communities to explore such issues as the requirements for and consequences of market-based health care, the impact of mergers within the health services and health insurance industries, and the consequences of reform for the region's medical research community. This special report provides a summary of the participants' remarks.

Since then, federal reform efforts have collapsed into stalemate, but the revolution in health care has continued unabated. In the public sector, the initiative has simply moved from the federal to the state level with many states now seeking Medicaid waivers to broaden insurance coverage or to control costs through increased use of managed care. In the private sector, industrial consolidation (often in the form of for-profit institutions) and the spread of managed care to new populations are the order of the day. Renewed emphasis on fiscal balance and growing scope for state experiments give an added urgency to understanding alternative approaches to organizing and financing health care.

For all of these reasons, we believe that the discussion summarized in this special report remains a useful contribution to the ongoing debate on health reform. We hope you find it informative.

The editors would like to thank Lauren Fine, Joan Poskanzer, and Delia Sawhney for their help in preparing this report.

Welcome and Introduction

Cathy E. Minehan
President
Federal Reserve Bank of Boston

Good morning, everyone. I would like to welcome you to our conference on "The Ongoing Revolution in Health Care: What It Means for the New England Economy." Your presence is testimony to the topic's importance and we are honored to have you here as our guests. We at the Bank are committed to providing a forum and leadership for the discussion and resolution of crucial economic issues facing New England and the nation. This work is part of the Federal Reserve System's mandate and represents one aspect of the unique value added this Bank can bring to its community.

No U.S. region will be more affected by the changes brought about by new legislation in the health care area than New England. With our hospitals, our bio-tech, and other health-related firms, one in ten New England jobs is tied directly to health care. As consumers and patients, we benefit from the array of dazzling technology right here in our backyard. Moreover, this high-tech cluster symbolizes the dynamism by which the region defines its future. But high-tech medicine has its downside as well. As employers and citizens, we face high health insurance premiums. Indeed, we spend more per capita on health care than any region in the country. Moreover, with cost control as a major goal, reform could have a disproportionate effect on New England jobs.

New England residents enjoy the broadest health insurance coverage in the nation. This coverage has contributed to cost pressures and, prospectively, may require more local versus federal funding to maintain current program levels. Reform should create a more level playing field nationally, but again the cost of improving access in low-income regions may end up being borne by high-income areas like New England. Given the importance of health care to New England, it is appropriate to start

assessing the impact of reform on this region's economy. This conference is just a start.

We as regional leaders must leverage today's discussion to ensure that health care legislation incorporates elements that are critical to New England. Most important, I think, is continued support for high-quality medical research and development. We also need to ensure that the savings the region obtains over the longer term are channelled into projects that aid in recouping regional income losses that may be associated with reform. Health care reform represents risk, but it represents opportunities as well. We must take a measure of the risks while we grasp the opportunities.

Overview: Evolution of Health Care Reform

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Chairman and Chief Executive Officer
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Here at the Boston Fed, we see the purpose of this conference as helping to shed some light on the most important debate facing the nation at this time. Health reform is one issue where every citizen must come to understand the underlying questions, form an opinion, and then share it with our policymakers and our legislators--both locally and nationally--if we are to get the best outcome.

This morning, I intend to set the stage for what you will hear as the day progresses. The concepts of health insurance and government involvement in medicine began about 60 years ago. Since the old Blue Cross-Blue Shield took all members of a group (e.g. employers and unions) and covered many groups, it provided its own cross-subsidies. But when HCHP and Kaiser, the original managed care organizations, began to take low-risk patients out of the pool of insured populations, we began to undermine the idea of insurance-for-all. In fact, the national HMO Act was an epochal event; it introduced a new form of insurance--the covered life at fixed price, as distinct from the covered service, paid by a third party--the insurance company--on demand.

As another strand of our history, the start of Medicare and Medicaid set off our national struggle to control the rate of medical cost increases, our major effort of the last 25 years. As you all know too well, medical costs have been rising at two to three times the pace of inflation pretty steadily over the long term; as a result, health care has risen to 14 percent of GNP. American democratic capitalism does make corrections, but it does not make them smoothly; it lurches from place to place. By my standards, we are in one of our lurches now. In the '70s and '80s, we first introduced competition and regulated the

price of units of care. As a result, we used more units of care; so even if each unit was at a lower price, the total costs kept rising. Now, in the '90s, we are beginning to see a new approach emerging: managed competition.

Where we are now? Inflation has slowed remarkably, really more than any of us expected. The figure for 1993 is 4.2 percent: we have not seen a pace that low since 1986. We have achieved that low inflation rate in part through medical science. Many things that once had to be done in the hospital can now be done in an ambulatory setting. Let me give you two examples. Cataract surgery used to have you in bed with sandbags on your neck, to keep you still for two weeks, after a surgery that took four hours. Today our elders come to the hospital, and our surgery is done in well under an hour. Two hours later, patients can take the patch off the affected eye and return to work. It is an extraordinary change. As another example, laparoscopic surgery replaces what had been a six-week ordeal to have your gall bladder removed. Now, six hours. We have barely begun to push the edge in reducing hospital use.

In addition to technological progress, various efforts to manage care, whether through an HMO or a Preferred Provider Organization (PPO), have also contributed to lower inflation. Even the indemnity plans now manage to use hospitals at a much reduced rate of 300-400 hospital days per 1,000 people per year (excluding Medicare). Thus, there has been a steady decline in the use of the hospital, offset by a steady increase in the use of the ambulatory setting. Managed care plans, meanwhile, are growing remarkably rapidly. Eight million people were enrolled in HMOs in 1980; today, there are 45 million members in HMOs and 70 million in PPOs.

Even Medicare and Medicaid have begun to experiment with HMOs. In California, 25 percent of the elders have managed Medicare. In Massachusetts and 20 other states, we have begun to enroll Medicaid recipients in managed care. This approach involves an alternative reimbursement system, capitation, under which providers agree to provide a year's worth of health care in return for a sum of dollars set at the beginning of the year, regardless of the actual number of units of care

delivered. Thus, we are seeing a gradual shift from covered services--the traditional form of insurance--to covered lives--the managed care, capitation model. In this regard, New England is quite special. New England has achieved the highest penetration of HMOs in the nation in the last year; close to 40 percent of all Massachusetts residents are enrolled in HMOs.

The question I, as a physician, keep pondering is, "Is it possible to structure a market based on cost and quality?" That is the fundamental issue. Some say it cannot be done. No other country uses that approach--they generally have publicly financed systems. Interestingly, however, even those countries are suffering high rates of medical cost inflation. In fact, right now they are experiencing higher rates of medical inflation than we are in the United States. All countries face rapidly rising health care costs because these costs are largely driven by technological advances that have been fast and furious, resulting in new demands for high-priced care.

The major question that we are all struggling with is, "Where will we get the money needed to provide insurance for 35 to 40 million people who now have no coverage?" With the U.S. public's negative attitude toward new taxes, the Administration hopes to finance this increased coverage through enforced savings and price controls.

Another issue involves the benefits package, its components and costs. Obviously, the smaller the universally available benefits package, the lower the total cost. Another part of the Administration's plan, the health insurance purchasing alliance, has turned out to be an extraordinarily inflammatory code word in the argument over regulation versus market forces. In addition, among small businesses, mandates that they provide insurance for their employees have also proved highly controversial.

Finally, price controls. In Massachusetts, we are very conservative about how we practice medicine. We wear a belt, and we wear suspenders, and we tie the suspenders and we sew them to our shirts. We are concerned, we do something once, we do it twice, we do it three times, and this conservatism adds to our higher costs. The conservatism of the Massachusetts medical establishment is matched only by that of

Washington policymakers. Many people are afraid to rely entirely on the marketplace. They believe that we must have price controls handy in the background, in case of need.

If I could design a health care system, this is what I would propose. I visualize a market characterized by "genteel" competition on customer-service, price, and quality, as first proposed by the Jackson Hole group. Let me just stop here for a minute on the issue of measuring quality. We have said that it is very difficult to measure quality in medical care. But when health economist Joe Newhouse ran the national insurance experiment in the 1970s, he engaged a group of psychometricians, led by John Ware, to develop measures of health status--the ability of the person to function at home and at work and to feel good about being in both places. In other words, the researchers were trying to measure the patient's mental and physical health in the home setting and the work setting. But even after 20 years of outcomes research, the scientists debate the quality, reliability, and validity of these outcomes measures and their use in a health care market.

Nevertheless, our ability to measure quality is growing to the point where it may be worth some experiments and risk. The driving force behind this progress is capitation. Capitation permits me as a physician to turn my attention to how, by using limited resources and applying these quality and outcome measures, I can give the best care to each patient. I believe that if doctors accept responsibility for cost and outcomes, we can reclaim authority as providers. The real question is, "Are we professionals willing to take the risk and responsibility of living within a fixed budget while showing you measurable outcomes that you will understand?"

I also believe we can find enough efficiencies through technology and information systems that we will not need to ration care in any meaningful way for quite some time. After all, these information systems tell us that 30 to 50 percent of a caretaker's time now is spent either documenting or scheduling or communicating. We can reengineer our teams of doctors, nurses, and others to permit them to provide high-quality service at a reasonable expense.

A real catch in creating a competitive market is related to the argument that risk selection gives HMOs a lower-cost structure because sicker people want to stay with their fee-for-service doctors and younger, healthier consumers are willing to switch to an HMO with its restrictions on provider choice and self-referral. In a fair market, insurance premiums should be community-rated, so that we all share in the communal cost. But providers must be paid on the basis of the risk and sickness they take on. Once again, we are developing the necessary science to distribute equitably the premiums paid in to the insurers and then passed along to the providers, but it is in its early stages. As it turns out, the best indicator of next year's cost is last year's cost. Your health status, your age and sex, are important, but last year's experience is really the best predictor.

Joe Newhouse and I have been developing a fairly complicated risk-adjustment system. We begin by establishing a base rate against which we adjust the costs for specific enrollees. For all of you in the audience, who are healthy and have good health habits, we would pay 0.7 times the base rate to your health plan, but for someone like me, who is old, decrepit, and risky, the system would pay perhaps 1.7 times the base rate. And for someone with active AIDS or active cancers, the system would pay two to four times that amount. We are beginning to be able to make good estimates of likely costs over a range of important diseases. As you know, 5 percent of patients use 50 percent of hospital resources. If we could deal with that critical group, risk adjustment would be sufficiently manageable to permit a market-based system to function.

As we move to capitated systems, the HMOs shift the financial risk away from the insurer and onto organized systems of care (the providers). Then monitoring of quality becomes the critical issue, and HMOs will become the quality monitors. That will be their job. They will have to ask, "Is the provider system doing good cost-effective clinical work? Is it improving the patient's functional status? Are patients satisfied with access?" Insurers will then produce consumer reports that answer these questions and that will be available to us when we select our plans. Of course, a successful outcome depends on eliminating selection bias through risk adjustments. Otherwise, plans with sicker

enrollees are penalized. These changes in organizing and financing health care involve an act of faith, because as we move to a competitive, capitated system, we will go from the problem of providing too many services to one of worrying about too few services; the incentives flip 180 degrees when providers are no longer paid for each unit of care.

So far, at least in California, Minnesota, and Massachusetts, market-based reform has reduced the rate of inflation significantly in the last two years. Some say the decline reflects the fear of national legislation. But I believe that it reflects a change in purchaser behavior. Most of our major industries, and especially our manufacturing sector, believe that they can only compete in a global economy by producing high-quality products at low cost. In that kind of world, health care premiums, rising at two or three times the rate of inflation, are untenable. As a result, cutting-edge companies, like Xerox, GTE, and others have started treating health-care providers as suppliers and are applying the same standards they seek from other suppliers. These purchasers are looking for continuing quality but predictable rates of increase in premiums.

What, finally, might these reforms mean for consumers and patients? I see these potential benefits: a choice among several competitive plans and delivery systems and, ultimately, some form of portability so that, regardless of where or whether you work, you can stay with your health plan and your doctor. That is an outcome most people highly desire. To achieve that goal we need a health care system that lets your doctor belong to many plans. In addition, we need to make all plans available to all patients.

Moreover, patients will benefit from the new outcomes measures. I will only give you one example--outcomes studies for hip surgery. There are about six thousand such studies in the literature. If the criterion is correct placement during surgery, we find a successful outcome in well over 98 percent of the cases. If range of motion is the criterion, we also get successful outcomes most of the time. But now our orthopedists have been asking, "Has this patient returned to normal functioning? And if so, in how long a time, and at what cost?" These new

psychometric measures of functional status and satisfaction change the doctor-patient relationship. With the aid of these measures, you as a consumer would have higher-quality care and better service because we--providers and health plans--would be competing on that basis of these variables. This is a tremendous advance that we will see if market-based reform works as expected.

In closing, I would like to make two comments. First, growing evidence suggests that the most successful, healthiest patient is the person with the highest level of education, the opportunity for a job that allows him or her to maintain a family, and the chance to live in a reasonably safe community. Also, as you all know, smoking, obesity, and poor nutrition are directly related to socioeconomic class. Thus, the trade-off between investing in medical care and investing in the health of our society must be the next policy discussion. As envisioned, health reform will allow some of the dollars saved to be used to promote the best approach to health.

Second, I want to leave you with the thought that while my goal in promoting outcomes measures of cost-effective medicine is improved health status for patients and populations, I also believe that use of these measures in a capitated system will encourage product development that will reduce costs and improve quality. Under these circumstances, our biotechnologists, our drug companies, and our medical device companies will be as creative as every other competitive industry. As a physician who sits on this Bank's board, I have come to see that we need a better understanding of output in the service sector. In health care, the outputs are person-years of productive work, reduced absentee days and reduced workers compensation disability. But we have this conundrum--improved productivity increases demand. Laparoscopic surgery allows the patient to be back at work in three days. Because the ordeal is less than that associated with traditional surgery, we do more laparoscopic procedures. Even though the per-patient cost is less, the total bill for society winds up being bigger. We need to come to some balance. I believe that a capitated system with not-for-profit providers will provide the incentives to find that balance.

If ever there was an issue that affects us personally, and at all levels of government, it is this question of what changes we wish to allow in the health care system. I exhort each of you, not only to understand the issues, but also to form an opinion about them and to express that opinion to your legislators, both locally and nationally. There is no doubt that health reform involves some uncertainties and some risk. The question is which ones, where, and at what rate shall we take them? Thank you.

Health Care Reform and the New England Economy

Highly dependent on the health care industry, New England has a major stake in reform. Will cost control slow the region's growth or improve the competitiveness of its industrial base? Who will pay for universal access? This session will access regional income shifts likely to accompany reform.

Paper:
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My task this morning is to take a preliminary look at the impact of health care reform on the New England economy. While the ultimate outcome of the current effort is not yet known, the country's health care goals seem clear enough and its financing options are limited enough to permit exploring the regional impact of reform using the Health Security Act as an example.

To put the regional impact in perspective, I will start by reviewing why health reform is a national priority. The first figure provides a vivid illustration. As one might expect, rich countries tend to spend more per capita on health care than poor countries, as shown. Even so, the United States is a clear outlier--we spend a lot more per capita on health care than our relative income would suggest, given the behavior of similar countries. And, despite our surprisingly high spending, survey data suggest, we are less satisfied with our health care system than are citizens of most other developed countries. Why?

Americans are worried about the level and rate of increase in U.S. health care costs. Workers know that rising health insurance bills help to explain the decline in their real wages during the 1980s. And, health care is absorbing ever-rising shares of state and federal budgets, thus limiting our ability to invest in education, R&D, and public infrastructure. Medicare and Medicaid, the health care programs for the elderly and some of the poor, accounted for 5 percent of federal outlays

in 1970, but, if current trends continue, will absorb 25 percent of the total budget by 2002.

In addition, in 1992, over 38 million people, or 17 percent of the nonelderly, had no health insurance. These numbers refer to people who had gone without insurance for an entire year. Thus, more than 17 percent of the nonelderly had no insurance for a part of 1992, and a much larger percentage feel threatened with a loss of access to insurance, and, accordingly, nonemergency health care, should they become unemployed or fall seriously ill. Despite high medical costs and, in part, because of a growing access problem, U.S. citizens do not, on average, enjoy better health outcomes than people in other developed nations spending less. To be sure, many U.S. residents have access to the finest medical care in the world, and some would argue that this country indirectly funds much of the world's medical R&D. Moreover, cross-country comparisons can be misleading because a host of sociological and environmental differences distort the results. Still, measures like infant mortality rates and life expectancies suggest that the United States could be getting better value for its health care dollars.

For all of these reasons, achieving health reform remains a national goal of major importance. While the impact of reform on individual regions has less significance, understanding the effect of reforming a large part of most state economies is important for regional leaders looking ahead. Here in New England, each state has an above-average dependence on health care jobs (Table 1).

Many of you are familiar with the major provisions of the Administration plan. However, I would like to describe how the plan treats Medicaid; that topic has not had much attention but does affect the regional analysis. Medicaid programs for people under 65 will be partly dismantled. Among the nonelderly, only individuals receiving cash payments through the Aid to Families with Dependent Children (AFDC) and Supplemental Security Income (SSI) programs will continue on Medicaid. Other Medicaid programs for the nonelderly will end, but states will be required to make ongoing maintenance-of-effort payments to the alliances equaling the state's current Medicaid obligations for the discontinued

programs. These provisions penalize states with costly or broadly inclusive Medicaid programs.

Turning to the impact of reform, according to the Congressional Budget Office (CBO), with the passage of the Act, U.S. health care spending will first swell above CBO baseline projections as universal access and other new programs begin (Figure 2). But in time, the impact of cost control efforts, like growing use of managed care, will prevail. As a result, the CBO projects that by 2004 U.S. health spending will be 7 percent below the current baseline projections. In other words, while the CBO foresees a slowdown in health care spending, it expects significant growth nonetheless. The following analysis is all relative to this baseline of rapidly rising expenditures.

Map 1 shows a rough estimate of the initial impact of universal access on the demand for health care by region, assuming (like the CBO) that the uninsured use 64 percent of the health care used by similar people with insurance. Since New England has the broadest health insurance coverage in the nation (Table 2), its health care industries are likely to face the smallest surge in demand--just under 1 percent net of the health care savings the CBO projects for 1998. By contrast, the largest gain (roughly 5.5 percent, net) will occur in the West South Central district.

Given this modest blip in demand in New England, when cost control measures--growing competition, say--take effect, this region's health care spending will likely be lower relative to baseline expectations than elsewhere in the nation. In addition, the likely growth of national hospital and insurance chains could force New England's high-cost providers to bring their operations closer to national norms. Thus, New England providers may face a greater than average slowing in demand growth.

What do these trends mean for employment in New England's health care sector? As Figure 3 shows, health care has been a powerful engine of job growth nationally and regionally. With reform, health-related employment will continue to grow--but more slowly than once expected. Indeed, incoming data indicate that some providers have already begun to cut employment--either in anticipation of reform or in response to

increased competition and use of managed care. While the growth in total health service jobs shows little pause, employment at hospitals has flattened out nationally and in Vermont and has begun to decline in Massachusetts (Figure 4). If cuts reflect current staffing patterns, nurses and low-wage service workers will suffer most, since these two groups account for close to 80 percent of hospital jobs.

Turning to the non-health sector, since most New Englanders already have health insurance, universal access will require less adjustment here than elsewhere. Still, because the region has the nation's highest health care costs, a mandate to buy health insurance could seem burdensome for some New Englanders. Because a gradual change is easier to digest than an abrupt one, state efforts to increase insurance coverage ahead of national reform are welcome.

In the second phase of reform, when cost control efforts prevail, the slowdown in health care spending represents savings for the non-health sector. The savings achieved within each state will be divided almost evenly between the federal government, on the one hand, and each state's government and its private sector, on the other. Because these savings reflect reductions in projected spending, they will not appear as a pot of gold at the end of the health reform rainbow. Rather, these in-state savings will likely materialize as increased real wages and reduced fiscal pressures on state governments.

Since this region's medical establishment will likely face severe pressure to cut its above-average costs, New England will almost surely enjoy above-average savings from reform. Elsewhere, the savings will be less, and paying for improved access will absorb a relatively large share. Thus, workers and taxpayers in other regions will have smaller net savings to use for non-health goals. Here in New England, assuming we spend our savings on local output with the same labor content as health care, roughly half of any job loss in health care could be replaced with job gains in other industries.

As for the federal government, it will earn about one-third of the savings from health reform because it pays for public programs like Medicare and, on a shared basis with the states, Medicaid. In addition, as savings on health insurance allow wages and incomes to rise, the

federal government will collect taxes on the increase, thus raising its share of the nation's health care savings to almost 45 percent. According to the CBO, until 2004 the federal government will use all of its savings to pay for premium subsidies and other new programs in the plan. The CBO projects that these subsidies will equal roughly 2 percent of GDP in 2004; thus, these premium payments are likely to entail a significant redistribution of income across states.

To explore the redistributional impact of reform, we first estimated the federal subsidy payments, by state. Each state's need for employer and family premium subsidies will reflect many characteristics, including its relative health care costs and its relative wages and incomes (Table 2). Because the Administration will require states to maintain their current level of support for health care, the relative generosity/expense of existing Medicaid programs is also a factor. In addition, for each low-income person retaining Medicaid eligibility under the Administration plan, a state will pay 25 to 50 percent of his insurance costs, depending on the state's per capita income. By contrast, if the same low-income person had never been eligible for Medicaid (because the state had restrictive eligibility standards), the federal government would pay up to 100 percent of the needed subsidy under reform.

Tables 3 and 4 show estimated employer and family premium subsidies by state or region. We made these estimates by applying the provisions of the Health Security Act to conditions prevailing in 1991 and 1992 and used CBO estimates of national average insurance premiums for the mandated insurance package. Obviously, these estimates should be viewed as illustrative.

Tables 3 and 4 differ only in terms of the assumptions made about relative medical costs. In Table 3, the current cross-state variation remains unchanged with improved access. In Table 4, reform eliminates two-thirds of the variation now observed. Because differences in insurance coverage, Medicaid benefits, and practice style undoubtedly explain much of the current variation, and because many of these differences will vanish with reform, the results displayed in Table 4 seem the more likely.

Assuming no change in relative medical costs, all the New England states but Massachusetts get below-average per capita subsidies, net the Medicaid effort payments. By contrast, Massachusetts would receive one of the highest per capita subsidies in the nation, largely because its health care costs are even higher than its personal income. Regionally, the largest per capita subsidies would go to the East South Central and the South Atlantic districts.

However, if differences in health care costs do narrow with reform, then, New England's high-income states would need the lowest per capita subsidies in the nation, as shown in Table 4. (With their below-average incomes, Maine and Vermont would be exceptions. If their below-average medical costs rise towards the national average, they will receive relatively big subsidies.) The largest per capita subsidies would flow, on average, to the East South Central and the West South Central regions, but single Plains, Mountain, and South Atlantic states would also need big subsidies.

These results largely reflect a fairly simple relationship. If a state's health care costs are high compared to its per capita income, the state is likely to need above-average subsidies, and vice versa. If the range of relative medical costs narrows, relative income and its distribution get more weight. Thus, if we assume that New England's high health care costs are driven towards the norm, our high income status dominates the results.

The final step in estimating the income shifts resulting from reform took as givens CBO projections of how the federal government will fund its commitments under the Health Security Act in 2004. We then allocated these expenditures and receipts to states according to criteria applicable in 1991 and 1992. For example, each state's contribution to federal savings in the ongoing part of Medicaid was determined by its share of federal Medicaid spending for nonelderly cash recipients in FY 1992. The premium subsidies were distributed according to our estimates in Tables 3 and 4.

Table 5 shows the results; the left-hand columns assume current differences in state health care costs, while the right-hand columns apply if this variation narrows. In general, health reform is likely to

shift income from the Mid-Atlantic, East North Central, and New England regions to the rest of the country. If current variations in medical costs remain, Massachusetts would be the one New England state with a small net gain in income.

But, assuming a major decline in cost differences, Massachusetts joins Connecticut, Maine, Rhode Island and most Mid-Atlantic and East North Central states in subsidizing health care for low-income people throughout the nation. The states likely to enjoy the largest income gains are in the East South Central and West North Central districts. It may be worth stressing that these transfers are in 2004 dollars and do not reflect tax increases; rather they represent funds that would have been spent in one region in the absence of reform but which, with passage of the Health Security Act, are likely to be spent in another.

Comparing the results for Rhode Island and New Hampshire highlights the perverse effect of building on today's Medicaid. New Hampshire has a higher per capita income than Rhode Island, yet Rhode Island is likely to pay more for reform than New Hampshire. And Louisiana, one of the country's lowest-income states, may make a larger contribution to financing reform than high-income California. Clearly, building health reform on the current Medicaid program has an adverse impact on the generous/profligate states. But why keep Medicaid for AFDC and SSI beneficiaries once reform is in place? Obviously, retaining elements of Medicaid provides a way to maintain the states' role in financing health care. An alternative approach might assign responsibility for financing a share of the employer and family subsidies to the states, with each state's share determined by its relative per capita income.

The results shown in Table 5--a not insignificant transfer of income from high-income regions with relatively expensive public health care programs to low-income regions with relatively low-cost public programs--are hardly surprising. Indeed, except for the perverse impact of the provisions concerning Medicaid, similar results would probably occur under any viable reform plan. After all, funds to pay for health care for citizens who cannot afford to pay themselves can only come from relatively high-income individuals, whether the direct source is the

income tax, a payroll tax, a consumption tax, or cuts in publicly funded health care programs. As it turns out, per capita income, pay, nonfood retail sales, health care spending, and Medicaid spending tend to be quite highly correlated across states.

In summary, then, according to the CBO, the Health Security Act will result in a short-term swell in the demand for health care, followed by a modest slowdown in the growth in health care spending from previously projected rates. Because New England has the best insurance coverage in the country, the region's health care industry is likely to experience the nation's smallest rise in the demand for medical care.

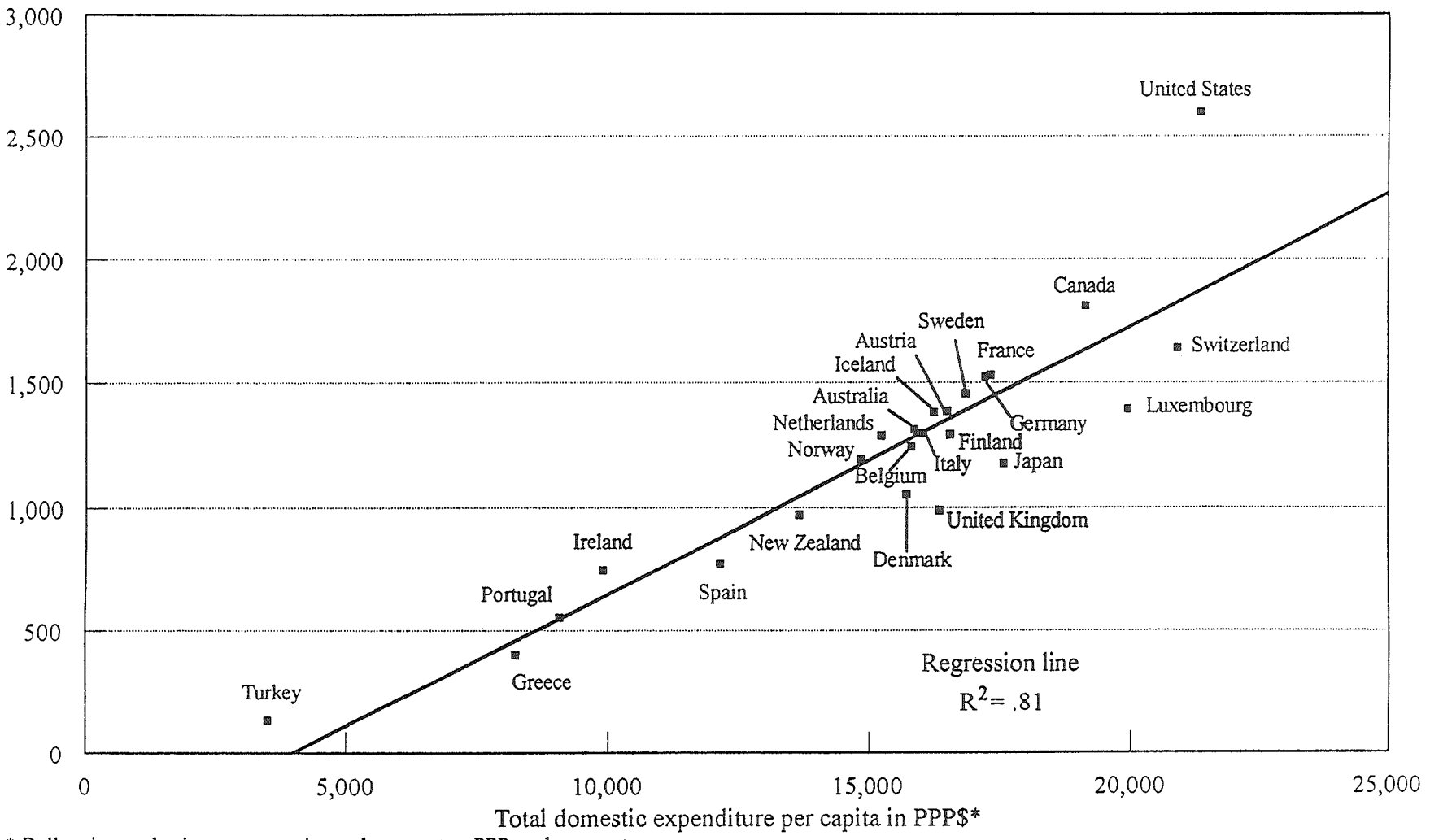
Over the longer term, New England's relatively expensive health care industries are likely to experience above-average pressures to cut costs--whether these pressures stem from national legislation or from private sector developments already underway. The flip side, of course, is that the health care sector's loss represents a gain to health care purchasers in the private sector and elsewhere. To the extent that New England's health care industries manage to achieve above-average cost reductions, New England state governments and New Englanders in the private sector will enjoy about half the savings.

And, there, of course, is the rub because, according to our estimates, New England's contribution to the increase in federal revenues and program savings associated with health reform will be considerably larger than the region's receipt of federal monies for premium subsidies and other new health care programs. The redistribution involved could equal over 1 percent of a state's personal income. This general conclusion holds whether or not cross-state differences in health care costs narrow with universal access, but it is reinforced in the likely event that reform does encourage some convergence.

It is especially important in this region, then, that we keep our eyes on the prize--the savings that health reform promises over the long term. Although the interregional income shifts accompanying reform may dampen economic growth in New England relative to other parts of the country, within the decade, health reform will provide net savings to the nation. As part of the nation, New England will benefit from the additional investment and growth these savings permit. But, recognizing

the redistributional challenges in store, New England leaders and taxpayers must use our share of these savings in ways that promote the economic vitality of the region.

Figure 1
Total Spending and Health Spending Per Capita
1990



* Dollars in purchasing power parity exchange rates. PPP exchange rates are those that equilibrate the domestic purchasing power of each currency.

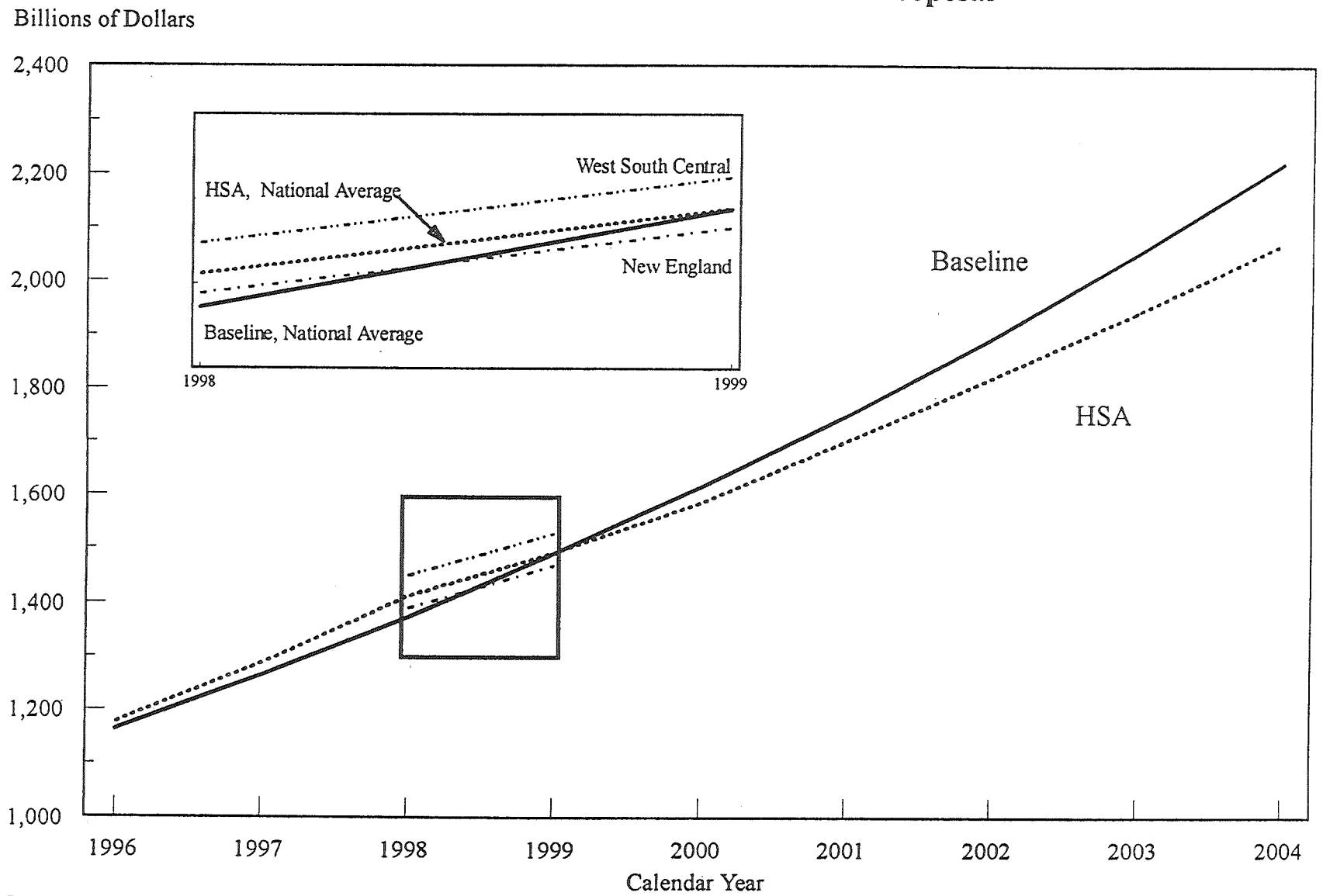
Source: OECD, OECD Health Systems: Volume 1: Facts and Trends 1960 - 1991.

Table 1
Health Care Employment as a Percentage of Total Employment
by State and Region, 1991

Region/State	Health Care Services (80)		Medical Equipment (384, 385)		Drugs (283)		Health Insurance (632)		Total Health-Related Exports[1]		Total Health Care[2]		Memo: Defense	
	Percentage of Total State Employment	Location Quotient	Percentage of Total State Employment	Location Quotient	Percentage of Total State Employment	Location Quotient	Percentage of Total State Employment	Location Quotient	Percentage of Total State Employment	Location Quotient	Percentage of Total State Employment	Location Quotient	Percentage of Total State Employment	Location Quotient
United States	7.63	1.00	.28 d	1.00	.23 d	1.00	.24 d	1.00	.75 d	1.00	8.38 d	1.00	4.45	1.00
New England	9.53	1.25	.52 d	1.87	.21 d	.92	.24	1.00	.98 d	1.30	10.50 d	1.25	5.17	1.16
Connecticut	8.98	1.18	.66	2.34	.53	2.27	.25	1.03	1.43	1.90	10.41	1.24	6.43	1.45
Maine	9.20	1.21	.13 d	.45	.08	.35	.23	.96	.44 d	.58	9.64 d	1.15	5.20	1.17
Massachusetts	10.05	1.32	.59	2.10	.13	.57	.21	.88	.93	1.24	10.98	1.31	5.13	1.15
New Hampshire	8.32	1.09	.48 d	1.71	.02	.10	.28	1.17	.78 d	1.04	9.10 d	1.09	3.33	.75
Rhode Island	10.20	1.34	.35	1.26	.08	.34	.42	1.73	.85	1.13	11.05	1.32	4.57	1.03
Vermont	8.91	1.17	.17	.59	d	.00	.13	.56	.30 d	.40	9.21 d	1.10	2.55	.57
Middle Atlantic	8.76	1.15	.31	1.12	.61	2.60	.30	1.26	1.22	1.62	9.98	1.19	2.99	.67
New Jersey	7.81	1.02	.47	1.67	1.46	6.26	.22	.92	2.15	2.85	9.95	1.19	3.40	.77
New York	8.42	1.10	.28	.98	.32	1.36	.28	1.15	.87	1.15	9.29	1.11	2.66	.60
Pennsylvania	9.94	1.30	.27	.95	.48	2.05	.40	1.67	1.14	1.52	11.08	1.32	3.21	.72
East North Central	8.18	1.07	.26 d	.92	.29	1.26	.28	1.18	.83 d	1.11	9.01 d	1.07	2.59	.58
Illinois	7.76	1.02	.25	.91	.33	1.41	.28	1.17	.86	1.15	8.63	1.03	2.42	.54
Indiana	7.62	1.00	.39 d	1.40	.77	3.33	.27	1.12	1.44 d	1.91	9.05 d	1.08	3.18	.71
Michigan	8.22	1.08	.14	.50	.35	1.50	.27	1.12	.76	1.01	8.98	1.07	2.05	.46
Ohio	8.79	1.15	.22	.80	.07	.31	.20	.85	.50	.66	9.29	1.11	3.36	.76
Wisconsin	8.37	1.10	.40	1.44	.05	.23	.49	2.04	.95	1.26	9.31	1.11	1.63	.37
West North Central	8.58	1.12	.35 d	1.24	.19 d	.79	.37	1.53	.90 d	1.19	9.48 d	1.13	3.34	.75
Iowa	8.32	1.09	.04 d	.13	.16	.68	.26	1.07	.45 d	.60	8.77 d	1.05	1.60	.36
Kansas	8.03	1.05	.16	.56	.12	.54	.23	.96	.51	.67	8.53	1.02	4.57	1.03
Minnesota	8.36	1.10	.76	2.72	.09	.38	.38	1.58	1.23	1.63	9.59	1.14	2.11	.47
Missouri	8.93	1.17	.22	.77	.35	1.51	.26	1.10	.83	1.11	9.76	1.16	4.71	1.06
Nebraska	7.78	1.02	.41	1.46	.23	.97	1.14	4.72	1.77	2.35	9.55	1.14	3.04	.68
North Dakota	11.72	1.54	.05	.16	.00	.00	.46	1.92	.51	.67	12.22	1.46	5.34	1.20
South Dakota	9.98	1.31	.49 d	1.75	d	.00	.06	.23	.55 d	.72	10.53 d	1.26	3.35	.75
South Atlantic	6.68	.88	.21 d	.75	.16	.70	.18	.76	.56 d	.74	7.24 d	.86	5.95	1.34
Delaware	6.98	.91	.82	2.91	.85	3.66	.32	1.34	1.99	2.64	8.97	1.07	3.66	.82
Florida	8.22	1.08	.31	1.12	.06	.25	.18	.76	.55	.74	8.78	1.05	3.98	.90
Georgia	5.69	.75	.20	.72	.06	.25	.08	.35	.34	.46	6.04	.72	5.24	1.18
Maryland	7.96	1.04	.12	.44	.16	.67	.24	1.00	.52	.69	8.48	1.01	7.24	1.63
North Carolina	5.24	.69	.21	.73	.51	2.19	.11	.46	.83	1.10	6.07	.72	4.98	1.12
South Carolina	4.22	.55	.23	.83	.11	.49	.33	1.37	.68	.90	4.89	.58	5.29	1.19
Virginia	6.30	.83	.09	.32	.09	.40	.19	.79	.37	.49	6.67	.80	11.81	2.65
West Virginia	9.62	1.26	.05 d	.17	.08	.36	.13	.53	.26 d	.34	9.88 d	1.18	1.92	.43
East South Central	7.35	.96	.16 d	.59	.09	.37	.24	.99	.49 d	.65	7.84 d	.93	3.48	.78
Alabama	6.55	.86	.10 d	.35	.00	.02	.22	.90	.32 d	.42	6.87 d	.82	3.25	.73
Kentucky	8.66	1.14	.15	.52	.01	.04	.19	.80	.35	.46	9.01	1.08	4.57	1.03
Mississippi	5.93	.78	.10 d	.37	.16	.68	.18	.74	.44 d	.58	6.37 d	.76	5.49	1.23
Tennessee	7.69	1.01	.25	.91	.17	.71	.31	1.28	.73	.96	8.41	1.00	2.07	.47
West South Central	7.34	.96	.18 d	.65	.06	.26	.13	.53	.37 d	.49	7.71 d	.92	4.66	1.05
Arkansas	7.95	1.04	.18 d	.65	.02	.09	.16	.67	.36 d	.48	8.32 d	.99	2.82	.64
Louisiana	7.99	1.05	.02	.07	.03	.14	.12	.49	.17	.22	8.15	.97	4.11	.92
Oklahoma	7.26	.95	.15	.54	.02	.07	.17	.72	.34	.45	7.60	.91	6.17	1.39
Texas	7.13	.93	.23	.80	.08	.34	.12	.49	.42	.56	7.55	.90	4.77	1.07
Mountain	6.54	.86	.27 d	.97	.06	.25	.20	.85	.53 d	.71	7.07 d	.84	5.09	1.14
Arizona	6.99	.92	.11	.41	.06	.25	.25	1.02	.42	.56	7.41	.88	5.27	1.18
Colorado	6.82	.89	.46	1.65	.08	.36	.22	.92	.77	1.02	7.59	.91	6.28	1.41
Idaho	5.82	.76	.05	.17	.01	.04	.19	.81	.25	.33	6.07	.72	2.47	.56
Montana	9.02	1.18	.04	.15	.01	.05	.23	.95	.28	.38	9.30	1.11	2.84	.64
Nevada	4.58	.60	.04	.15	.02	.09	.11	.44	.17	.23	4.75	.57	2.38	.54
New Mexico	6.48	.85	.22	.79	.03	.12	.17	.69	.41	.55	6.90	.82	6.67	1.50
Utah	6.72	.88	.72	2.56	.11	.49	.22	.90	1.05	1.39	7.77	.93	5.99	1.35
Wyoming	4.39	.58	d	.00	.03	.11	.13	.53	.15 d	.20	4.55 d	.54	3.79	.85
Pacific	6.57	.86	.34	1.22	.14	.60	.23 d	.94	.71 d	.94	7.27 d	.87	6.52	1.47
Alaska	4.69	.61	.00	.00	.00	.00	d	.00	.00 d	.00	4.69 d	.56	13.55	3.05
California	6.46	.85	.40	1.42	.17	.75	.22	.90	.79	1.05	7.25	.86	6.68	1.50
Hawaii	5.74	.75	.01	.04	.00	.00	.28	1.17	.29	.39	6.03	.72	13.45	3.02
Oregon	7.09	.93	.19	.69	.03	.14	.30	1.23	.52	.69	7.61	.91	1.40	.31
Washington	7.32	.96	.22	.78	.05	.21	.25	1.04	.52	.69	7.84	.93	6.14	1.38

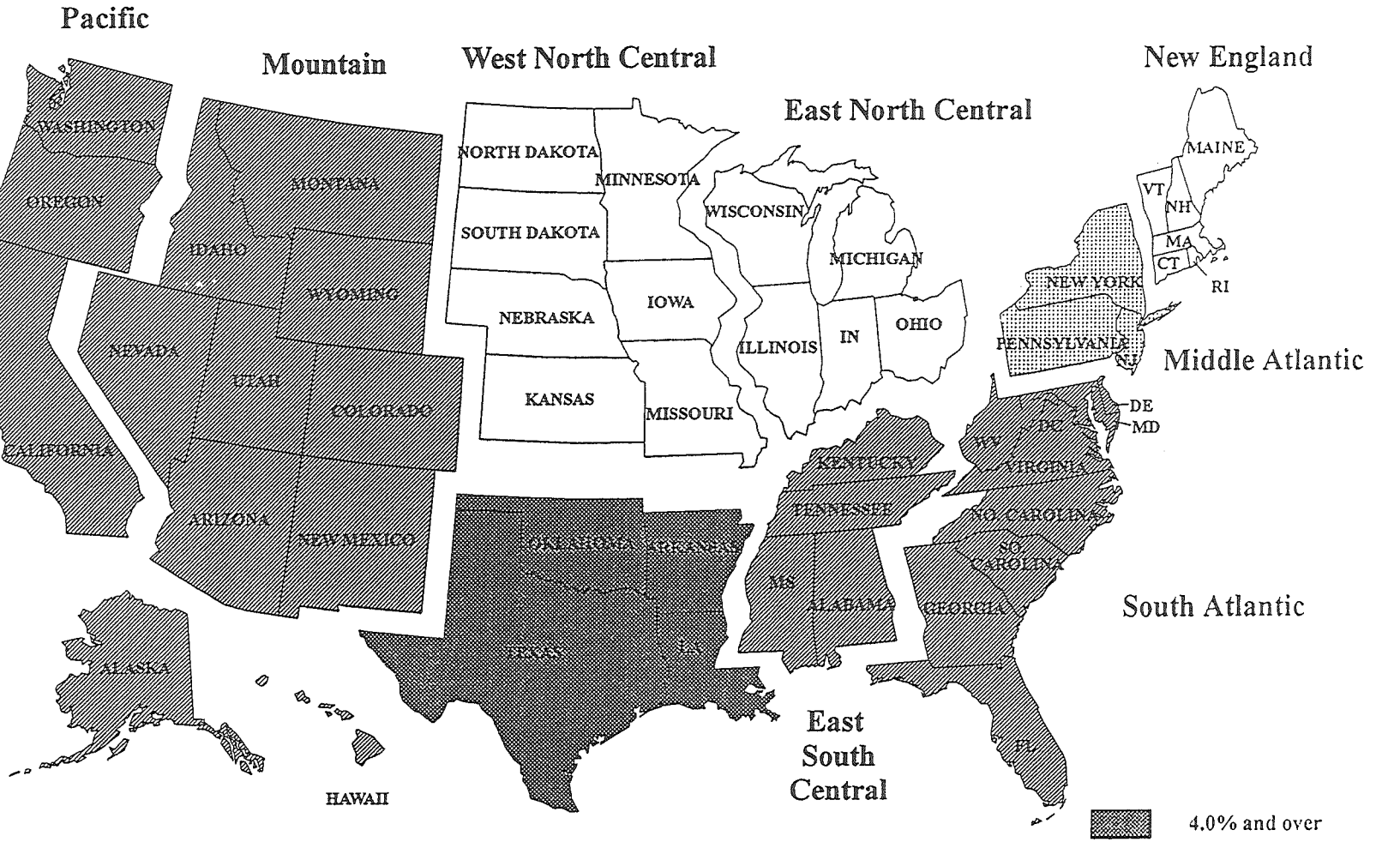
Total employment is total nonagricultural employment.
SIC codes in parentheses.
"d" indicates data withheld to avoid disclosure of individual firms; thus, totals are understated.
A location quotient is the ratio of an industry's share of total state employment to the industry's share of total U.S. employment.
1 Total health-related exports = medical equipment, drugs, and health insurance.
2 Total health care = health care services plus health-related exports.
Source: U.S. Bureau of Labor Statistics, ES202; Defense Budget Project.

Figure 2
National Health Expenditures, CBO Baseline and CBO Projections for the HSA Under the Administration's Health Proposal



Source: Congressional Budget Office.

Map 1
Estimated Net* Increase in the Demand for Health Care due to Universal Access, by Region, 1998



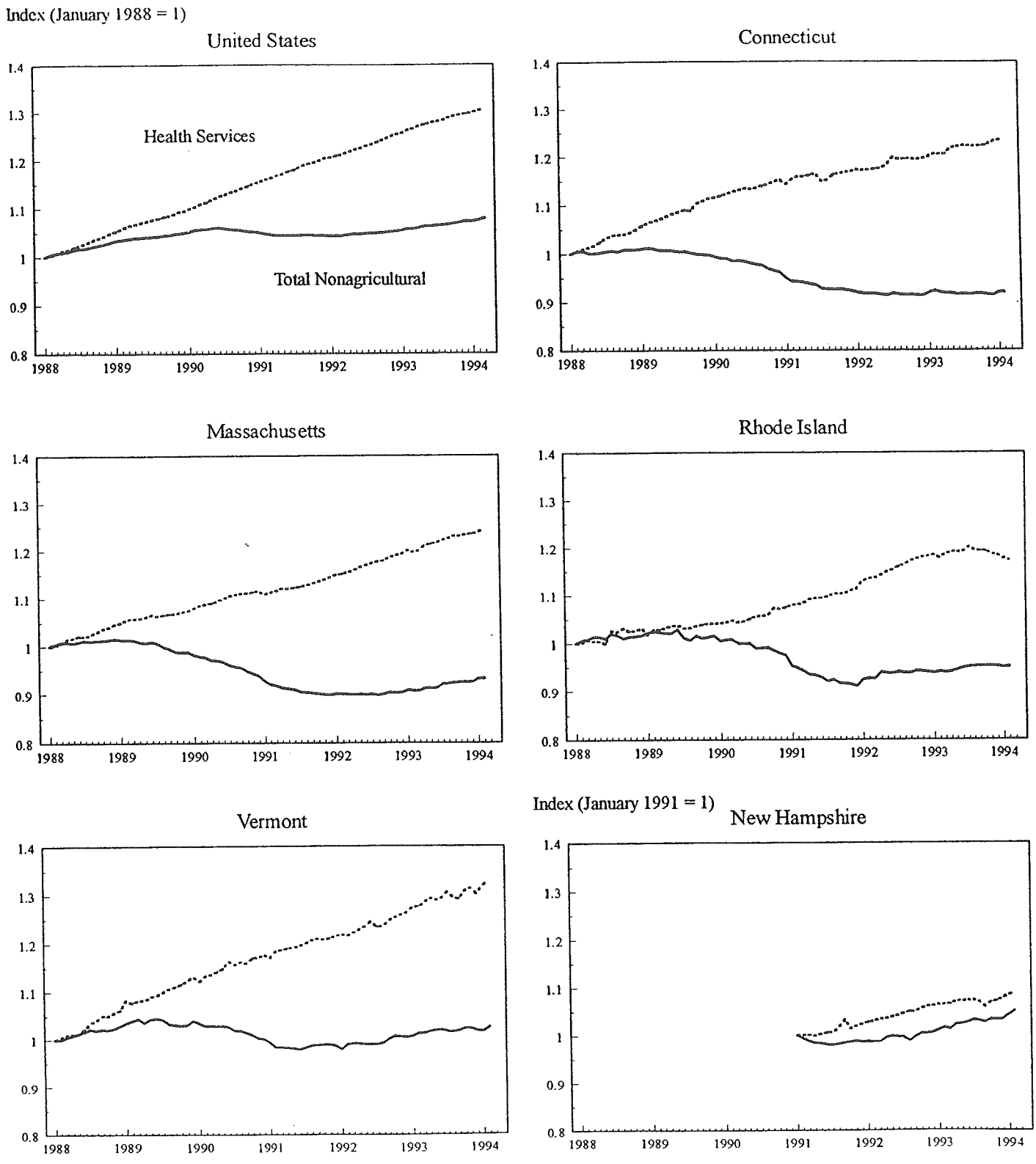
* Net of health care savings projected by CBO for 1998.
Estimates by Federal Reserve Bank of Boston based on Congressional Budget Office projections and data from Employee Benefit Research Institute.

Table 2
State Characteristics Affecting Relative Health Care Costs and Impact of Reform
by State and Region

Region/State	Relative Health Care Costs FY1991	Share of Nonelderly without Insurance Coverage 1992	Relative Per Capita Income FY1991	Relative Pay per Worker, Total 1990	Share of Families with Income below Poverty 1992
United States	1.00	.17	1.00	1.00	.17
New England	1.13	.12	1.18	1.08	.12
Connecticut	1.11	.10	1.36	1.21	.09
Maine	.85	.13	.91	.86	.16
Massachusetts	1.28	.12	1.20	1.10	.12
New Hampshire	.92	.15	1.14	.96	.12
Rhode Island	1.02	.11	1.01	.92	.15
Vermont	.77	.11	.94	.85	.14
Middle Atlantic	1.10	.14	1.16	1.13	.15
New Jersey	1.01	.15	1.34	1.18	.13
New York	1.14	.16	1.18	1.20	.17
Pennsylvania	1.12	.11	1.01	.98	.15
East North Central	.97	.13	.98	1.02	.15
Illinois	.98	.15	1.09	1.09	.17
Indiana	.93	.13	.90	.93	.12
Michigan	.99	.12	.98	1.08	.16
Ohio	.99	.13	.93	.98	.14
Wisconsin	.94	.11	.94	.92	.14
West North Central	.99	.13	.94	.89	.15
Iowa	.88	.12	.91	.82	.14
Kansas	.92	.13	.96	.87	.14
Minnesota	1.05	.10	1.00	.98	.14
Missouri	1.06	.17	.94	.93	.17
Nebraska	.93	.11	.93	.79	.11
North Dakota	1.11	.11	.82	.74	.14
South Dakota	.93	.19	.84	.70	.19
South Atlantic	1.01	.20	.97	.91	.17
Delaware	1.08	.13	1.09	1.08	.11
Florida	1.09	.24	.99	.86	.19
Georgia	1.00	.22	.91	.93	.18
Maryland	1.02	.14	1.16	1.01	.14
North Carolina	.87	.16	.88	.85	.16
South Carolina	.83	.21	.81	.83	.21
Virginia	.92	.17	1.05	.94	.11
West Virginia	.96	.19	.75	.89	.23
East South Central	.96	.19	.81	.84	.21
Alabama	.98	.20	.81	.85	.19
Kentucky	.91	.17	.82	.84	.21
Mississippi	.77	.23	.70	.76	.26
Tennessee	1.07	.16	.86	.87	.20
West South Central	.93	.26	.86	.94	.20
Arkansas	.89	.24	.77	.77	.19
Louisiana	1.04	.26	.79	.89	.25
Oklahoma	.83	.26	.81	.88	.21
Texas	.93	.26	.90	.98	.18
Mountain	.87	.18	.89	.90	.16
Arizona	.91	.19	.87	.90	.18
Colorado	.96	.15	1.01	.98	.14
Idaho	.66	.19	.80	.83	.17
Montana	.77	.12	.82	.74	.15
Nevada	.94	.27	1.04	.93	.16
New Mexico	.84	.23	.77	.81	.22
Utah	.76	.13	.77	.86	.13
Wyoming	.69	.14	.89	.86	.13
Pacific	.99	.20	1.07	1.08	.18
Alaska	.96	.19	1.10	1.31	.13
California	1.02	.22	1.09	1.11	.19
Hawaii	1.01	.08	1.11	.95	.14
Oregon	.84	.16	.92	.91	.14
Washington	.90	.12	1.02	1.01	.14

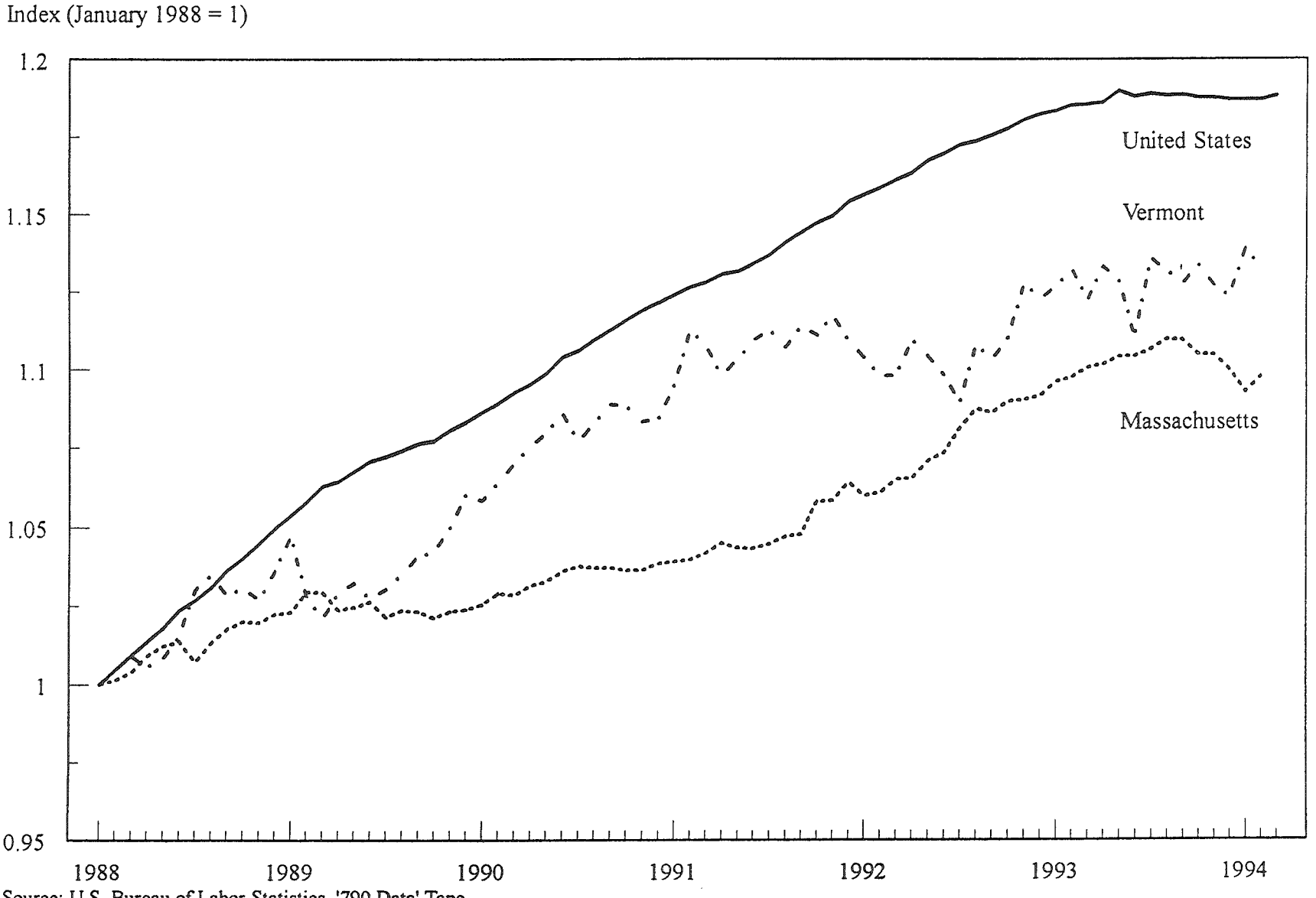
Source: HCFA, State Health Expenditures; U.S. Bureau of the Census, Current Population Survey, County Business Patterns; Employee Benefit Research Institute.

Figure 3
U.S. and New England Health Services Employment and Total Nonagricultural Employment, Seasonally Adjusted



Source: U.S. Bureau of Labor Statistics, '790 Data' Tape.

Figure 4
United States and Selected New England States
Hospital Services Employment, Seasonally Adjusted



Source: U.S. Bureau of Labor Statistics, '790 Data' Tape.

Table 3
Estimated Subsidies, Assuming FY1991 Variations in State Health Care Costs[a]
Millions of dollars, except where indicated

Region/State	Employer and Family Subsidies	Medicaid Maintenance -of-Effort	Net Subsidies	Per Capita (Dollars): Employer and Family Subsidies	Medicaid Maintenance -of-Effort	Net Subsidies
United States[b]	80,653	-11,658	68,995	320	-46	274
New England	4,392	-937	3,455	333	-71	262
Connecticut	892	-372	521	271	-113	158
Maine	314	-70	244	254	-57	197
Massachusetts	2,512	-329	2,183	419	-55	364
New Hampshire	259	-54	205	234	-49	185
Rhode Island	306	-94	211	304	-94	211
Vermont	110	-18	91	193	-33	161
Middle Atlantic	14,084	-2,764	11,320	373	-73	300
New Jersey	1,830	-346	1,484	236	-45	191
New York	7,361	-2,036	5,325	408	-113	295
Pennsylvania	4,893	-382	4,511	409	-32	377
East North Central	11,493	-2,195	9,298	271	-52	219
Illinois	3,301	-663	2,638	286	-57	229
Indiana	1,403	-343	1,060	250	-61	189
Michigan	2,480	-319	2,161	265	-34	231
Ohio	3,057	-724	2,333	279	-66	213
Wisconsin	1,252	-145	1,107	253	-29	223
West North Central	5,993	-809	5,184	336	-45	291
Iowa	771	-97	674	276	-35	241
Kansas	646	-86	560	259	-35	224
Minnesota	1,649	-228	1,420	372	-51	320
Missouri	1,948	-306	1,641	378	-59	318
Nebraska	458	-52	407	288	-32	255
North Dakota	287	-20	267	452	-32	420
South Dakota	234	-19	215	333	-27	307
South Atlantic[c]	15,030	-1,624	13,406	338	-37	302
Delaware	223	-27	196	327	-40	288
Florida	5,379	-411	4,968	405	-31	374
Georgia	2,130	-200	1,930	322	-30	291
Maryland	1,314	-252	1,062	270	-52	218
North Carolina	1,515	-272	1,243	225	-40	185
South Carolina	781	-115	666	219	-32	187
Virginia	1,183	-236	947	188	-38	151
West Virginia	739	-51	688	410	-28	382
East South Central	5,509	-358	5,151	359	-23	336
Alabama	1,464	-77	1,387	358	-19	339
Kentucky	1,301	-91	1,210	350	-24	326
Mississippi	610	-41	569	235	-16	219
Tennessee	2,134	-149	1,985	431	-30	401
West South Central	8,589	-999	7,590	316	-37	280
Arkansas	766	-60	706	323	-25	298
Louisiana	1,895	-277	1,617	446	-65	380
Oklahoma	830	-128	702	261	-40	221
Texas	5,099	-534	4,565	294	-31	263
Mountain[d]	2,058	-313	1,745	200	-30	170
Arizona[e]	908	-29	879	242	-8	234
Colorado	800	-102	698	237	-30	207
Idaho	143	-37	106	138	-36	102
Montana	152	-15	138	189	-18	170
Nevada	327	-81	246	255	-63	192
New Mexico	417	-24	393	270	-16	254
Utah	171	-43	128	96	-24	72
Wyoming	46	-10	36	101	-22	78
Pacific	12,597	-1,630	10,967	315	-41	274
Alaska	111	-27	85	196	-47	148
California	10,689	-1,325	9,365	352	-44	308
Hawaii	254	-40	214	224	-35	188
Oregon	563	-103	459	193	-35	157
Washington	980	-135	845	195	-27	168

a Range from .66 to 1.28.
b Includes District of Columbia and Arizona.
c Includes District of Columbia.
d Excludes Arizona.
e Arizona does not participate in the Medicaid program; it operates an alternative program under a federal waiver.
Source: Calculated by authors using data from HCFA, State Health Expenditures, Medicaid State Data Tables; U.S. Bureau of the Census, Current Population Survey, County Business Patterns; Congressional Budget Office.

Table 4
Estimated Subsidies, Assuming a Narrowed Range of State Health Care Costs[a]
Millions of dollars, except where indicated

Region/State	Employer and Family Subsidies	Medicaid Maintenance -of-Effort	Net Subsidies	Per Capita (Dollars): Employer and Family Subsidies	Medicaid Maintenance -of-Effort	Net Subsidies
United States[b]	80,162	-11,658	68,504	318	-46	272
New England	3,688	-937	2,750	279	-71	208
Connecticut	743	-372	371	226	-113	113
Maine	430	-70	361	349	-57	292
Massachusetts	1,731	-329	1,403	289	-55	234
New Hampshire	305	-54	250	276	-49	227
Rhode Island	295	-94	201	294	-94	200
Vermont	183	-18	165	323	-33	291
Middle Atlantic	12,088	-2,764	9,324	320	-73	247
New Jersey	1,812	-346	1,466	233	-45	189
New York	6,158	-2,036	4,122	341	-113	228
Pennsylvania	4,118	-382	3,736	344	-32	312
East North Central	12,131	-2,195	9,936	286	-52	234
Illinois	3,418	-663	2,755	296	-57	239
Indiana	1,646	-343	1,303	293	-61	232
Michigan	2,530	-319	2,211	270	-34	236
Ohio	3,113	-724	2,389	285	-66	218
Wisconsin	1,423	-145	1,278	287	-29	258
West North Central	6,077	-809	5,268	341	-45	296
Iowa	971	-97	874	347	-35	313
Kansas	753	-86	666	302	-35	267
Minnesota	1,528	-228	1,299	345	-51	293
Missouri	1,792	-306	1,485	347	-59	288
Nebraska	521	-52	469	327	-32	295
North Dakota	247	-20	226	388	-32	356
South Dakota	267	-19	248	379	-27	353
South Atlantic[c]	14,061	-1,624	12,437	317	-37	280
Delaware	195	-27	168	286	-40	246
Florida	4,739	-411	4,328	357	-31	326
Georgia	2,118	-200	1,918	320	-30	290
Maryland	1,265	-252	1,013	260	-52	208
North Carolina	1,956	-272	1,684	290	-40	250
South Carolina	1,098	-115	983	308	-32	276
Virginia	1,418	-236	1,181	226	-38	188
West Virginia	791	-51	740	439	-28	411
East South Central	5,899	-358	5,540	384	-23	361
Alabama	1,522	-77	1,445	372	-19	353
Kentucky	1,495	-91	1,404	403	-24	378
Mississippi	943	-41	902	364	-16	348
Tennessee	1,938	-149	1,790	391	-30	361
West South Central	9,632	-999	8,633	355	-37	318
Arkansas	926	-60	866	390	-25	365
Louisiana	1,791	-277	1,513	421	-65	356
Oklahoma	1,138	-128	1,010	358	-40	318
Texas	5,777	-534	5,243	333	-31	302
Mountain[d]	2,764	-313	2,450	269	-30	238
Arizona[e]	1,070	-29	1,041	285	-8	278
Colorado	862	-102	760	255	-30	225
Idaho	320	-37	283	308	-36	272
Montana	248	-15	233	306	-18	288
Nevada	365	-81	284	284	-63	221
New Mexico	541	-24	517	349	-16	334
Utah	320	-43	277	181	-24	157
Wyoming	108	-10	98	235	-22	213
Pacific	12,754	-1,630	11,124	319	-41	278
Alaska	120	-27	93	210	-47	163
California	10,383	-1,325	9,059	342	-44	298
Hawaii	251	-40	211	221	-35	186
Oregon	795	-103	692	272	-35	237
Washington	1,205	-135	1,069	240	-27	213

a Range from .90 to 1.10.
b Includes District of Columbia and Arizona.
c Includes District of Columbia.
d Excludes Arizona.
e Arizona does not participate in the Medicaid program; it operates an alternative program under a federal waiver.
Source: Calculated by authors using data from HCFA, State Health Expenditures, Medicaid State Data Tables; U.S. Bureau of the Census, Current Population Survey, County Business Patterns; Congressional Budget Office.

Table 5
Estimates of Net Income Shifts Accompanying Health Care Reform, 2004 (in 2004 dollars)

Region/State	Assuming FY1991 Variations in State Health Care Costs[a]			Assuming a Narrowed Range of State Health Care Costs[b]		
	Net Gain (Loss) from Health Care Reform (Billions of $)	Per Capita (Dollars)	Per $1,000 of Personal Income (Dollars)	Net Gain (Loss) from Health Care Reform (Billions of $)	Per Capita (Dollars)	Per $1,000 of Personal Income (Dollars)
United States[c]	0	0	0	0	0	0
New England	-1.625	-134	-3.4	-3.342	-276	-7.0
Connecticut	-1.293	-428	-9.4	-1.661	-550	-12.1
Maine	-.358	-316	-10.3	-.058	-51	-1.7
Massachusetts	.679	123	3.1	-1.252	-228	-5.6
New Hampshire	-.115	-114	-3.0	.004	4	.1
Rhode Island	-.415	-451	-13.4	-.438	-476	-14.1
Vermont	-.123	-237	-7.5	.064	124	3.9
Middle Atlantic	-3.478	-100	-2.6	-8.315	-240	-6.2
New Jersey	-1.648	-231	-5.1	-1.667	-234	-5.2
New York	-5.535	-334	-8.5	-8.478	-512	-13.0
Pennsylvania	3.706	338	10.0	1.830	167	4.9
East North Central	-5.698	-146	-4.5	-3.921	-101	-3.1
Illinois	-1.267	-120	-3.3	-.923	-87	-2.4
Indiana	-1.558	-303	-10.0	-.925	-180	-6.0
Michigan	-.529	-62	-1.9	-.364	-42	-1.3
Ohio	-2.394	-239	-7.6	-2.211	-220	-7.1
Wisconsin	.050	11	.3	.502	110	3.5
West North Central	2.396	147	4.6	2.701	165	5.2
Iowa	.013	5	.2	.529	206	6.8
Kansas	-.054	-23	-.7	.225	99	3.1
Minnesota	1.103	271	8.1	.823	202	6.0
Missouri	.816	172	5.5	.451	95	3.0
Nebraska	.177	121	3.9	.342	234	7.5
North Dakota	.242	415	15.2	.145	248	9.1
South Dakota	.100	154	5.5	.186	288	10.2
South Atlantic[d]	3.883	95	2.9	1.677	41	1.3
Delaware	.049	78	2.1	-.018	-29	-.8
Florida	5.149	423	12.7	3.622	297	8.9
Georgia	.350	58	1.9	.354	58	1.9
Maryland	-1.382	-310	-8.0	-1.486	-333	-8.6
North Carolina	-1.252	-203	-6.9	-.115	-19	-.6
South Carolina	-.896	-274	-10.1	-.085	-26	-1.0
Virginia	-1.725	-299	-8.5	-1.117	-194	-5.5
West Virginia	.194	118	4.7	.337	204	8.1
East South Central	1.554	110	4.1	2.631	187	6.9
Alabama	.875	233	8.6	1.046	279	10.2
Kentucky	-.183	-54	-2.0	.329	96	3.5
Mississippi	-.366	-154	-6.6	.486	204	8.7
Tennessee	1.227	270	9.3	.770	169	5.9
West South Central	-.686	-28	-1.0	2.084	84	2.9
Arkansas	-.011	-5	-.2	.406	187	7.3
Louisiana	-1.437	-368	-13.9	-1.671	-428	-16.2
Oklahoma	-.450	-154	-5.7	.341	117	4.3
Texas	1.212	76	2.5	3.008	189	6.3
Mountain[e]	-1.549	-164	-5.5	.264	28	.9
Arizona[f]	.897	261	9.0	1.321	384	13.2
Colorado	-.001	-0	-.0	.167	54	1.6
Idaho	-.357	-374	-13.9	.092	96	3.6
Montana	-.124	-167	-6.1	.119	161	5.8
Nevada	-.133	-113	-3.3	-.035	-30	-.9
New Mexico	-.076	-54	-2.1	.242	171	6.6
Utah	-.655	-403	-15.7	-.275	-169	-6.6
Wyoming	-.203	-481	-16.2	-.046	-110	-3.7
Pacific	4.306	117	3.3	4.899	133	3.7
Alaska	-.250	-479	-13.0	-.228	-436	-11.8
California	5.728	206	5.6	5.124	184	5.0
Hawaii	-.096	-93	-2.5	-.100	-96	-2.6
Oregon	-.385	-143	-4.6	.211	79	2.5
Washington	-.691	-150	-4.4	-.109	-24	-.7

a Range from .66 to 1.28.
b Range from .90 to 1.10.
c Includes District of Columbia and Arizona.
d Includes District of Columbia.
e Excludes Arizona.
f Arizona does not participate in the Medicaid program; it operates an alternative program under a federal waiver.
Source: Calculated by authors using data from HCFA, State Health Expenditures, Medicaid State Data Tables; U.S. Bureau of the Census, Current Population Survey, Population Projections for the United States; Internal Revenue Service, Statistics of Income Bulletin; U.S. Department of Defense, Atlas/Data Abstract for the United States and Selected Areas; The Tobacco Institute, The Tax Burden on Tobacco; Congressional Budget Office.

Discussants:

Edward Moscovitch
President
Cape Ann Economics

Thank you. I would like to begin with some points raised by Jane Little's study, and then to discuss the impact of reform on individual companies and how they compete. When you think about the impact of change in health care (or any industry) on a regional economy, you want to remind yourself of two important concepts: first, you are mostly interested in firms that sell their goods and services outside the region, that is in firms that compose the region's "economic base", and second, because cutbacks in spending on local services, like health care, will presumably lead to offsetting increases in spending on other locally produced goods and services, these cutbacks have a relatively minor effect on the regional economy. Hence, one important question is the extent to which health care is part of Massachusetts' economic base.

Health reform has already hit one part of New England's economic base because the very threat of price regulation in drugs has made it much harder for bio-tech firms to get funding. Consequently, these firms will raise less money, and they will raise it in ways that make it more likely that the job-rich manufacturing phase will occur elsewhere.

In the case of health care services, we need to know the extent to which we are providing health care to people outside the region. According to the Health Data Consortium, in Massachusetts only 5.5 percent of hospital admissions are from out of state. Thus, the health services industry appears to be largely local. By contrast, much funding for health research comes from out of state, and we get much more than our share of national health research dollars; so, as long as health reform allows New England institutions to compete successfully for NIH grants, research will continue to be part of our economic base.

Whether medical training is part of our economic base depends on who pays for it. I assume that to a large extent, we are paying for it--that we as individuals pay more for health care because we are subsidizing medical education for individuals who will practice all over

the country and all over the world. But to the extent that training costs are paid from outside the region, medical education is also part of our base. I know the hospital industry has been working with Massachusetts' congressional delegation to make sure these costs will be allocated fairly under reform.

Now, I would like to take a more micro view and ask about the effects of health care reform on New England firms competing on national and world markets. The first thing that occurs to you when reviewing Jane Little's data is that you really cannot look at the New England region as a whole. Massachusetts and Connecticut clearly differ from the northern states, and Rhode Island exhibits characteristics of each. For example, Massachusetts and Connecticut spend the most money on health care.

In her paper, Jane Little summarizes the literature comparing health care spending by people with and without health insurance. The literature concludes that spending is substantially higher for people with insurance. But does that conclusion hold for Massachusetts? Most health care dollars go for hospital care. But in Massachusetts, we already have universal hospital care. Thus, in this state, universal coverage means providing everyone with doctor care. In the short run, thus, universal access may add a little to our costs, but in the long run I do not believe that our total spending need rise much at all. For example, if three or four years down the line, people who now go to the hospital only when their problems are acute start getting care much earlier, it is not at all clear to me that the overall cost will rise very much. Certainly, Massachusetts' costs are not going to rise as much as they will nationally.

When we make coverage universal, we are also likely to make the uninsured and their employers begin to contribute. The data show that a majority of the uncovered people are employed. Presumably, thus, these workers and their employers are capable of contributing more than they do now. Accordingly, the burden on employers who currently cover their people is likely to fall.

According to the data, the uninsured are most likely to work in retail trade, construction, and non-financial services--sectors not part

of the economic base. Currently, thus, we are asking firms in the economic base, which almost without exception do cover their employees, to pay not only for health care for their employees but also for free hospital care for everyone without insurance. We are asking them to subsidize firms in the local sector that are not competing on national and world markets. Thus, an almost certain effect of universal coverage in Massachusetts will be to redistribute the burden of care in a way that will reduce costs for our most competitive industries.

Now I would like to turn to the widespread assumption that the link between business and health care is sensible and ought to continue. I believe this link should be reconsidered because it is not helpful to business, and it is certainly not sensible for individuals. True portability absolutely requires community-rated health care. A fifty-four-year-old friend called this point to my attention. She said, "Look, I can never change jobs again." Although she is perfectly healthy, actuaries warn potential employers, "If you put her into your experience-rated plan, the odds are your insurance costs are going to rise; so Mr. Employer, you are really better off hiring a younger person." Without community rating, thus, employers face disincentives to hire older or riskier workers.

But under mandated community-rated care, why in the world would an employer want his or her own health plan since he would no longer have any control over costs? The national debate has yet to take this point into account. As I mentioned before, one obvious disadvantage of the current system is that responsible employers are subsidizing irresponsible ones. In addition, from my perspective, employment-based coverage is in effect a tax on labor, which encourages producers to use more capital and less labor. Finally, if we are going to have affordable care for all, everyone must be in the risk pool. The idea that health insurance is necessary only when one becomes ill misses the basic point. You don't buy health insurance when you are young because you are likely to get sick; you buy it because you are helping to pay for the 5 percent of the population who are responsible for 50 percent of the health care spending, as Jerry Grossman mentioned earlier, because someday, your turn will come.

Once we make this observation, we can choose between two approaches. The first is similar to Dr. Grossman's approach and President Clinton's plan. The health care purchasing alliances in the Clinton plan have been criticized a bit unfairly, I think, because the President has ignored the fact that, with competition, health care costs are already coming under control. The Administration has married the notion of health care purchasing alliances, which are absolutely essential to one version of a single risk pool, with the notion of controls, which I don't think are necessary any more, and which are scaring everyone off. If we drop the controls, and keep the current forces that are controlling costs in place, we can go back to a single risk pool.

One way to develop a single pool in Massachusetts would be to expand the group insurance commission. Imagine that we all have the same employer. This group insurance office would welcome any insurer who wishes to offer a plan, and would let people choose as individuals which plan they want to join. Provided that you have the kind of risk adjustment that Dr. Grossman talked about, that arrangement should be adequate to control costs. Think of the new super stores; they push down costs not because they have large buyers but because the power of individual decisions, multiplied by hundreds of thousands, forces them to seek low costs and high quality. And I don't see why that approach can't work in health insurance. The advantage is that we don't need national regulation, and individuals will be able to choose bare-bone plans or higher-cost ones. The disadvantage is that we do not get rid of all the clerks processing paper. People point with alarm to the possibility that health care reform will put thousands of insurance agents and people who process claims out of work. Without being cruel about it, that is, of course, a major advantage of it. These people are not making anyone healthier, and we are paying for them.

The alternative, and I don't think this approach has received enough discussion either, is the Canadian plan, which has remarkable administrative simplicity. Basically, each hospital in the province gets a budget and files no paperwork at all. The rationing, which is implicit in any system, is left to the doctors. That system clearly will lead to

the greatest reduction in cost. The major disadvantage is that competition no longer controls health cost inflation.

I'd like to conclude by reemphasizing some tremendous advantages to getting employers out of the business of being at risk for health care costs. One tremendous benefit would be an enormous increase in employee mobility. It's not good for the economy to have almost everybody over 50 locked into their jobs. It is also inhibiting for employers who are responsible for someone's health care, and, in effect, destroy someone's life by laying them off. How many of you have talked to a relatively small employer faced with a question such as, "Should this employee have a $200,000 transplant?" The employer has to decide because under an experience-rated plan, the employer is going to pay for it. I certainly wouldn't want to make that decision.

Andres Torres
Associate Professor and Director of the Center for Labor Economics
University of Massachusetts-Boston

Today I would like to discuss the potential impact of reform on the health care labor force, a topic that I think warrants further attention. I believe that reform accomplished through hospital mergers and other cost-containment programs will accentuate wage inequality within the region. The trend towards ambulatory care and community-based service will have the greatest negative impact on hospital workers, especially on the service and clerical workers at the lower end of the occupational structure. We must acknowledge the potential harm to this sector when assessing the social benefits that everyone seeks from reform.

Ongoing research suggests that these service and clerical employees will experience the greatest economic hardship from the layoffs and wage freezes associated with reform. Although nursing and allied health professionals will also face cutbacks, these employees are more apt to adapt and find work elsewhere in the industry. In contrast, the less trained workers are not as likely to find new jobs with

equivalent pay and benefits. In fact, they may not find employment at all.

Hospital jobs rank among the best available to Massachusetts workers without a college degree. These jobs offer relatively good pay, on-the-job training, and the protection of a union contract. In addition, hospitals employ a large portion of the minority labor force. In particular, African-Americans comprise 11 percent of the total pool in Boston, 7.5 percent in Massachusetts. But among hospital service workers, they make up 29 percent and 19 percent at the local and state levels, respectively. Thus, we need to be concerned lest health reform compound the current racial income gap.

Because the potential increase in regional income inequality could negate some of the savings promised by reform, analysts in the field of adult education advocate the implementation of training programs to help alleviate the burden on low-wage workers in health care and other industries. They point out that we need to relinquish our stereotypical image of the poor: unemployed and marginalized, female head of household, and often, of course, a person of color. This image makes it easy to promote a "hard line" on changing the welfare system. Instead, we must recognize that since the 1980s, the incidence of poverty also has grown rapidly among the employed population. Across all racial groups the share of full-time, full-year workers who earn poverty-level wages rose by one-third over this period.

Consequently, I would argue that education and training programs for low-wage workers are a necessary component of strategies for dealing with industries, like health care, that are engaged in restructuring. We need to keep the currently employed in the labor force and move them up the occupational structure, thereby opening up entry-level positions for newcomers.

How successful are such programs? A recent study by the University of Massachusetts-Boston evaluated the Worker Education Program (WEP), an employee upgrading program operating in nine Commonwealth hospitals. WEP targeted relatively unskilled employees who showed an interest in career advancement. Although interviews with these workers revealed a huge demand for educational and training services, currently 90 percent of

the training resources in the industry go for managerial and professional staff.

WEP offered these enthusiastic workers lectures in medical terminology, Biology, English, Computer Science, Math, and English as a Second Language. As a result, we found adult learners--mostly female, many of whom had been away from schooling for ten years or more--juggling a full-time job, family, and homework assignments.

The participants greatly appreciated the opportunity to study college-level subjects linked to a career ladder. The classes enhanced their overall job performance, while improving basic skills. As a result, a small number of participants will eventually become accredited as Medical Radiography Technicians: the rest earned college credit and advanced training. The lesson we learned? When given the opportunity to invest in themselves, health care employees will shoulder almost any sacrifice.

In sum, if reform, as assessed by the Federal Reserve, leads to a modest income shift from relatively affluent New England, this transfer seems to be a reasonable trade-off for broadening the social safety net and bringing health care costs within bounds. My concern this morning is to emphasize the danger of increased inequality within the region. We must be wary of reform strategies that ignore and neglect the needs of the many families and communities that rely on health industry employment. We can start by agreeing to direct some of the projected savings into education and training services for employees within the industry, and to offer transitional support for those workers displaced from their jobs.

Market-Based Health Care: Prospects and Consequences

Market forces play a key role in most proposals for curbing spiraling health care costs. What are the prerequisites for market-based health care? Is our health care system evolving to meet these needs?

Leader:
Rashi Fein
Professor of the Economics of Medicine
Harvard Medical School

Not long ago, one could describe the organization and financing of American medical care almost without reference to geography. True, there were some important rural-urban disparities as well as inner-city-suburban maldistributions related to race, class, and income. Nevertheless, Maryland and Massachusetts were not very different from Montana and Mississippi; Philadelphia and Albany from Portland and Atlanta. With the exception of Kaiser out west, HIP in New York City, Group Health in the District of Columbia, and several similar organizations, American physicians received payment on a fee-for-service basis, hospitals on a per-diem basis. We had not yet invented the terms HMO, managed care, managed competition, DRGs, and RRVSs. A health care dictionary prepared for a subcommittee of the U.S. House of Representatives in 1976 contains none of these terms, while the entry for national health insurance says, "a term not yet defined in the United States."

Now that world has changed. Although many health system characteristics remain the same--especially the fact that most Americans with private insurance obtain it in the workplace--we have in recent years witnessed a striking reorganization of our medical care delivery and payment systems. I use the term "payment" rather than "reimbursement" to stress the importance of clear analytic terms that do not mislead us. For many years, the idea that providers were reimbursed for the costs they incurred in producing the services they dispensed colored, to our analytic detriment, our understanding of the health

sector. The implicit assumption that insurance companies and government monitored these costs to assure all were necessary implied that any unnecessary costs must be due entirely to undetected fraud and abuse. Today, we speak of purchasing, which is, in my opinion, a sounder concept analytically.

Health care terms now evolve rapidly, as new areas and new attitudes invade our analytic domain. Terms such as competition and efficiency, present in other contexts for a long time, have become part and parcel of how we, in health care, now speak. In 1976, Representative Tim Lee Carter (R-Kentucky) asked Dr. Max Parrott, the President of the American Medical Association, "What are the incentives for efficient use of medical resources in your bill?" Dr. Parrott responded, "The word 'efficiency' does not belong in the medical lexicon; that is for business." Since the term does seem to belong to the medical lexicon today, one wonders if its usage has changed or, alternatively, if medicine has become a business.

Most reform proposals before the Congress recognize that medical care is delivered in different ways and call for at least some competition between these alternative approaches. Competition, however, involves more than the desire to have new organizations that respond to consumer tastes and priorities by competing for patients and more than the "simple" substitution of "customer" for "patient." Many reforms before the Congress rely on market-based incentives and competition to contain health care costs. Advocates of these programs contend that the model of pure and perfect competition presented in elementary economics textbooks describes reality in much of the American economy and would describe reality in America's health care system if only we made a few institutional changes to permit market characteristics to flourish.

In this session, therefore, we will ask about the essential characteristics of a free market imbued with competition and, therefore, of a market-based health care system. We will explore the degree to which those characteristics are found in the U.S. health care system at present and what recent developments, unrelated to legislation yet to be enacted, imply for the development of a competitive health care system tomorrow. We will particularly want to ask whether competitive

characteristics requiring informed consumers are met presently, or can ever be met, in the health sector. That is, what are the prospects for adequate outcomes and quality measures that would inform subscribers and help make competition work? Recognizing the information asymmetries that exist between consumers and producers, patients and physicians, as well as the need for universal coverage, we need to ask about the availability of adequate risk adjustment measures in the near future. We will also try to ascertain whether competition can assure universal access to medical services, as distinct from health insurance. The significance of this question is self-evident when one considers the lack, in some neighborhoods, of retail services providing fruits, vegetables, meat, and fish of reasonable quality. Recognizing that many neighborhoods have little competition in a host of services that are more easily organized than medical care, one wonders, what would it take to improve this situation in health care?

Finally, and most importantly in this session, I hope our panelists will try to answer to what degree managed competition will help to restrain the seemingly inexorable increases in health care expenditures. Can competition do it alone? Is government regulation also necessary? These questions set the stage for our four panelists.

Panelists:

Randall P. Ellis
Associate Professor of Economics
Boston University

What is health reform all about? Most people are familiar with the three primary issues of access, cost, and quality, although the Administration has refocused the "access" issue as a "health security" issue to appeal to middle-income groups. Most recent health reform legislation has emphasized this question of security, or access, and has not yet come to grips with the difficult issue of cost containment.

A new area that is starting to dominate the reform discussion is the political difficulty of building an adequate coalition, given the

different, and sometimes polar, views of the constituents. Another issue, which has not received enough attention, is the challenge of negotiating the transition that health care reform will entail, since a number of people will become unemployed, the insurance industry will need to reformulate itself, and billions of dollars will be redistributed among employers. These political constraints and transitional problems illustrate some of the upcoming challenges.

While Rashi Fein has already highlighted some of these issues, I would like to emphasize that over the past thirty years, the form that competition takes in the health care industry has shifted. Thirty years ago, over half of all health care costs were paid out-of-pocket. Thus, even the hospitals had to worry that their charges might deter some patients. Today, with the spread of Medicare, Medicaid, and indemnity health plans, most people have insurance and, as a result, do not bother to look for the lowest-cost provider. This big change in the nature of the market has led policymakers to emphasize competition among insurance plans, rather than competition among providers.

Unfortunately, this shift has left much confusion about what managed competition is. A popular Dana Fradon cartoon from The New Yorker shows a theater with an actor in a dead faint and another actor asking, "Are there several doctors in the house, so we can have a little managed competition?" Thus, the cartoon suggests that competition will occur among doctors. In reality, managed competition involves competition among provider/insurers--HMOs, PPOs, and similar networks. Although competition among health plans could take many forms, many policymakers hope that competition will be based on price and it will, thus, provide a form of cost containment: more precisely, market advocates expect that the health plans would compete by offering lower rates of increase in their premiums. Over the past two decades, by contrast, competition has generally taken the form of quality competition, with plans competing by offering new technologies, to attract both patients and doctors. Innovation in health care has generally been cost-increasing and quality-improving, rather than the cost-reducing type of innovation that most businesses seek.

In recent decades, insurers have also commonly competed to avoid unprofitable enrollees. This effort led to pre-existing conditions exclusions and experience rating, which often raised insurance costs considerably for small businesses and the self-employed. We tend to assume that competition will allow better coverage for more enrollees, but it could instead cause health plans to refrain from offering good service in high-cost specialties, like cardiology, cancer, or AIDS treatment, to avoid attracting a disproportionate number of potentially high-cost enrollees.

One of the challenges confronting managed competition is the fact that many parts of the country have too few providers to permit healthy competition. In a 1993 New England Journal of Medicine article by Chronique, Bergman, Wenberg, and Wagner, the authors showed that most of the United States does not have a sufficiently concentrated population to support more than two networks, while a competitive market, as economists generally define it, would require the presence of at least three to four networks. This problem applies to all of northern New England and much of the Far West. It is desirable, thus, that a reform plan recognize the heterogeneity in state and regional experiences, and the geographic differences in how the health care market is organized.

Another difficulty that the current reform proposal has been unwilling to recognize is that existing tax incentives encourage individuals to over-insure. Many health care economists, and economists generally, would argue that these tax incentives should be changed to encourage more cost consciousness among consumers and providers.

Finally, at this point, there is remarkably little empirical evidence that managed competition will contain health insurance costs or discourage the development of expensive new technologies. Nevertheless, promising models have emerged in Rochester, New York, and Hawaii. In both cases, one or two dominant players, a large Blue Cross/Blue Shield plan and one large HMO, deliver closely coordinated rather than highly competitive care. They compete for market share but not by an over-provision of the same services. Rather, they coordinate the adoption of new technologies by local hospitals, and use their monopsony buying power to push down provider fees. In addition, they have taken

responsibility for free health clinics for the indigent, a choice that encourages the use of outpatient services rather than the inpatient care relied upon in many other states.

I would like to end by asking: how might we use market forces to control costs? Out of a huge number of possible issues, I have picked just a few that I think could improve the functioning of the health care markets. First, we should quickly eliminate the exclusions for preexisting conditions by offering community rating rather than experience rating. This change would end one of the most pervasive encroachments on generalized access, a development that has made it difficult for individuals to get insurance over the past few decades. This shift would require some fundamental changes in the insurance industry, but thirty years ago, community rating was the dominant method for setting premiums in most of the United States.

Second, one could end tax incentives for over-insurance, thereby making consumers and employers more sensitive to the costs of their health plans. Third, encouraging state experimentation could provide a desirable, evolutionary path to reform. Such a course would be preferable to jumping overnight into a national system with which we have no experience. Fourth, in addition to worrying about insurance coverage and other demand-side issues, we should give equal time to supply-side incentives, an area where I have focused much of my work. For example, we might consider replacing fee-for-service with fixed-income (salaried) reimbursement for doctors, decreasing the availability of expensive technologies by regulation or pricing incentives for hospitals, and increasing the proportion of primary care doctors. Finally, we should not simply debate the virtues of regulation versus competition; we need a healthy dose of both. Indeed, however much regulation we propose, competitive behavior will inevitably sneak in. We need to use regulation to encourage desirable forms of competition, rather than assuming that competition, ipso facto, will be a great thing.

Susan T. Sherry
Director of State Health Issues
Families U.S.A. Foundation

I will change the focus a bit and begin, not with economics, but with the health status of the population, arguing that this status is ultimately an economic issue. I will use this lens to look at the health care system, both around the country and nationally. My bias is that health care is not a pure market good. Market factors clearly operate, but market failures are extensive. As a result, the health care system cannot operate as a market in a pure way. Most federal and state reform proposals acknowledge that health care is a social good and, thus, call for some government role to counter market failures. However, I am concerned that the present level of political support and technical capacity may not allow the government to play its required role successfully.

I would like to present some examples of what I mean by this statement and point to where problems may emerge. The most obvious problem is that competition without entitlement creates worsening access problems and increases cost shifting. In particular, under these circumstances, competition destroys those providers whose mission is most highly focused on the underserved. Until we address this issue, which I feel has not been given adequate attention, we will continue to destroy some of the caregivers most important in improving the health status of the uninsured or under-insured.

Another problem is that competition does not necessarily contain costs. Indeed, in my experience, it frequently leads to excessive capital spending. As a primary example, Boston's teaching hospitals spent $2.2 billion in recent years for capital expansion for inpatient care, when it was clear that inpatient volumes were likely to decline dramatically. We will all have to pay for that $2.2 billion expenditure which, I would argue, will contribute little to improving the health status of Boston-area citizens.

Consolidation of health plans, prompted by the profit motive, may also cause providers to lose community ties that are important for

prevention and education and, thus, health status. Because community-appropriate approaches are fundamentally important to successful education and prevention programs, the U.S. health care system may actually be moving in the opposite direction from that needed to improve health status. Similarly, we have seen much competition for easy-to-serve patients and little competition for hard-to-serve populations, in both rural and urban areas. For example, Massachusetts General is opening a new ob/gyn unit when the area is already overbedded in ob/gyn. Similarly, health plans moving into Maine and New Hampshire are investing in the relatively easy-to-serve urban areas rather than the rural sections of these states. Nor do I see this maldistribution improving with time. In Minnesota, a state with one of the earliest systems of managed care, its plans are not, even now, investing their capital in the rural, underserved areas of the state.

I believe that government must play a strong role in health care because non-economic factors, such as prestige and medical culture, turn out to be important. For example, if the only incentives were economic, medical schools would produce more primary-care physicians rather than continuing to turn out disproportionate numbers of specialists fighting one another for business. The lack of racial and cultural diversity in our major health care institutions also influences which communities providers enter and how they serve minority populations. These problems will not be solved by letting market forces play themselves out. In fact, low-income and underserved populations have seen their access to care decline. Nor is improved information the major issue. The Massachusetts Rate Setting Commission already has data showing where preventable hospitalizations occur, but that information is not producing a shift of resources to those areas. That point raises broader questions about our ability to use health care information. The government's capacity to deal with the management of information, to provide mechanisms for risk adjustment and outcomes measurement, is at present very primitive. It will take a very long time to make these tools adequately sophisticated to be useful. Even then, what use will consumers be able to make of this sophisticated information?

Because we do not, at present, have the technical capacity to stop risk avoidance, I believe we will have a period of increasingly clear market failure. Eventually, a public backlash may create the political will necessary to require public accountability in the health care system. Only when we focus on the need for strong public accountability will we begin to see meaningful improvements in health status and lower health care costs overall.

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I want to start with a story that illustrates the frenzy now permeating the health care provider industry and Massachusetts General Hospital in particular. One of my professors, a long-time MGH staff member and a full professor at Harvard Medical School, recently told me that his 30 or 40 years of adult professional life have been shaped by the presence of three arch-enemies, the Brigham and Women's Hospital, the Soviet Union, and Yale University. Now only Yale is left.

In my presentation, I would like to provide you with some evidence that competition can have a real impact on controlling health care costs; I'll use data from Massachusetts General and other marketplaces around the United States. Then I will turn to a second subject--the importance of quality measures to improve provider performance and to permit choices on the basis of quality as well as price.

For the last 10 years, providers have been learning to live with economic pressures emerging with the transformation of the health care industry. A decade ago, almost all our business was paid on a fee-for-service basis, or on a cost-plus basis; thus, we providers were assured of a return on our operating costs, regardless of what we did. During that period, Medicare introduced the Diagnosis Related Group (DRG) system of reimbursement, which essentially fixed the payments received for any hospital admission and changed hospital incentives dramatically. Now, for the first time, Boston-area providers are seeing capitated

contracts from local insurers, which further transfer the financial risk of providing health care to the provider community.

Price competition is happening now in Boston and other marketplaces. Providers are competing with each other and with insurance companies on a day-to-day basis and are having to take steeper and steeper discounts to retain business.

As for the impact of these shifts in economic incentives, while the average 1,000 Medicare beneficiaries utilize about 2,835 hospital days per year nationally, several tightly managed California HMOs have been able to lower that rate of hospitalization for the Medicare population by almost two-thirds, to between 849 and 1,300 hospital days per 1,000 per year. These incentives have had a similar impact on the non-Medicare hospitalization rate. The average use of hospital beds by people under the age of 65 in this country is 495 days per 1000. In Massachusetts, our HMOs are getting down into the 370 to 189 range, and in some more tightly managed plans in California, hospital bed days were down in the 250 to 150 range.

What has this decline in hospitalization done to the hospital industry? I spent a day in Minneapolis just last week. In 1981, the Twin Cities area had 9,188 hospital beds, but by 1992 that total had dropped to 5,348, with an increasing concentration of those beds in organized delivery systems. I think we are just at the beginning of this kind of consolidation.

A little bit closer to home, I put together some data on average length of stay at Massachusetts General. We were up above 8.5 days in FY 1991; we are now close to 7 days, and I don't think the end is anywhere in sight. I wouldn't be surprised if, within a few years, we were down to 5 days per discharge, an average that some hospitals in California are currently achieving. After all, 30 to 40 multidisciplinary teams of physicians, nurses, and other allied health professionals are working to figure out how to streamline patient care, make it better and more efficient, and move patients through the system more rapidly.

Price-driven competition may improve efficiency and have an impact on provider behavior, but to do justice to our health care system, we need quality measures as well. Quality measures are currently an

exploding industry, with Boston serving as one of its centers. There are three main types of quality measures: increasingly sophisticated outcomes measures; process measures, such as the rates of mammography among women of appropriate age groups; and patient satisfaction measures, to provide feedback on how to improve non-clinical aspects of our performance.

Providers and consumers both need quality measurements. Providers need these measures to improve our performance, the clinical experience of our patients, and the service experience within our institutions, and to learn how to reduce costs without adversely affecting quality. Consumers need these measures to make wise purchasing decisions. However, we need to recognize that these different purposes can create tensions. For example, adjustments for severity of illness or condition now in place or under development are not good enough to allow consumers to make informed decisions about providers. Because the severity of illness varies so dramatically, those differences alone may explain the variation in outcomes that we see. In addition, physicians' fears that these measures may be used against them may dissuade them from getting involved in collecting quality information.

Information released by the Pennsylvania Health Care Cost Containment Council provides an early example of what quality information might look like. This information relates the mortality experience of every hospital in Pennsylvania that does coronary artery bypass surgery. For each hospital, the data include the number of procedures performed, the number of patients who died during the hospitalization and, based on a fairly crude severity adjustment measure, an estimate of the number of patients who might have been expected to die, and finally, the average charge for bypass surgery.

In 1990, the groups of hospitals where actual mortality exceeded expected mortality and where average charges were relatively high included the Hospital of the University of Pennsylvania. Depending on who you talk to at Penn or in the state of Pennsylvania, you hear markedly different interpretations of these data. Some would say that the Hospital of the University of Pennsylvania takes the sickest patients in the state and was unfairly penalized by a system that

doesn't adequately adjust for the severity of the cases they face. Others say that the cardiac surgery department at Penn had real problems, and these data helped uncover them. This is an example of the kind of debate and tension that available outcomes measures, which are clearly quite crude, are likely to produce.

Massachusetts General belongs to an organization called the Academic Medical Center Consortium, made up of 12 academic medical centers from all over the country. This organization is involved in an undertaking called the Quality Measurement and Management Initiative, for which we are collecting simultaneous information for all patients undergoing angioplasty and coronary artery bypass surgery in our institutions. To give you a sense of the overwhelming complexity of developing adequate outcomes measures, we are collecting demographic, health status, clinical status, process of care, and satisfaction data for all of these patients. At Mass General, they number about 2,000 patients per year, and we are collecting data at different times on the course of patients undergoing these two procedures. We collect a lot of information at the initial encounter, more information during the hospital stay, and immediately at discharge, as well as information two and six months after discharge. The main purpose of this effort is to identify where we can improve our performance, be it in terms of doing things less expensively or achieving better outcomes.

In sum, the message I would like you to take away today is that we have growing evidence that competition dramatically affects provider behavior. However, unless more hospitals get involved in careful and coordinated quality measurement, our health care system may come to be driven largely by economics, an outcome that may not be in the best interests of our society.

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I want to begin by making the distinction between the health care market as a whole and smaller markets within that market. To think about competition versus regulation in the health care market as a whole does us all a disservice. Some market forces are working quite well, while others are not. Thus, we need to focus on the details of getting the right combination of market-based competition and regulation for the next 10 to 30 years.

For example, market forces that encourage providers to seek the lowest-cost methods are working well. In many areas of the United States, including here in New England, the private market is moving rapidly, without any government push behind it, to develop new incentive structures that divide the risk for medical costs between insurers and providers. With so many experiments under way, we need to be gathering data as fast as we can to assess which programs work best to encourage physicians to seek the most cost-effective form of care.

Market forces also are working well in providing consumers with incentives to be more cost conscious. Increasingly, we are seeing experiments with higher co-insurance and co-payments, particularly for services like mental health care or cosmetic plastic surgery, where the elasticity of demand is relatively high.

Market forces are not working very well, however, in the health insurance market. At present, insurance premiums are based largely on where one works--that is, on the size of one's employer group and the age of one's fellow workers. Job-based insurance leads employers to make inefficient decisions in their hiring practices, encouraging a preference for younger, healthier workers despite laws against age discrimination. It also encourages employers to substitute capital for labor, particularly for unskilled labor, as the costs of health insurance rise.

We need to move, therefore, beyond thinking about market-based competition versus regulation and focus instead on how to combine the

best of competitive forces and the best of regulatory forces. Public sector involvement should take the form of providing for universal access to health care and community rating, with appropriate risk adjustment. The government also needs to define the minimum health insurance benefits packages and set standards for minimum levels of quality of care.

On the other hand, insurance itself should be left to the private sector so that market forces provide incentives for finding least-cost production methods. The past few years have seen a remarkable transformation of the relationship between providers and insurers in terms of who bears risk. I want private sector innovation to continue to redefine these relationships between insurers and providers. I also prefer market-based competitive forces to encourage technological advances that lower the costs of producing a given level of medical care quality. If a regulatory body were to decide which technologies could or could not be pursued, it would most likely focus on short-term cost-benefit analysis, rather than thinking in terms of a 25-year planning horizon.

Nevertheless, we should be wary of current drives towards consolidation of market power. Where there are economies of scale to be gained, these consolidations are indeed increasing efficiency, as in the super HMOs created in the last few years. However, additional consolidation may produce monopolistic competition rather than economies of scale. We need to create a public oversight capability to prevent the eventual loss of the beneficial market forces we are trying to encourage.

I'd like to react briefly to Jane Little's arguments made earlier this morning. She suggested that New England might lose under some health reform proposals because much of the population without health insurance lives outside the region. However, New England has been losing business and younger workers to companies located outside the region, in part because of our high benefits costs. We are caught up in a vicious cycle where insurance costs more because we have older workers; then, younger workers say, "Well, if I have to pay that much, maybe I'll go to another part of the country." If we adopt a national plan for universal

coverage based on community ratings with proper risk adjustment, then New England will gain because the playing field will be made more level.

Finally, economists do not generally choose between competition and regulation--rather, they view taxes and subsidies or regulations as tools that government can use to encourage competition. Thus, we ought to be asking: What is working well in health care markets, like the managed care organizations' incentives for physicians to seek out least-cost methods of providing medical care at a given level of quality? And we also ought to be asking: How can we create regulations and public oversight that do not mess up competitive forces? The most important message we can take from this session is the need to think in terms of a 10- to 30-year horizon and to adopt strategies that allow for continual reevaluation. The public needs to understand at the outset that health reform is a long-term, iterative process that requires constant attention. If the public does not understand that point, we could get a backlash from the citizens, and that would produce the worst kind of public policy imaginable.

Address

The Honorable Howard Dean, M.D.
Governor of Vermont

It is important that we start by understanding that, politically, the move toward national health reform is not driven by concern for the uninsured. It is driven by middle-class people with insurance, who throughout the last recession were very afraid of losing their insurance, very afraid that, if they ever lost it, they would never get it again because they had pre-existing conditions, and very afraid that they would no longer be able to afford insurance in any event since hard-pressed employers were increasingly shifting a bigger share of premium costs onto workers.

The last recession accelerated a 20-year trend and made people with insurance part of the constituency to reform the health care system. To some extent, the recovery has tempered that phenomenon. In addition, the American body politic tends to find, as it gets closer to the tough choices needed for reform, that they all look less attractive. That realization is what is slowing health reform.

I was asked to tell you about what is happening in Vermont. Last year Vermont's approach looked a fair amount like the Clinton Health Plan--not coincidentally, since a number of my staff were members of the Secret 500 that The Wall Street Journal listed as part of the Administration's Task Force. We worked out a lot of difficulties together. Basically, our plan had a system of alliances, an employer mandate, and many of the features found in the Clinton plan as it was presented.

What has happened since then is pretty interesting. In Vermont's House, the Democrats have about a 3-to-2 margin. The Democrats are very liberal--more so than the electorate as a whole. They tried to pass what amounted to a single-payer, tax-based system, but the public said they

couldn't believe what the legislature was doing and would they please stop right away. Ultimately, the tax-based system got 29 votes out of 150, and the House was unable to reconstitute support for the original employer-based system. Instead, they simply passed a bill that put everything off by a year, and promised universal health care by 1996; they just couldn't figure out how to pay for it.

We are now moving a bill with a stripped-down employer mandate through the Senate, which is controlled by the Republicans, 16-14. In this bill, the employer will gradually become responsible for up to 50 percent of the insurance premium. The bill provides a lot of subsidies for small businesses since we are a very small-business-oriented state. It is going to be a very tough sell, particularly in the Senate Finance Committee, which is highly polarized. The minority Democrats are basically "single-payer-or-nothing," and half the Republicans are basically "we-don't-want-to-do-anything."

But while I was lobbying some Senators, I found out what really turned the tide on health reform. One Senator, a very bright fellow from a conservative district, said, "You know, a giant sucking sound was heard all over Vermont when the Burlington Free Press put a table on the first page showing what would happen to everyone's income tax under the single-payer system. The sucking sound was a universal gasp when average middle-class people saw that their income tax was going to double." Possibly the newspaper didn't say that premiums wouldn't have to be paid anymore; everybody just saw that their income tax was going to double, and they called the legislature collectively and basically killed health reform.

There is a lot of difference between our liberal House and the U.S. Congress, but the dynamic is the same. Things are getting a little better; a lot of people who have insurance are not as terrified as they were. And they have still not recovered from what I call "reverse sticker shock." Health care costs are still rising at two and three times the rate of inflation. But now, the rate of inflation is 2.7 percent instead of 8 or 12 percent, so businesses think they are doing well when their health care costs only rise 8 percent. That euphoria may vanish during a prolonged period of inflation.

In our state, where we have been debating health reform for over three years, we have already passed a major bill doing a lot of the things found in the Clinton bill; we've already done small group and individual group reform; we've already instituted community rating and malpractice reforms and things like that. The public, having struggled with health reform for three years, is only now coming face to face with the very difficult choices. There is no reform that is a free ride for anybody, no reform that does not carry up front difficult choices and painful changes.

Now, some opponents of reform are pushing, in my view, dishonest buttons when they talk about a loss of choice with alliances. Loss of choice will not occur in rural states like Vermont. We will have maybe two alliances for the whole state, or maybe one alliance and two provider networks: so, obviously, most providers are going to sign up with both networks, and, for the most part, choice will prevail.

Another difficulty is that somebody has to pay for reform. Ultimately, I believe, health reform pays for itself, but guaranteeing everybody insurance requires putting new money into the system. That is a fact of life whether reform occurs at the federal or the state level.

The federal government ostensibly has an easier job. When Hillary Clinton and Ira Magaziner revealed how they were going to pay for health reform, I burst out laughing, because governors can't pay for things with CBO scoring and future savings, but Presidents, I guess, can. Still, the fact is, no matter how you say you are paying for it, health care has to be financed with real dollars, and that means painful choices.

I have been talking about state initiatives in Vermont, but I promise you it's the same for every state in the Union except Hawaii, where their system has been in place for 20 years now. In Minnesota they can't find the money to do universal access. In Oregon people are signing up for the altered Medicaid plan so fast that they can't find the money to do reform in Oregon. In Washington they will be phasing in universal access and a payroll tax through 1999. In every state with progressive reforms, change has been slowed substantially by the fact that you have to make difficult choices.

Health reform is such an arcane matter that most people don't understand what is happening until someone puts a graph on the front page of the newspaper showing what will happen to their taxes under x plan or what they will get under y or z plan. One reason that single-payer is appealing is that it is easier to understand. Even though people know that the government should not be running the health care system, they finally throw up their hands when they hear about all these alliances and subsidies and so on, and say, "Oh well, maybe we should just go to single-payer; it seems so much easier."

So, in short, the ambitious reforms we had envisioned for Vermont are not dead, but their breathing is labored and they are hooked up to all sorts of resuscitation equipment. It is hard to be optimistic about getting universal health care by 1995, the goal of our original bill, but reasons for optimism persist--both at the federal and state levels.

One lesson we've learned from the seven or eight states that have tried reform is that the federal government really has to have a substantial role. A big state probably can't count on federal subsidies without a national bill. A small state like Vermont might have been able to get some federal money--it would not cost the federal government much to help us with Medicare and Medicaid. (In our plan Medicare and Medicaid recipients are folded into the same system as everybody else--an approach I think is an ultimate necessity in health reform.)
At the federal level, I think reform efforts may be picking up some steam, because people understand that this problem is not going to go away, and that there has to be a federal role; letting the states go forward on their own will not be enough.

My great fear is that federal legislation will be incredibly centralizing. The federal plan will clearly not be labeled single-payer, but it may end up leading to a Medicare-type system (which is, in fact, single-payer), and I don't think anybody in the health care business would welcome Medicare for All.

Medicare is a living, breathing advertisement for why the federal government should never be allowed to deliver health care. My wife is still in active practice--a three-person, rural practice outside of Burlington. One night she came home about nine o'clock and said, "You

know, we got a bulletin from HCFA about six months ago, telling us to fill out the Medicare form differently, and so we have been. We just heard from them again--they've changed their minds. They sent us back 600 forms, requesting that we redo them the way we used to, and resubmit them in order to get paid. To make matters worse, they had a clause at the bottom of the bulletin saying, 'You may be fined $10,000 and imprisoned for not less than five years if you don't comply.'"

I said, "This is absurd; this is really not fair," and thought, "Perhaps I ought to take care of this problem." The next day, as I was driving to Brattleboro, about two and a half hours from Burlington, when I figured the Burlington HCFA office would be open for business, I called to try to explain that things weren't going so well, and what do they mean by having us redo 600 forms. I got a recording saying that the Burlington office is closed or busy, would you please call another area code, which turned out to be Maine, and so I did. I was on the phone for about half an hour. Every once in a while a short recording would say "Your call is being automatically processed. You are in line, and the next available person will help you." Then--I have to confess, whoever thought this one up ought to get an award for customer service--they actually have a real person who comes on the line during the five minutes between messages and says, "Would you mind waiting just a little while, sir? Someone will be right with you."

I got more and more agitated, the closer I got to Brattleboro. I finally arrived, half an hour early, and I still hadn't reached anybody. As the time for my speech approached, I finally broke and said, "Look I've been on the phone for an hour, and I've really got to talk to somebody." "Yes, someone will be right with you. Your call will be automatically forwarded."

The next time I was really agitated and said, "Look, damn it, I'm not just some doctor, I'm the governor of Vermont." And they said, "You'll wait in line just like everybody else, your call will be automatically forwarded." That is one vision of the U.S. health care system if we don't have significant state input.

By contrast, I always have nice things to say about Medicaid. For most states Medicaid works really well--the exceptions being New York,

California, and Massachusetts. Of course, Medicaid under-reimburses doctors, who fuss about that, but, if you have a problem with your billing, you call somebody local, possibly as far away as the state capital, and you deal with people who, if you don't know them personally, you usually know someone who does. What's the difference? The difference is that Medicaid is run by the states--within federal guidelines.

One aspect of the Clinton plan that is attractive to governors is that it is basically a partnership between the states and the federal government. We willingly ask the federal government to set the benefit package and tell us how to finance health care, so that the system is uniform across the country, but we retain a lot of flexibility in designing the delivery systems. Delivering care in Roxbury is not the same thing as delivering care in Groton, Vermont. Bill Clinton understands that principle and incorporated it into his health care bill despite opposition from some people in the Administration who thought Medicare for all was a much better scheme. Well, it isn't a much better scheme. Those of us who have taken care of patients and administered hospitals know that the most dangerous thing would be to have a system that looks like Medicare, because that would end innovation and deep patient caring.

It's possible that state initiatives, although they are not marching rapidly through state legislatures right now, will achieve reform before the federal government does. These state efforts are also very important, because they teach governors and state legislators, who may be governors or Congresspeople someday, that one size does not fit all in health care.

That, I think, is the most important news on state initiatives, except for developments in Hawaii, which show that in fact employer mandates do work and are not catastrophic for the small business community. It will be difficult to put employer mandates in place on a state-by-state basis, but it can--and clearly should--be done at the national level.

Let me talk a bit about Jane Little's study, which I have not had an opportunity to read. We did get a brief chance to chat at lunch and

agreed that New England is not as integrated as we often say. Thus, some of the things mentioned in The Boston Globe article may apply to Massachusetts but not to Vermont. For example, I read that the cost of health care in Massachusetts is 28 percent higher than the national average. In Vermont, we have the forty-eighth lowest expenses in the entire country. In addition, given our extensive small business community, Vermont would clearly benefit from national premium subsidies aimed at small business.

Vermont's rank in personal income is twenty-fifth in the country--significantly below Massachusetts' and roughly on a par with Maine and New Hampshire's figures. So the northern New England states will see more tax dollars coming in as subsidies and fewer tax dollars going out, because our incomes are simply not in the same ball park as Massachusetts'.

In the long run, health care will not be the engine of job growth it has been in the past, whether we have national health reform or not. This slowdown in the growth in health care jobs is going to happen principally because the private sector is exerting tremendous pressure to control costs.

This morning's Globe article described the large share of all jobs in health care and how those jobs grew right through the recession. That happened in Vermont as well. At both Dartmouth and the Medical Center of Vermont, our two major medical centers, employment grew significantly throughout the recession. However, even though our unemployment rate is dropping dramatically, we have lost 200 health care jobs in Vermont in the past six months. Those jobs were picked up in other areas like construction, financial services, other insurance and so forth.

I believe we will see a shakeout in health care that will have a significant effect, particularly in Boston where you have so many teaching hospitals and a heavy concentration of high-tech medical care and specialists. But, in general, whether we are speaking of Vermont or Massachusetts or Texas, the number of specialists will fall, and the relative number of primary care physicians will rise, even without health reform legislation. A fundamental mistake made by conservatives--but not by anyone associated with health care--is the belief that

patients make substantial health care choices. That isn't true, and it isn't going to be true. I believe in deductibles, and I don't believe in first dollar coverage. But deductibles just influence whether somebody goes to the physician for an initial visit. In Vermont that initial visit costs $35 to $40, but let's say that it is $100 in Boston and New York. If you take all the $100s from office visits forgone because of deductibles, that value is such a minuscule amount of the total health care bill that I predict you wouldn't see any effect at all.

However, if you can alter the habits of the people who really do make health care decisions--the physicians--then you are going to see a very substantial effect. I have never in ten years of practice and three years as a resident and house officer seen a patient with crushing substernal chest pain jump up off the table and say, "Doctor, the guy down the street does it $2,000 cheaper, I'll see you around." That doesn't happen. You may price shop, and you may get a second opinion, but if you're told you need a coronary artery bypass arteriograph, you are going to have one. The patient does not make that kind of decision, and that is a $40,000 item, not a $100 office visit. So, I submit to all who think that medical IRAs will help control costs that if you believe that consumers can make intelligent choices at a time of high stress when most consumers are unable to evaluate medical options in the first place, you've got another think coming.

I've taken care of physicians, including chairs of departments, who presumably were more knowledgeable about a variety of medical illnesses than I, and they were the worst patients, because they were attempting to make informed decisions at a time of severe stress. You would not buy a $20,000 car or a $150,000 house if you had chest pain and difficulty breathing--you don't make such decisions when you are under extreme stress. Even if every consumer in America had as much knowledge about the alternatives as a physician, he would not be able to make informed medical decisions for himself.

Jack Wennberg has done some extremely important work at Dartmouth on the role of patients in collaborative decision-making, and ultimately there will be a lot of benefit and some savings from that process. But for the vast majority of Americans today, the person who makes the

decisions about how much hospital care to use and what it is going to cost is the physician. How do you alter their behavior? Through capitated care, which also, I believe, results in much less bureaucracy.

We had about 35 percent of our patients in capitation when I was in practice; we didn't have to send out bills, had minimal forms to file, and never had to worry about whether the patient could or would pay. We didn't have to cope with utilization reviews, because if you don't get paid any extra for doing five cardiograms when one might do, there is no need to send a team of bureaucrats to evaluate.

Quality assurance and standards of practice are very important, but I think utilization reviews should be eliminated, and that can be done by capitation. A capitation system makes a global budget much easier. Most people are terrified of global budgets because they think some national health board will go through each procedure and set a price and then set an overall budget and tell doctors how to practice medicine.

That need not happen if we have a global budget. And if we don't have a global budget, we will never be forced into making the difficult decisions. One alternative is an Oregon-type system, where you decide not to pay for this in order to pay for that, but I personally believe that those decisions ought to be made by the patient, the family, and the physician, and not by the government.

Now, the government clearly cannot write a blank check any more than the private sector can; so I believe that a global budget-- which is simply the number of patients times the capitation rate, plus a factor for population growth and some technology improvement--is the most reasonable way to go.

We are heading towards some workable combination of competition and regulation--whether you want to call it managed competition, or whatever. The private sector has already devised a number of solutions that will be added to whatever emerges from Congress. At lunch somebody said that alliances are dead. I can assure you that alliances are not dead; they are alive and well in the private sector. They exist today without any enabling legislation simply because they make sense. I think

the federal legislation will recognize their usefulness, although they may be included as voluntary rather than mandatory entities.

In the end, even if we change fundamentally the way physicians make decisions, we will need regulations, because the dynamic of the third-party-payer system has removed all financial considerations from care for so long that no responsible decision-making about the allocation of resources in health care occurs.

If we are going to have a free market solution to this problem of incredible cost overruns--to use the defense analogy--and of allocating care to human beings who are not getting it, we are going to need to restructure incentives, but we are also going to need some regulation. If we don't get federal legislation, you will see more attempts by the states to set up their own systems and go forward from there.

Governor Dean made the following comments in response to questions:

- Health reform won't work without an employer mandate, although that doesn't necessarily mean that the Congress will pass one. If an employer mandate is not included, we are in significant danger of having a much larger government role later on. We are likely to get universal access or a phased-in promise of universal access for which we will be financially responsible. But if the Congress does not include a payment mechanism with caps, then we will have created a new entitlement, with no caps--the worst possible situation. That's likely to lead us to a Medicare-for-all type of system.

  The real risk is that we will create an entitlement to insure everybody, but we won't finance it properly at first, and then we won't control the costs as we go down the line. The government reaction to that situation may be very dangerous.

- I've spent a fair amount of time talking to senior executives at Fortune 500 companies about state alliances. They are always amazed to hear that with a federal benefit package and a federal financing system they will not have to worry about different medical packages in however many states they are doing business in. The only difference will be in the delivery of services. Your contract with the alliance in state A doesn't have to be any different in terms of benefits than it is in state B. What may differ is the alliance's organization and its relationship with its providers.

  For example, in order for a network to be certified in Vermont, its patients must be able to get to a primary care office in thirty minutes, a secondary care office in one hour, and a tertiary facility in an hour and a half. The purpose is to guarantee that a service network can provide care to everybody, because, as many people have said today, universal access is not universal access if you are four hours from the nearest physician.

  Such a regulation may not be necessary in an urban state like Rhode Island, where it would be easy to find a physician within thirty minutes. In Rhode Island you can drive across the state in thirty

minutes, so that's not an issue. Getting access to health care may be a problem in Boston, however, because some physicians are not interested in practicing in inner-city neighborhoods.

Rules for alliances will differ as states find necessary. But the basic financing packages, the part that national corporations really care about, would be the same. Currently, multistate employers face the big problem of differences in state mandates: one state mandates chiropractic, another mental health, a third mandates substance abuse. In the long run, one federal benefits package would be easier for multistate employers.

- Vermont has had a very positive experience with community rating. We have some of the toughest community-rating laws in the country. We have community-rated groups as well as small businesses, so that small firms could not avoid community rating by giving their employees cash to go into the individual market. We have seen rates go up for young folks who weren't very ill. While that has been difficult, we made a deal with Blue Cross/Blue Shield that they would take those so-called safety net folks and limit their annual rate increases to 15 percent.

One big benefit is that a lot of insurance companies that should not have been in the health insurance business to begin with have left the state. A number of companies would insure young folks at very low premiums and then, if there was a serious problem, would not renew their insurance. I particularly remember a young woman with a very serious illness that was going to cost several hundred thousand dollars, if she survived, and the insurance company just dropped her.

Needless to say, those practices are not true insurance, but money-making schemes. We are not interested in having those people in the health insurance business. Now we are left with a relatively small number of reputable companies, very large companies that want to compete, and that is fine.

Community rating must apply to everybody, not only in the small group but also in the large group market. Our bill provides that any price that any alliance, private or public, negotiates with a provider serves as the benchmark; under no circumstance can a provider negotiate

a price with any other alliance that is more than 10 percent higher than the lowest one negotiated. That provision essentially forces a community-rating band of 10 percent. Our community-rating band for the individual market is 40 percent, down from about 400 percent, and it needs to be squashed down some more, but I don't think a 10 percent band in universal community-rating is unreasonable. It gives individual companies an incentive to do wellness programs and to work with employees to keep health care costs down.

Vermont is a small business state, with about 10,000 businesses with 10 or fewer employees. Half of those businesses help out with health insurance premiums, usually paying from 50 to 80 percent of the cost; half of them do not.

It is difficult to compete with your neighbor across the street, if you are paying for health insurance and they are not. Either everybody should be paying or everybody should not be paying. If you believe that everyone should not be paying, then you are talking about a government-run, single-payer system.

If you believe that an employer-based system is the right system, then obviously all employers ought to be treated equally. If you go to an individual mandate, you are forgoing revenue from all employers, and taxpayers have to pick up the difference. There is a limit to how much of a tax burden people are willing to bear to cover the uninsured. Without an employer mandate, you raise that tax threshold dramatically.

Let's say we are working with a three-legged stool--the taxpayers, the individuals who are going to pay for a share of their insurance on a sliding scale, and the employers. If you take the employer leg away, the other two shares go up. The fundamental problem with the individual mandate is that the uninsured are uninsured principally because they can't afford it. Without any employer contribution whatsoever, they are even less likely to be able to afford it.

Another problem with an individual mandate is that it is inherently unfair to the companies that are now providing insurance. Our Republican Senate wants very much to do something about health care. These Republicans are philosophically predisposed toward an individual mandate, but they included a clause in their bill saying that if you

give insurance now, you can't stop. The newspaper reporters asked, "Isn't that an employer mandate?" Well, gee, I guess it is.

If you tell an employer under financial stress, "Go ahead, you can stop providing insurance to your people; they can go into the pool with the people with the individual mandates," then you are essentially shifting from an employer-based system to a government system, because the incentive is for more and more employers to follow that course. As a result, more and more government dollars will be needed to cover the individuals who cannot pay the entire freight. If you simply say that employers currently providing insurance must continue to do so, then you are essentially ceding the reform debate to those who want a government-financed system. And in the long run you are not going to see market-based reform if the government is running the system.

- If people want more than the basic package, I would just say no. I'm very good at that. When I took over, I had every interest group in the world parading through my door. With a budget deficit that amounted to 10 percent of the budget, I just said no, no, no, no--no to the chiropractors, no to the disability community, no to the folks with AIDS, no to the middle-class. One of the problems with America today--and Vermont is no exception--is that people want more benefits and lower taxes. Those two are not compatible, but if somebody doesn't stand up and say so, people keep believing that they are; so I just say no.

- When I started in the legislature, I argued, to no effect until recently, that mental health ought to be treated like every other disease. Mental health practitioners like that until they hear the rest--that we should be capitating all medical services. Mental health ought to be treated like every other disease and capitated like every other disease. You cannot have a blank check, as in the current mental health system based on fee for service. But, in the long run, if you don't treat mental health like everything else, you end up with more problems, more hospitalizations, and more expensive care. It's high time to have parity; it's not such an expensive and terrifying position as many opponents believe.

The big difference between a large government bureaucracy and corporate bureaucracy is the degree of competition. A physician signed up with a large bureaucratic HMO has the option to sign up with another HMO, telling the first not to send any more patients. If you are a patient and you feel that your case has been handled in an unsympathetic way, you can sign up with another HMO. If there is only one system run by the government, you may not have that option.

We have rationing right now--we simply ration by ability to pay. If you don't have insurance, you don't always get your choice of emergency room or get medical care the way it's delivered to everyone who does have insurance. The question is, are we going to have a rationing system based on ability to pay or a rationing system based on something different? In my view, the best form of rationing would result from the pressure of budget caps on the nucleus of the patient, the physician, and, if the patient is not fully able to participate, then the family.

Even now, not all rationing decisions are made because the family cannot pay. I've sat by a lot of people's bedsides in intensive care and said I don't think there is anything more we can do. Should we use such and such a machine to keep the patient alive for another two weeks and see if we can do anything, or should we not? The usual answer is, no, we won't. Of course, the answer often depends on how I present the options, which goes back to my earlier point; consumers cannot be expected to make informed, unemotional decisions the way they do when they buy a house or a car. So, yes, there will be rationing, there is rationing now, there is rationing in every system of universal health care in the world. Ours will not be an exception.

Our costs are out of control because nobody wants to make difficult decisions if they can possibly avoid it. Canada's costs have also been soaring. In fact, a very interesting study from New York University shows that Canadian costs since 1963 have gone up slightly faster than our costs in the United States. Why? Because their budget allocation for health care is a political decision, and they are terribly afraid of mentioning the "r" word. Rationing certainly does not occur on the floor of Parliament. Canadians have essentially mortgaged

the future of their country to social services. (As you know, their deficit is several times ours in terms of share of GNP.) They have mortgaged the future of their country to avoid engaging in this debate. We are headed down the same track, albeit it in a private system. So, there will be rationing, but with capitation and global budgets, rationing decisions can occur at the most appropriate level, in a discussion between the patient, the physician, and the family. Lest I seem naive, the insurance company will certainly be in there--either the insurance company or the local HCFA administrator. I think I prefer the insurance company.

- The disadvantage of a two-tier system in which the wealthy can buy more or better care than that found in the mandated package is that it is morally offensive to many people. The disadvantage with trying to stop it is that you create a set of bureaucratic hoops to no avail. If people have the ability to pay for something they believe is in their own best interest, they are going to do it. When people raise the issue of the two-tier system, I say "Look, we have a lot to fix for the 95 percent who aren't in the second tier, so let's worry about fixing the first tier. If the 5 percent have the wealth to do something else, let them go ahead and do it--that is not my worry right now."

Changes in the Industrial Organization of Health Care: Lessons from Inside and Outside the Industry

Consolidation is changing the structure of the health care and health insurance industries. Who will "manage" managed care, and what are the long-run implications for quality and costs?

Leader:

Paul L. Joskow
Mitsui Professor of Economics and Management
Massachusetts Institute of Technology

The purpose of this session is to examine the industrial organization of health care and how it is changing in response to tightening financial constraints and health reforms at the federal and state levels. The industrial organization of the health care sector has already undergone substantial change in the past decade. The past ten years have seen a doubling of enrollment in health maintenance organizations and major changes in insurers' behavior. For example, at MIT, where I work, a large percentage of the faculty and nonunion staff are now served by managed care options. We have also seen a gradual decline in general hospitals and general hospital beds, although the population has continued to grow. During this period, multistate hospital chains that own or manage general and psychiatric hospitals have grown in importance, and mergers between hospitals have become more common. The Department of Justice and the Federal Trade Commission, both responsible for enforcing the nation's antitrust laws, are trying to gauge how to balance competition and the need to increase efficiency by consolidating hospitals.

The mix of services hospitals offer has changed as well. Hospital admissions per capita have declined for at least ten years; inpatient surgical procedures have stagnated while outpatient surgical procedures have grown; yet, despite these changes, the average cost of a hospital stay has continued its relentless rise from year to year, and we continue to see wide regional variations in cost-per-stay.

Partly in response to federal reform efforts, horizontal and vertical integration in the health care industry has accelerated. Many hospitals have decided that, in the new world of managed competition and intensified cost control, their future lies with vertical ties between hospital and physician groups to assure markets for both. Meanwhile, hospitals and physician groups are increasingly viewing horizontal alliances, product differentiation, and service specialization as effective competitive measures, given the current changes.

These horizontal and vertical alliances may increasingly conflict with traditional antitrust rules. Indeed, these changes inevitably lead to questions about whether organizational arrangements aimed at increasing efficiency are compatible with the goal of relying on more competition. Can we have managed competition with fewer and fewer competitors? Do the special characteristics of health care and health insurance require the creation of health care alliances, community rating, and organizations with monopsony power to foster meaningful competition that focuses on cost and quality, rather than merely on risk selection? Inevitably, the question becomes, how do we balance imperfect markets and imperfect government regulation? In this morning's discussion, I noticed a tendency to talk about an enlightened, benevolent regulator who did not become too involved in your business. As a student of government regulation, I can tell you there aren't many of those regulators.

In these opening remarks, I have mentioned only a few of the changes taking place in the industrial organization of the health care sector. Our distinguished panel will discuss these and other trends in more detail.

Panelists:

Frank Greaney
Vice President
Aetna Health Plan

All participants in the medical-industrial complex, including those of us in the insurance industry, find ourselves experiencing a revolution, born of necessity, driven by economy, characterized by powerful macroeconomic factors, yet touching intimately the lives of everyone from birth, through life, until death. Like life itself, it seems to be fired upon us at point-blank range.

Two major causes of this revolution--cost and access--have been discussed thoroughly. As a society, we deal best with those problems that are easy to solve, or that we can no longer ignore because they have become crises. Our chronic health care problems have finally reached crisis stage and have, thus, prompted a spirited national response. We now face an amazing array of new organizational structures and creative partnerships, each designed to deliver high-quality health care while controlling costs.

Companies like the Aetna, smack in the middle of these changes, now call themselves managed care companies. This afternoon, I plan to review why our industry is restructuring, what is likely to emerge, and why we believe that overall, managed health care will mean better care at lower cost for most working Americans. For many years, health care costs accelerated at more than double the general rate of inflation, and managed care programs were developed as a solution to companies grown weary of that inflation. It is no coincidence that the moderating of health plans' cost increases tracks closely the rising membership in managed care plans during this period.

Critics of managed care claim these savings were scavenged from the health of the covered population, through reductions in the quality and quantity of their health care. More accurately, managed care companies save money by finding efficient ways, in conjunction with providers, to finance and deliver health care. The flurry of activity in mergers, acquisitions, and alliances in the health care industry, both

in New England and across the country, results from this pursuit of more efficient organizations as well as efforts to build scale to enhance capabilities and competitiveness.

In addition, the finance and delivery of health care are converging, as hospitals, physicians, and related health care institutions form vertically integrated organizations. Those insurance companies that form the best integrated systems, from sales to data management to delivering care, will be the long-term winners. Those companies able to compete across several states, and at both the wholesale and retail levels, will be most successful. Only the insurers that have made major investments in managed care will survive. Although a few companies with a highly paid work force will stick with traditional indemnity health plans, only a few large-scale insurers will be able to play in this small, residual market. The most fundamental and dramatic market trend is the shift to managed care. Right now, 51 percent of America's employees now take part in a managed care network, double the number in 1990. Managed care is an increasingly capital intensive business given the need for integrated networks, sophisticated technology infrastructure, customer service capabilities, and medical management skills and tools. One estimate places the cost of building a national managed care infrastructure at $93 billion over the next five years. Many small companies won't be able to play the game.

Will these small companies survive? For some, the answer is no. Others, however, will seek another part of the market. For example, while traditional medical insurance accounts for most of the health insurance market, many companies will survive by providing dental plans or running employer assistance programs. Others may try to follow Unum Corporation, which has made a real success with group life and disability insurance. The end result will be a mix of a few national managed care organizations competing in many local markets, a handful of well-run regional HMOs, a few local HMOs, and various niche players.

The number of insurance carriers specializing in health care will drop dramatically--by one estimate, from 2000 to 200 in five years--with or without national reform legislation. At present, the marketplace is doing the culling, and the resulting industry will consist of larger,

more efficient health care organizations. When all is said and done, will a few giant conglomerates control health care in America? Those of us who are aware of the fierce competitive pressures in the industry do not believe so. Aetna and four other members of the Alliance for Managed Competition, Cigna, Metropolitan, Prudential, and the Travelers, together account for about 18 percent of the health care market in the country. In the top 42 markets in the country, only one of these companies is among the top three players, and then in only 12 markets. In the Boston market, for example, the leading company is not any of these five, but is rather the Harvard Community Health Plan, followed by Bay State and Pilgrim. Nationally, in 1993, locally and regionally managed companies represented the lion's share of members, followed by Blue Cross and Blue Shield, and only then by commercial insurers. Although commercial insurers gained a few percentage points in market share between 1988 and 1993, we are far from being the OPEC of health care delivery in America.

Eventually, any discussion of health reform brings up the question of whether for-profit, shareholder-owned companies can deliver quality health care. We believe the answer is yes, because excellent health care involves service, information, technology, and capital. Quality is important to us, and Aetna has done a great deal in this area, including helping to formulate and to test national quality assurance standards.

A good managed care company does not just check overutilization but it tracks underutilization as well. To provide high-quality health care, we emphasize prevention, detection, and management of risk factors to help consumers stay healthy while conserving the system's resources. In the end, we have more satisfied patients and lower costs. Our industry will never be the same, but the companies that survive the current shake-up will be better equipped to deliver high quality health care, while controlling costs.

Stephen J. Hegarty
President
Massachusetts Hospital Association

Our role at the Massachusetts Hospital Association is to assist our members in making strategic choices to insure their likely survival or success in the future. I would like to begin with statistics that describe the tectonic change in the structure, cost, and utilization of the present health care system at the local level. In the past two years, Massachusetts has witnessed seven hospital closures, four mergers, five acquisitions, three corporate affiliations, and fourteen contractual affiliations, with four additional mergers presently going through the process of antitrust clearances. Put together, that equals 38 transactions within a group of 134 institutions in the past two years. The pace of change is accelerating, and people can in no way look to the past to make strategic assumptions about the future.

Why are these changes occurring? Medical technology reducing the need for inpatient hospitalizations is one very important force. The introduction of medical management protocols, and the increased ability to provide care at home and elsewhere have produced a very significant surplus in hospital capacity. We are currently oversupplied and expect to see a continuing slide in demand for inpatient capacity in the range of 30 percent in the next three years.

To date, the focus has been on horizontal integration with hospital boards and managers talking to each other. The primary approach is to form linkages that will evolve into competitive, integrated delivery systems, by adding relationships with newly formed medical staff organizations and insurers. According to some predictions, within five to six years, Massachusetts' 134 hospitals will have evolved into 4 to 6 health care delivery systems in Eastern Massachusetts, and perhaps 8 to 12 across the entire state. These new organizations will be designed as risk-sharing organizations, able to bargain with managed care plans and to accept partial or full capitation risk in managing patients. These organizations are also coming to terms with the idea that primary care physicians will be the primary purse holders,

controlling referrals to specialists and other health care institutions. As a result of current changes, referrals will become concentrated on fewer and fewer specialists, and many specialists may move to a state where managed care is less prevalent. Massachusetts has been at the forefront of these changes, with the highest concentration of managed care of any state in the United States.

At present, the fundamental factor driving merger discussions is cost reduction. Indeed, the common goal of current mergers is to achieve at least a 20 percent cut in base costs at the combined institution. Every hospital in Massachusetts is evaluating where it stands on the so-called utilization curve, because costs involve two major factors, the cost inputs to the process, and the systemwide efficiency with which those inputs are used--that is, the rate at which care is given within the system. The Massachusetts Hospital Association has run simulations at every hospital in Massachusetts against the medical protocols for the San Francisco Bay Area, using data adjusted for similar diagnoses, age, and sex. As a result, we anticipate achieving within three years the same 30 to 40 percent declines seen in California's utilization rates, as the West Coast companies responsible for them come to the East Coast.

In the future, it will be almost impossible to differentiate a health insurance organization from a health provider network or an integrated health care delivery system. What we will begin to see is the emergence of long-term partnerships between doctors, hospitals, long term care providers and insurance organizations, with joint risk-sharing as the dominant financial theme of those relationships. Because close to 50 percent of the resources coming into our hospitals will be capitation revenue within three to five years, doctors and other providers are for the first time coming to the managed care plans with which they have long-term relations to volunteer lower prices. Their aim is to ensure that their managed care partner can offer the lowest premiums in their service area. As a result, both the long-term and the short-term cost containment outlooks are very positive.

Health insurance premiums should plateau this year in Massachusetts, and I believe they will decline in absolute dollar terms in upcoming years. Current rates remain over-reserved, because insurers

based premiums on anticipated utilization rates that do not account for current and future declines in admissions. For example, a new development in Massachusetts is the introduction of managed care contracts for Medicare recipients. While skeptics believe the elderly will not participate in these plans, West Coast experience suggests that they will. These plans anticipate hospitalization rates of roughly 12 to 13 days per 1,000 beneficiaries, while our current operating rates are 28 days per 1,000 beneficiaries. These programs, therefore, should reduce utilization significantly. The result will be further consolidation involving the entire New England market. Capitation should lead to more emphasis on prevention and on studying community health status with an eye to resource allocation.

The forces driving the evolution of a capitated system are so firmly in place that they can not be reversed by anything Congress does except, possibly, institute a Medicare, Part C approach. That approach imposes price controls on the private sector--a step in the wrong direction, we believe. We had price controls in Massachusetts for twenty-five years, and ended them just two-and-a-half years ago. The experience proved two things: first, that price controls are price support systems, and, second, that price controls divert management attention to beating them rather than to dealing with the inefficiencies and underlying costs of the organization. We prefer a broad, systemic approach through the development of integrated care systems and capitation, and believe that these changes will occur regardless of what emerges from Congress.

In contrast to Governor Dean's position, we fear that state boundaries will present barriers to free choice by patients who may prefer to obtain care across state boundaries, for specialists, hospitals, and other referral relationships. We strongly advocate congressional language that permits reciprocity and would allow approval of one state plan to lead to automatic approval in contiguous states. Such an approach would be in keeping with the increasingly competitive environment we are all facing.

Thomas G. McGuire
Professor of Economics
Boston University

I would like to start by referring to an article written by Senator Metzenbaum about the Clinton health plan. That article demonstrated, "without a doubt," that competition can reduce health care costs. Senator Metzenbaum drew from a letter by a health care researcher to Mrs. Clinton that showed that California had low rates of utilization and that most Californians were in new, innovative organizations like HMOs and PPOs. Senator Metzenbaum drew the conclusion that one caused two. This situation is called "payer-driven competition," a new health care concept that overturns the former conventional wisdom asserting hospitals do not compete on the basis of price. Whatever competition existed was based on quality and resulted in the "medical arms race."

The letter also pointed out that the health care industry is experiencing a major restructuring. For the sake of clarity, I would like to define the terms "horizontal" and "vertical." Horizontal issues involve a hospital's relationship with other hospitals which are potential competitors. If two hospitals merge or make an agreement, that's a horizontal change. A vertical organizational change refers to firms or organizations related to each another in the order of production. Four tasks generally occur when an individual receives insured, delivered, health care. The first is the insurance function; the second, the management of care function; the third, hospitalization services; and the fourth, physician services. The vertical reorganization of these four functions represents an extremely important trend in the industrial organization of health care. In the last few minutes, we have heard the hospital association say that hospitals want to bear risk and function as insurers, and insurance companies say that they want to run provider networks. So, examples of vertical integration abound.

The most important change in the vertical organization of health care is the reemergence of risk-bearing organizations. Five or ten years ago, big employers bore the risk for their employees, with insurance

companies, hospitals, and doctors shouldering almost no risk. But, if groups are pooled, a low-risk group always has an incentive to pull out and to pay only its own costs. This set of forces drove large employers to remove their low-risk employees from risk pools and self-insure. The insurance companies were left to administer paper and develop the business of managed care.

Health reform may accelerate the emergence of risk-bearing organizations. If health reform creates alliances, it could restrict employers to making premium payments only indirectly related to past utilization. If employers and individuals once again begin to pay premiums unrelated to experience, then increasing numbers of risk-bearing organizations, like insurance companies, managed care companies, and, potentially, provider networks, will enter the health care industry.

In terms of horizontal issues, the hospital industry has been described, accurately, as a cottage industry. The United States has about five thousand independent hospitals: each is organized quite similarly, they look the same, do the same things with the same standard of care, more or less. Just as hospitals are not highly integrated horizontally, neither are they very integrated vertically. Even the hospitals' main labor input, doctors, tends to be organizationally distinct and paid separately.

A second stylized fact about our hospital industry is that it is quite costly, particularly when compared with that in other industrialized countries, because we offer very intense care. By intensity, I mean the quantity of services patients receive per day. We do not have high hospital admission rates in this country, nor do we have long hospital stays, but while people are in the hospital, we throw a lot of resources at them. The U.S. hospital sector is 34 percent more costly overall than in comparable countries. This number is not attributable to length of stay, which is 25 percent shorter in the United States, or to number of admissions, also at a lower rate in the United States. It results, instead, from the fact that we spend almost twice as much per patient per day once a person enters the hospital.

National capacity utilization runs about 60 percent in terms of beds, and similar excess capacity numbers exist for high-tech machines and for some specialists, like surgeons. All of these factors combined--the large number of high-cost hospitals, their traditional organization, and their excess capacity--lead one to suspect that the hospital industry remains vulnerable to a shake-out.

Historically, the hospital industry has been quite stable. For example, 90 percent of the hospitals in operation at any time during the 1980s were in operation for the entire period. Over the whole decade, (both before and after the introduction of the Prospective Payment System) hospital merger, closure, and opening rates remained very low although merger and acquisition activity clearly has accelerated recently. Manufacturing industries have experienced rates of change at least ten times as large. The traditional payment system for hospitals has protected them from the winds of competition buffeting most U.S. businesses. As payer-driven competition accelerates, however, this protection will fade away slowly, and the rate of change in the hospital industry will approach that of other industries.

My final set of facts concerns the various payers hospitals serve, each with a different agenda and method of payment and creating distinct sets of incentives for hospitals. The government has been fairly protective of hospitals; when the new Medicare payment system led to losses at some rural hospitals, the government took steps to avoid closing them. It is unclear, therefore, how the introduction of payer competition will affect the mix of tough and easy payers that hospitals face.

On average, government payers pay less than average costs; the hospitals cover these losses by charging higher rates to other payers. This situation puts our government in an odd position in health reform. If the government is a benevolent regulator, it ought to create a level playing field so hospitals face equal incentives to treat all payers. Our government, however, is not just a benevolent regulator, it is also the largest buyer of health care, and has exploited the lack of competition in the current system by shifting costs to other payers. The

government's responsibilities for Medicare and Medicaid may conflict with the social interest in health care reform.

In the near future, health care industries will restructure, both for efficiency and market power. Issues of cost and risk management will lead, most likely, to shifts in risk bearing, the reorganization of production, and changes in relationships between doctors and hospitals. The potential reorganization of market power should, however, attract attention. A recent Washington Post article referred to an Federal Trade Commission-approved merger of Columbia and the Hospital Corporation of America. According to the article, this new group "buys hospitals simply to eliminate competition." The CEO of this new venture claims, 'we have the goal of owning 100 percent of the market where it operates.'" This is bold-faced monopolization. In the present environment, where the FTC and the Justice Department have given a green light to mergers and acquisitions, activity motivated by the search for market power, as well as efficiency, is likely to appear.

What, therefore, should we expect from health care reform? I think we will see a big push toward payer driven competition and toward more restructuring of the insurance and hospital industries, if a couple of developments occur. If we have alliances and community rating, if payers bear risk and employers pay premiums, then we are going to create organizations with the primary purpose of making profits on premiums. To do that requires risk selection and keeping costs down. If we see true premiums emerging in health care markets, then providers had better watch out, because they will be dealing with payer-driven competition with a vengeance. If, as a second possible reform, employer deductions are capped, the effect on how Americans pay for health care will be dramatic. At present, employer contributions to employee health premiums are not taxable to the worker. If those deductions were capped, as proposed by some health reform plans, the incentives for buying health care would change significantly, since workers would bear more of the cost. Many have suggested this idea, most recently, Mark Pauley. He inevitably ends his talks by saying, "It's the tax system, stupid," implying that if we fix the tax system, the rest of health care will fall into place. If health reform includes changes in the tax system and

the development of true premiums, then health reform is likely to accelerate the market-based trends previous speakers have discussed. In the absence of significant reform, these trends will continue but less precipitously and less predictably.

Arnold S. Relman M.D.
Editor-in-Chief Emeritus
New England Journal of Medicine
Professor Emeritus of Medicine and Social Medicine
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It has been interesting to hear about the economic and industrial issues surrounding health care, but I, as a physician, tend to take a different view. I see health care in a very personal, individualized setting, where the important considerations that determine the interaction between a doctor and his patient are not, cannot, and should not be primarily economic. The consequences of these interactions do, of course, generate costs, which require an elaborate financing system and have driven the formation of institutions and organizations and created what many people now call an industry or an economy.

I do not view health care as an industry. Not every thing that costs money, nor every financial transaction, is a marketplace. Because money is involved, people tend to view health care as just another segment of the American economy. But as Rashi Fein once said, economists sometimes forget that people live in a society, not in an economy.

The problems we face now--problems of cost, access, unevenness of quality, and inefficiency--stem from the way medicine is practiced. Health care is not primarily about taxes or insurance, but rather, about how we deliver medical care. Professor McGuire quoted Mark Pauley as saying, "it's the tax system, stupid." I like to quote Mary Jane England, M.D., who used to be mental health commissioner in Massachusetts and is now President of the Washington Business Group on Health: She distributes a button that says, "It's the delivery system, stupid."

An individual who is sick and consults a physician is not a price sensitive consumer. There is little price elasticity in the transactions that occur between a sick patient and a doctor or a hospital. Assume I am a patient with headaches, and, after my examination, I am told I have a brain tumor. The neurosurgeon says, "I'm sorry to tell you, the tests all show you do have a brain tumor, but the good news is that it is a benign tumor on the surface of your brain. If it is completely removed, and no accidents occur during the operation, you'll be cured. The bad news is that you must be operated on immediately, or you're going to die."

At that moment, a patient is not a consumer, nor a customer. A patient does not then say, "I do not want the top of the line, just give me your standard stripped down model of neurosurgery, and quote me the lowest price you can quote, and then I'll go out, shop around, and see what I can do. Actually, now that I come to think about it, the kids are in school, we've got a lot of extra expenses, and I am not sure I want the operation this year, maybe I'll spend the money on something else."

A patient does not do that. When a patient is sick or scared, that person is virtually dependent on the professional caring advice of the doctors consulted. If you don't trust your doctor, you must go to somebody else, but you are crazy if you think you can be your own physician when you are sick.

The only kind of price competition, or price elasticity, that exists is when a healthy individual purchases health insurance, or when an employer purchases health coverage for its employees. Even in that situation, however, no informed consumer exists. The decision-making process is not comparable to reading about the new car market in Consumer Reports or strolling down the aisles of the supermarket, looking at different, standardized products, comparing prices, and deciding which to buy. Health insurance decisions are largely based on indirect information. You must depend on advice from friends, on one's employer, or even, in the Clinton plan, on your alliance to say these plans are O.K., are worth the money. But, of course, the prices of these health care plans are determined, ultimately, by the costs generated by interactions between doctors and patients.

When Mr. Greaney discusses Aetna's efforts to compete on the basis of price as well as quality, he is saying, "I am going to create an organization with economic incentives which force or encourage or reward the doctors in the system to practice less expensive medicine." I have no objection to the principle of capitation. In fact, I believe in it. Nor do I object to setting up a system that gives doctors appropriate incentives to use medical resources more efficiently. The question remains, who controls the system? Who makes the basic decisions? Whose interests, most importantly, are being served?

I am not convinced that a huge publicly or investor-owned corporation puts the interests of patients or physicians ahead of the interests of investors. When I raise this question, I am told not to worry, there's no conflict, because good businessmen know that only if they provide a good product, keeping both consumers and doctors happy, will they be able to be competitive: Thus, profits, quality, public interest, and public service really all go together.

Neither the history of the American health care system nor the history of American industry provides much reassurance on that score. As far as I can see, history says, "Caveat emptor, buyer beware." But to be wary, the buyer must have some power, which sick patients do not have. I am also told that the best way to ensure quality and price control is to give the doctor a share of the risk, or the equity. Then the doctor will work hard to provide quality at the lowest possible cost.

I do not believe that response either, on the basis of my extensive travels around the United States, examining HMOs, medical care groups, and seeing how doctors behave when they have that conflict of interest. I do not want to be cared for by doctors who have a financial interest in using the minimum economic resources to care for a patient. I want to be cared for by doctors who intend to use all necessary resources to provide the best possible health care for each patient, no more and no less. I define good, cost-effective care as that care given by a competent, compassionate physician who has no economic incentive to do less than good medical care would require, than the best standards of the profession, and no economic incentive to do more.

Until the recent development of prospective payments and HMOs, all the incentives drove doctors and hospitals to do more. These incentives were a powerful part of the machinery driving up health costs. Piece-work payment, essentially the reimbursement of charges, led to gross overuse and overbilling. Now we've flipped the incentives around 180 degrees. Now, with prospective payment, the incentive is to do less, an incentive I do not want the doctor to have.

I also worry about publicly owned, for-profit organizations whose profits depend on doing less. I get quarterly reports from managed care corporations, reporting to their investors their medical loss ratio. Now, a good managed care company, an attractive investment, has a low medical loss ratio. Do you know what a medical loss ratio is? It is the fraction of the premium dollar that is spent on health care. The lower the medical loss ratio, the more the managed care company keeps for corporate activities, for salaries, for marketing, and for profits. Some of the biggest, most successful and aggressive managed care companies now have medical loss ratios that range from a high of 85 percent--15 percent kept for themselves to a low of 70 percent--30 percent kept for themselves.

I am not an apologist for the last 40 to 50 years. I think it is wrong that doctors made so much money being paid on a fee-for-service basis. It wasn't the amount of money that the doctors made that contributed to the cost of health care, it is what they ordered, all the hospitalization and testing they ordered as part of the fee-for-service reimbursement system. I'm not defending that, but I'm also bitterly opposed to doctors making profits, as investors and owners, from withholding services. They should be financially neutral.

So I conclude by saying, yes, I agree with Governor Dean; we need a system based on capitation. But the delivery system should not reward doctors with incentives that influence their medical judgment. Doctors should be paid a salary and should practice together in capitated, not-for-profit, community-based systems, because health care is a community function. Large, corporate-run, investor-owned entities should not determine the resources to be devoted to health care. That should be a

community decision based on the medical realities and what people want to pay.

Ultimately, health care should be financed by an earmarked tax, separate from other taxes, identified like Social Security. Let people decide how much they want to be taxed to buy the most effective health care, supervised by unbiased health care providers, who confer with their patients to find out what they want.

I don't see a place for employers in that system at all. I agree with Ed Moscovitch that business should get out of the business of paying for health care. Let them pay their health care premiums in the form of increased wages, which would be taxable. And I don't think insurance companies should be in the business of managing health care. I think that makes it harder and harder for doctors to do what the public expects doctors to do--namely, to work for them, within the constraints that the public will define by agreeing or not agreeing to pay a certain tax rate for health care.

I realize that I have probably raised more questions than I have answered, but that is where I stand after nearly 45 years wrestling with our imperfect health care system. We have it within our power to have the best health care system in the world--we are spending enough money--the problem is not money! What we need is a better system, and I don't think we are going in the right direction now.

Maintaining the Region's Preeminence in Health Care Research

New England's world-famous teaching hospitals and medical research facilities form the nucleus of a cluster of regional industries. What are the implications of health care reform for these R&D facilities and for the complex of industries linked to them?

Leader:
Henri A. Termeer
President, Chief Executive Officer and Chairman
Genzyme Corporation

This panel will discuss maintaining the Boston area's unique role in medical R&D. So far, today's discussion about health care has focused on the delivery system and has asked questions like, "Are we organizing it right?" and, "Are we wasting money?" These are important questions; for example, we clearly need to improve the individuals' access to health care. But what of the future? Access to currently available health care is not enough. We must also innovate. We have tremendous problems and unmet medical needs, which we can just now begin to address with the enormous power made available through bio-technologies and the biological sciences. We will not solve AIDS with more efficient hospitals, for example. We need a medical breakthrough to resolve that problem, as is true for Parkinson's, cystic fibrosis, Alzheimer's, and so on.

This region--more than any other in the world--plays an important role in these innovations. I participate through my work at Genzyme, one of close to 140 biotechnology companies in Massachusetts. Remarkably, this area has more biotechnology companies than does all of Europe. Together, these relatively new companies spend between $500 million and $1 billion on R&D and employ approximately 15,000 people who might otherwise not be employed.

These companies have located here in New England because we maintain a collection of outstanding academic institutions. Many of biotechnology's fundamental discoveries came from MIT, Harvard, and

other institutions in the area. Indeed, nowhere else in the world is the unique combination of skills needed for clinical research as concentrated as here. Our panelists represent several different aspects of the critical mass required to turn innovative ideas into commercially successful products for the health care industry.

Panelists:

Phillip A. Sharp
Salvador E. Luria Professor and Head of the Department of Biology
Center for Cancer Research, Massachusetts Institute of Technology

As Henri Termeer mentioned, Boston is one of the major homes of biotechnology. Biotechnology represents the application of science--that is, insights into biological systems--to the development of new pharmaceuticals that will both improve the quality of people's lives and reduce the cost of maintaining that quality. Biotechnology offers one of the few ways of accomplishing both objectives--increasing quality and reducing costs.

Biotechnology originally came to New England in the 1960s as a product of investments by Harvard and MIT in developing molecular biology. Harvard recruited Jim Watson and Paul Doty, and MIT recruited Salvador Luria, Boris Magasanik, and Alex Rich, to establish strong genetics and molecular biology programs. Biotechnology also located here because of our strong hospitals and their research into the biochemical and physiological processes that underlie human diseases. In the mid-seventies, when it became possible to recombine DNA, create genetic material, and move it from man into bacteria and single cells to produce new types of pharmaceuticals, business joined with science to develop new applications to benefit society. This happened first in San Francisco with the establishment of Genentech and within six months, in Boston with the establishment of Biogen, a company with which I have been associated. The factors that brought these companies to Boston included the laboratories at Harvard, MIT, and the Harvard Medical School, the ease in recruiting highly trained, sophisticated young

people knowledgeable in this new science, and the availability of business expertise in developing new entrepreneurial ventures. Venture capital, the mechanism for financing new technology and translating it into industrial organizations, was already here--ready to be exploited in developing the biotechnology industry.

This new industry is not yet twenty years old; yet already it has produced a number of major pharmaceutical advances that have improved the quality of patient treatment. These include alpha-interferon, used to treat hepatitis B, hepatitis C, viral infections and hairy cell leukemia; hepatitis B vaccine, used to immunize people to protect them against this viral infection; Ceredase, to treat a genetic disease of lipid storage; Erythropoietin, to treat anemia and to support patients when they undergo chemotherapy; and tissue plasma activator and related compounds to treat acute cardiac diseases. All these innovative new drugs, not possible before the development of biotechnology, have become major pharmaceuticals.

Total worldwide revenues derived from the sale of these new pharmaceuticals now approach $10 billion. The strength of this regional industry attracts other companies to New England. For example, Amgen, a Los Angeles biotechnology company, has acquired land in the Kendall Square area of Cambridge, with the intent of developing a laboratory there. BASF, a German company, has established a facility in Worcester to develop their biotechnology interests in this area. Major construction is currently under way in Cambridge--much of it related to the expansion of existing biotechnology companies. One example is the lovely building that Henri's company, Genzyme, has built across the river from Harvard. In Cambridge, Biogen is building a large research building, while MIT has invested $70 million in a building that houses labs devoted to modern biological research. The development of commercial and research space for biotechnology in the Boston metropolitan area has become a major focus of recent investment activity in New England.

Looking to the future, the present biotechnology industry represents only the tip of the iceberg of what modern biological science means for pharmaceuticals and other industrial activities. It is

difficult to quantify how much we know about life systems related to human disease, and it is always difficult to predict the future. But if we think in terms that are fairly easy to enumerate--such as the number of genes in the human genome for which we now understand the structure and sequence and could encode the proteins--then at present, we understand between 1 and 2 percent. In other words, over 90 percent of the information one would like to have in one's computer to begin to understand how human diseases occur remains to be explored. Most of the insights into the disease process that can be exploited to develop new therapeutic interventions and new pharmaceuticals, lie before us.

For example, we know a great deal about the nature of our immune system. The genes that encode receptors have been identified. And we know how the system develops and functions, in large part. But we are just on the verge of developing treatments for autoimmune diseases like multiple sclerosis, diabetes, or rheumatoid arthritis, which cause great suffering for perhaps one in twenty people. We do not understand how to cure an immune dysfunction, such as AIDS, caused by the HIV virus. In other words, we are just starting to translate biological information into pharmaceutical compounds that will greatly improve many people's quality of life and, ultimately, reduce health care costs.

Whether biotechnology remains a healthy industry in New England depends on a number of factors. One need is for adequate revenues flowing back to the biotechnology organizations to support the development of these compounds. Another issue is the health of the research universities and hospitals in this area, because they provide the technical base and the opportunity to do state-of-the-art work in basic research and clinical development. If the viability of these organizations is compromised by cost containment, New England's attractiveness for biotechnology will be significantly reduced. For the region and for the nation, it is important to understand that in health care reform, we need continued investment to translate biotechnology's promise into viable treatments for man.

David Blumenthal, M.D., Chief
Health Policy Research and Development Unit
Massachusetts General Hospital

My principal goal here is to paint a portrait of the teaching hospital sector that may diverge from the standard picture offered by the press or in discussions of health care costs. The state's academic medical center complex plays many roles in Massachusetts' economy. While we all know that patient care costs somewhat more in these institutions, New England also derives corollary benefits from their presence. In particular, I would like to describe how these institutions attract substantial resources to this region.

The 22 institutions affiliated with Massachusetts' four medical schools employ over 40,000 people and have an annual payroll on the order of almost $2 billion. To support their research and education missions, these institutions draw funds from a great diversity of sources, including the federal government--the National Institutes of Health, the National Science Foundation, the Department of Defense, the Veterans Administration, the U.S. Department of Agriculture, NASA, and of course, the Medicare and Medicaid programs. In addition, private biotechnology and pharmaceutical companies from all over the world spend money for basic and clinical research in our teaching hospitals. Money from private foundations and individual philanthropy also comes into the state to support the activities of these institutions. Yesterday, for instance, Harvard Medical School announced a $60 million gift from a single individual.

As we have heard already today, Massachusetts, a state with only 2 percent of the nation's population, receives 10 percent of the NIH funds available annually to support biomedical and behavioral research; about half of that goes to Massachusetts hospitals. This funding pattern is rather unusual: in most of the United States, universities are the sole draws on research funding. In Massachusetts, however, a unique set of independent research institutions has grown up over hundreds of years, as a result of private philanthropy.

Among American teaching hospitals that are independent--that is, not owned by research universities--Massachusetts has the top five institutions, in terms of support from the NIH. The Boston metropolitan area, where all these hospitals are located, receives more NIH support than any other metropolitan area in the United States. In 1993, NIH funding for Massachusetts teaching hospitals totaled about $365 million in direct costs, or more than $550 million including indirect costs. With other Massachusetts institutions receiving roughly $316 million in direct costs, the total direct and indirect funding received by Massachusetts in 1993 amounted to about $1 billion.

Another fact, not commonly appreciated, is that Massachusetts also draws funds to support graduate medical education for residents and interns. Medicare pays roughly $300 million per year from national trust funds, financed by Social Security taxes collected throughout the United States, to support the teaching efforts of our 22 hospitals. If you add in the NIH support, these 22 institutions draw $650 million in federal funds to Massachusetts. Although the spinoffs are hard to measure, these funds clearly help lay a foundation for our new biotechnology industry. According to the Massachusetts Biotechnology Council, in 1992, the biotechnology industry had 226 companies in Massachusetts, with revenues (including capital) of about $1.85 billion, employing over 15,000 people, spending research funds in excess of $1 billion, and expected to produce roughly 170 new products between 1994 and 1995.

What does health care reform mean for this set of institutions? The people in these institutions have many legitimate concerns about the consequences of reform for this industry. Managed competition, a widely accepted approach to containing costs, appeals to many businessmen who understand the benefits of a free market. But managed competition will not be kind to our medical centers because the unique activities they undertake create side effects that raise the cost of patient care. Teaching, research, and the kind of patient care used in clinical trials form a single package and cannot be extricated from one another, but they do increase the cost of providing care. Thus, in a system of managed competition, these teaching hospitals are unlikely to be able to compete successfully for patients on the basis of price. This outcome

does not result from any particular health care bill, but from the secular trends emerging in the health care market.

In addition, these institutions are likely to face reduced federal support for graduate medical education because of an effort to distribute medical education funds more equally across the United States; such a change is likely to occur under any major reform proposal. Moreover, as improved access increases federal health care expenditures, seemingly discretionary research spending by the National Institutes of Health, the Department of Defense, and the Veterans Administration will come under enormous pressure. Finally, discussion continues about capping the administrative side of our research expenditures, which the Office of Management and Budget usually considers wasted money. In fact, however, these funds remain essential to maintaining our infrastructure. Most research facilities finance their capital expenditures with bonds and need a flow of revenue to cover required interest payments.

The Boston Teaching Hospital Organization has estimated that, under the Clinton plan, we could lose as much as $1.8 billion in graduate medical education funding alone over the next five years. So, we are talking about large amounts of money flowing through the teaching hospitals. These teaching hospitals provide many benefits to New England--tangible benefits in the form of the biotechnology industry, and intangible benefits in terms of the quality of care available, and the people who come here for training and stay to work. These benefits remain very much up for grabs, however, in this period of health care turmoil.

David R. Lampe
Associate Director of Corporate Relations
Massachusetts Institute of Technology

I am an engineer by training so perhaps I can provide a slightly different twist on the region's preeminence in health care research. You've heard a range of numbers relating to biotech: Henri Termeer told

us there are 140 biotech companies in this region, David Blumenthal says 226, while I estimate there are about 154, drawing on the Massachusetts Directory of High-Tech Companies. In any case, we know there are a lot of them.

And 40 percent of the nation's biotech employment is concentrated in Massachusetts, compared with 30 percent in California, and 30 percent scattered elsewhere in the nation. However, the medical-academic-industrial complex comprises not only the biotech companies but also 181 medical equipment companies and 65 medical software companies. So, the health-related community is larger than one might expect.

In addition to Massachusetts' medical schools and teaching hospitals already described, MIT represents an additional asset in the region's health care complex. One-third of our total research (or $120 million out of $350 million) is health related. But much of this health-related research occurs in fields like engineering and management as well as biology and biotechnology. Twenty percent of the 200 firms founded by MIT alumni between 1980 and 1988 were biotech firms or firms providing other medical products or services.

Now, I believe that this region remains exceptionally well-equipped to benefit from health care reform, if we approach the new priorities carefully and draw on our strengths. In the new world of health reform, the driving aims are to control the spiraling costs of medical care and to provide access to health care for all, separate but related goals that are highly practical, not intellectual or academic.

Many academics worry that health reform will limit the funds available for R&D and medical education and, possibly, stifle new advances. While this may happen, these goals pose intriguing new challenges for research and innovation. In a sense, this problem of using science and technology to improve health care delivery while cutting its costs presents new research and marketing opportunities--especially for this region.

Since biotechnology is in good hands with Henri Termeer and Phil Sharp, I'm going to concentrate on engineering technologies that have produced important advances in areas like magnetic resonance imaging techniques, laser surgery, organ regeneration, expert diagnostic

systems, small prosthetics with microchips in them, instruments of all kinds, and even new management approaches. These emerging technologies depend on advances in areas as widely diverse as advanced materials, software and artificial intelligence, optics, electronics, mechanical engineering, and telecommunication, as well as the classic fields of medicine and biology. This region is active in all of these disciplines.

Our challenge under health reform is to enable all the members of this symphony to play together, to develop and implement new ideas in a more cost-effective manner. Today's system harbors a number of inefficiencies in the process by which new technologies find their way into products and practice. It has tended to be a bit ad hoc, with gaps between those conducting research in new technologies, hospitals, physicians and nurses with the primary responsibility for health care delivery, and the companies that manufacture, market, and deliver those technologies.

One route to tuning this system of innovation to the needs promoted by reform is to encourage greater communication and cooperation between the key players. A new program under development at MIT aims at encouraging this cooperation by creating a new entity called the Biomedical Engineering Institute, a partnership between MIT, a network of teaching hospitals, and firms in the biomedical industry. The organization's objective is to develop ways to reduce the cost of health care, while boosting its safety, effectiveness, and accessibility. It will achieve these goals by starting new companies and feeding new ideas into established firms. The Institute will focus primarily on patient care, although its efforts will also encompass public health and preventive medicine. This initiative brings together three complementary resources involved in the process of innovation: MIT, with more than fifty members of the engineering faculty actively involved in biomedical engineering research and a broad range of emerging technologies; hospitals, which provide access to the patient care community, as well as the capacity to evaluate ideas and test prototypes; and industry, which brings manufacturing and marketing capabilities to the equation.

In principle, thus, the Institute will serve as an engineering resource for hospitals and industry in the region and as a coordinator

of research and development projects. The staff will consist of biomedical engineering faculty at MIT, biomedical engineers and researchers at affiliated hospitals, and industrial researchers, all of whom will participate on an as-needed basis. It will be located near MIT, but off campus, a subtle difference that allows us to pursue proprietary projects and to be more liberal in the negotiation of intellectual property rights. Participating firms and hospitals will pay a membership fee to support the basic management of the Institute, while specific projects will be funded by grants negotiated on an ad hoc basis, possibly from a combination of federal and industrial sources.

This experiment embodies the flexibility that must emerge if the research community is to thrive, and if its innovative machinery is to purge itself of some of its inefficiencies. Because this arrangement blurs the boundaries between industry and academia that have evolved since World War II, it creates some questions and tensions, but we believe these can be resolved. Indeed, our proposal resembles pre-World War II relationships between academia and industry in some areas.

A final player in this innovation process is the state. Historically, the state has played a fairly small role in the development of the region's high-tech complex. From now on, the state should be more aggressive in promoting Massachusetts as a place to locate R&D and light manufacturing facilities. The public, industry, and the Congress all need to be reminded that the Boston medical-industrial complex is a national center of excellence.

Other states, with far less to brag about, spend millions trying to attract facilities to their region. I read recently, in the paper, that Massachusetts stands poised to spend $1 million for a marketing campaign to draw high-tech facilities to this region; that is not much money, as these programs go, but it's a start. Attracting new facilities is a fast way to add jobs, raise the tax base, and strengthen the interdisciplinary infrastructure that distinguishes the region. Perhaps because Massachusetts is full of taciturn Yankees and academics to boot, we hesitate to trumpet our strengths, but high-tech entrepreneurship is our special niche in the world, and a little salesmanship can be important to keeping us vital.

Elizabeth Olmsted Teisberg
Assistant Professor
Harvard Business School

My discussion today is based on a study of the competitive dynamics of American health care I did with Professor Michael Porter and Dr. Greg Brown, (Harvard Business Review, July/August 1994). I'll highlight a few of the conclusions. First, health reform will affect U.S. and Massachusetts citizens both as patients and as insurance customers. The national and regional cost of doing business will depend on the success of reform in promoting high-quality care for all at reasonable cost. Health reform will affect Massachusetts in particular, because its cluster of health care businesses is crucial to the state's economy. Health care employment comprises 11.5 percent of the state's work force, not including a significant number of jobs in health-related research, education, and financing.

Much of the debate on health reform is framed as if reform will be detrimental to the future of health care businesses. But that result is not a foregone conclusion. Reform that respects four basic principles will be good for the nation as a whole, and for the Massachusetts health care cluster.

The first principle for successful health care reform requires that current incentives be corrected to allow competition to work. Much of the current debate rests on the premise that because competition failed to control health care costs in the past, it cannot control them in the future. The United States has a more competitive health care system than any other industrialized nation and has enjoyed a breathtaking rate of advance in state-of-the-art treatments, coupled with health care costs that consume 14 percent of U.S. GNP. Competition, which usually is a powerful force for both quality enhancement and cost reduction, paradoxically appears to be driving U.S. health care costs through the ceiling.

This problem results not from competition, but from skewed incentives that create a system where providers, payers, and suppliers prosper while driving costs up. As many people have discussed today,

providers and payers compete by building redundant facilities, and by resorting to cost shifting, self-referral, balance billing of patients, selective rejection of insurance applicants, and creative denial of insurance claims, rather than by competing to deliver the most value to patients. If these skewed incentives are not corrected, competition, however managed or regulated, will continue to drive costs up. If reform realigns the incentives, competition in health care, as in other industries, will push costs down, and drive quality up.

The second principle recognizes that health care coverage should be universal. Universal coverage is essential for economic efficiency, as well as for equity. Many skewed incentives and inefficiencies in the current system stem from problems created by uncompensated care. The best way to correct problems of patient dumping and cost shifting is not to require more reviews, audits, or penalties but, rather, to make everyone a paying customer. This will prevent free riding, whereby some individuals do not pay for health insurance until they are sick or injured; it also will reduce the high cost of uninsured patients using the emergency room for care that could be delivered less expensively and, perhaps, earlier and more effectively in a doctor's office. In the end, universal coverage is an economically sound principle. It is also necessary if competition is to work in the interest of all patients. In a competitive system, high-cost providers of substandard care must be allowed to exit, but these closures will disproportionately affect the poor, unless they become paying customers who decide which providers best serve them.

The third principle for successful reform is that the new system must provide strong incentives for innovation. The national debate has focused on how to cut fat and eliminate waste in the current system, with measures such as health plan purchasing alliances, consolidated networks, or backup price caps on new drugs and devices. But costs cannot be reduced adequately with these measures--essentially ways to deliver today's health care more efficiently. Savings from making the current system more efficient are possible and necessary, but the desire to widen access to health care, the growing needs of an aging

population, and America's demands for the best treatments available will soon overwhelm these one-shot gains.

As many industries have shown, the only way to achieve the dramatic and sustained cost reductions required by health reform is through innovation. Examples include new cell-therapy techniques that can reduce the cost of a bone marrow transplant by as much as $50,000; gene therapy for illnesses like cystic fibrosis and Parkinson's disease that can eliminate years of chronic care costs, while improving patients' quality of life; and the laparoscope, a device that reduces the bill for gallbladder surgery from $21,000 to $6,400, while turning a six-day hospital stay into an outpatient procedure. Drugs and devices are not the only ways to innovate; health care services can be revolutionized too. For instance, special head trauma centers are found to lower costs and speed rehabilitation. Reform will succeed only if it spurs innovation--a fact that favors Massachusetts.

The fourth principle requires that information on outcomes and prices be improved and disseminated widely. Specific information on outcomes and prices by service and by provider must be available to patients and, more importantly, to referring physicians, providers, payers, and employers. Without reliable measures of quality, we run a grave risk that quality will be sacrificed in pursuit of cost containment and universal access. The truly critical information for health reform is not consumer information on insurance plans, as is commonly assumed, but information on specific medical outcomes. Data from Pennsylvania show that referring physicians and their patients continue to recommend and use the services of providers with poorer outcomes and higher prices than nearby rivals, because they are not aware of the outcome and price data.

However, measuring the quality of health care services appropriately and accurately is a daunting task. Corrections must be made for patients' general health, age, and other risk factors. But rapid progress is being made and will be facilitated by the widespread dissemination of the data and measures already in use. With improved availability of information, informed choice will promote productive competition that drives quality up and costs down.

In summary, health reform should be based on four fundamental principles. Incentives must be corrected to allow competition to work; coverage should be universal; reform must provide strong incentives for innovation; and information on outcomes and prices must be improved and widely disseminated. Dramatic and sustained cost reduction requires innovation--new approaches to disease prevention, entirely new treatments, and more cost-effective facilities and services. The best way, indeed the only way, to produce dramatic and sustained cost reduction is through rigorous competition with corrected incentives to encourage innovation. Reform based on these principles will lower costs, while raising health care quality for all Americans. And such reform will support a vital health care cluster here in Massachusetts.