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## Introduction

This volume contains papers presented at "Frontiers in Health Policy Research," a conference held in Washington, D.C., on June 5, 1997. Convened by the National Bureau of Economic Research, the conference brought together academic economists who study issues of critical importance to health care policy and people whose expertise and interests are in the design and implementation of national policy—leading government officials, journalists, industry experts, researchers, and legislative staff. The conference was motivated by the belief that more extensive dialogue between the policy and academic communities would help make the work of the academic researchers more useful and relevant and that the results of their research could be helpful in assessing the consequences of alternative policies being considered in Washington and elsewhere. The conference is patterned after NBER's highly successful annual conference series, *Tax Policy and the Economy*, which began more than ten years ago and has been an important channel of communication between public finance researchers and tax policy experts.

The conference was held in a time of tumultuous changes in the organization of health care and its private financing. Perhaps the most striking change was the continued growth of managed care, which attracted substantial scrutiny and public concern about the impact of these changes on health care costs and on both the quality of and access to care. Did some groups suffer from denial of care, and did those that had access to care, such as the elderly, receive more limited and lower-quality services? Was managed care really saving money, or did it merely shift the burden of payment to patients and their families? The high rate of growth in the number of Medicare recipients choosing "risk contracts," or prepaid health service plans like those offered by health maintenance organizations, brought these issues to the federal

government, particularly because Medicare represented one of the largest and most challenging federal entitlement programs.

After federal attempts to pass comprehensive health care reform bills failed, the private sector seemed to take the lead in transforming the market for health care. However, even though the initiatives were less sweeping than those debated earlier in the decade, federal interest in exploring ways to improve health care delivery and financing remained. In many respects, classic problems in health economics remained just as relevant for new reforms as for existing approaches to health policy. For example, adverse selection was a significant weakness of both proposed federal reforms and existing competitive insurance markets. Adverse selection occurs whenever insurance plans attract enrollees whose risk characteristics—and expected claims—deviate significantly from averages for the population. Health insurance plans that are more attractive to “high-risk” enrollees have predictably higher utilization of health care and therefore higher expenditures. Thus any increase in revenues from the premiums such plans attract is usually less than the added costs they bear when they enroll high-risk individuals. The consequences of adverse selection may be as severe as the collapse of health insurance markets, or more likely, the redesign of insurance plans to minimize its impact.

Although this phenomenon is ordinarily considered most important in private insurance markets, adverse selection may also have been the most important drawback to the proposal to allow Medicare recipients to participate in medical savings accounts (MSAs). MSAs consist of tax-advantaged savings accounts intended to pay for all but catastrophic health expenditures. Because participation in MSAs would have been optional, allowing Medicare recipients to choose freely between traditional Medicare and a plan that provided catastrophic insurance with the savings plan, there were fears that healthy Medicare recipients would choose MSAs, whereas those who used Medicare-financed services heavily would stay in the traditional plan. The loss of the low-risk enrollees would greatly raise the average costs of the traditional program.

Because adverse selection is a pervasive problem for health insurance, it is grist for the health economist’s mill. Yet the literature on this subject proposes few fully satisfactory solutions. Despite the lack of ideal solutions, policymakers who ignore adverse selection do so at their peril. This theme emerges from the study by David Cutler and Richard Zeckhauser on risk sorting across health insurance plans. They

explain the phenomenon in particularly lucid terms, examining its consequences in two large groups of Massachusetts employees. They present a clear taxonomy of the types of losses adverse selection induces, which include mismatching between enrollees and health insurance plans, vitiation of some of insurance's risk-reducing properties, and inefficient characteristics that health insurance policies must incorporate to reduce adverse selection. Some of their findings are unexpected and intriguing. For example, many employers now attempt to equalize the employer contribution to health insurance plans offered to their employees, so that employees who choose high-cost plans must pay the added premiums themselves. At Harvard University, one of the employers studied, the implementation of equal employer contributions resulted in the disappearance of the most generous health insurance policy in less than three years. The other group studied, the Group Insurance Commission of Massachusetts, sustained the most generous policy it offered by subsidizing it and directly managing its costs. These findings highlight the frequent observation that the presence of health insurance and its peculiar characteristics often means that the application of straightforward, well-accepted economic principles in the context of market failures induced by health insurance can lead to unanticipated, undesirable outcomes.

Because they suffer disproportionately from chronic diseases, the elderly are particularly heavy users of health care. Consequently they may have much to gain—or lose—with changes in health care markets. In many respects, the elderly are the best-insured Americans. Nearly all have hospital insurance under Medicare Part A, and the overwhelming majority have coverage for physicians' services under Medicare Part B. Nevertheless, Medicare coverage has large gaps. For example, elderly Americans who lack supplemental private insurance must bear the cost of prescription drugs themselves, because Medicare does not pay for them. For many of the elderly, such drugs represent a very large out-of-pocket expense. Thus it is natural to ask whether changes in the market for drugs—such as the introduction of new drugs and changes in the prices of existing drugs—have imposed a particularly onerous economic burden on the elderly.

Determining the prices that are paid for drugs at either the wholesale or retail level, and even constructing a price index for drugs, require a number of judgments about changes in the mix of drugs that people use and which set of prices to apply. As part of a general

research effort to understand changes in the price and quality of drugs over time, Ernst Berndt and colleagues examined whether changes in the price of prescription drugs over time disproportionately affected the elderly. They posit two alternative hypotheses about how the elderly would be affected.

First, the elderly may be considered more fragile, and therefore preferentially receive newer treatments that are more convenient to use and less likely to cause side effects or interactions with other drugs. Thus the elderly would be more likely to receive newer, branded drugs; if price inflation is greater for these products, the elderly would experience more rapid increases in drug costs than the young. A second hypothesis recognizes that the elderly often continue to use the same drug for many years, particularly if it is working well. If this effect predominates, the elderly would disproportionately use older drugs, often available in generic form, whose prices tend to rise less rapidly than branded drugs. Then their rate of price inflation would be less than for the young.

Using sophisticated methodology and a unique set of data on prescription pharmaceutical sales and pricing from 1990 to 1996, Berndt and colleagues find support for both hypotheses but for different drug classes. Price inflation in antibiotics used by the elderly was greater than for those used by the young, in part because the elderly tended to use newer drug formulations that had fewer side effects. On the other hand, the elderly tended to use older, less-expensive antidepressants than the young, resulting in a lower than average rate of inflation for the elderly than for the young treated with this class of drugs. For calcium channel blockers, used primarily to treat hypertension and angina pectoris, there was no significant difference in the rate of growth of prices in drugs used by the elderly or the young. These results suggest that overall the elderly are not subject to greater inflation in drug cost than the young, although the elderly who lack supplemental insurance and live on fixed incomes may be more vulnerable than the young to the financial cost associated with drug price rises.

One of the forces expected to moderate expenditure growth is the change in the way that Americans receive their health care. More and more are enrolling in managed-care plans, which incorporate a variety of features to limit health care utilization and control costs. Many managed-care plans pay providers on a completely or partially capitated basis, meaning that some or all health services are provided for

a fixed fee paid either annually or monthly. The incentives implicit in most managed-care plans offer the hope that costs can be controlled and stimulate fears that effective care will be denied and the quality of health services will decline. Two chapters address how managed care has influenced the growth of health expenditures. One, by Cutler and Louise Sheiner, examines cross-state data to assess how the expansion of managed care influenced the growth of medical expenditures generally; the other, by Laurence Baker and Sharmila Shakarkumar, looks at similar issues specifically for Medicare. Cutler and Sheiner find that in states in which managed-care enrollment increased, the rate of cost growth for hospital care slowed. Although states with more managed care tended also to experience greater growth in spending for physicians' services, the decline in hospital expenditures more than offset this growth. Their results challenge the traditional view of HMOs' effect on health care costs. Evidence obtained from two decades ago suggests that HMOs achieve substantial savings compared to fee-for-service plans, largely by reducing hospital utilization. But the rate of growth of expenditures, according to the traditional view, is the same for HMOs and other health care financing plans. This implies that a switch from fee-for-service to HMOs will produce only transient savings, because the growth in expenditures will make HMO costs reach the levels of fee-for-service in a few years. Cutler and Sheiner's work, in contrast, indicates that managed care may indeed dampen medical expenditure growth by slowing the adoption of new technologies, so that managed care may have far more significant effects on long-term expenditure growth than previous studies suggested.

The Baker and Shankarkumar study emphasizes the importance of "spillover effects," the effects of managed-care penetration on the economic behavior of non-managed-care providers. In particular, they hypothesize that greater competition introduced by managed care may cause providers, even those reimbursed on a traditional fee-for-service basis, to lower prices or change the type or intensity of the care they provide. If such effects occur, typical estimates of the overall effects of managed care on health expenditures may be too small. To investigate this issue, Baker and Shankarkumar explore geographic variation in HMO market share and expenditures for Medicare beneficiaries enrolled in the traditional fee-for-service plans. They find that managed care's penetration in the local health care market, for both Medicare and non-Medicare recipients, is associated with declines in both Part A and Part B fee-for-service expenditures. Notably, this effect does not

specifically reflect the percentage of Medicare recipients in an area who enroll in managed-care plans. Increases in the Medicare HMO market share, as opposed to the overall HMO market share, are associated with increases in Part A expenditures and with only small decreases in Part B expenditures. This study strongly supports the view that managed care has effects on health care delivery and pricing that extend well beyond enrollees in managed-care plans.

Health insurance, whether provided by government or the private sector, has an important role in protecting the most vulnerable populations, such as patients with chronic illnesses or severe acute illnesses that result in very high expenditures. Changes in health care financing that allow greater choice may paradoxically disadvantage such individuals. Choice can affect them adversely because it can interfere with their ability to benefit from wider pooling of risk; individuals who expect to have lower than average expenditures will tend to choose plans that cost less or provide a more attractive bundle of services, whereas plans with higher premiums and more comprehensive coverage for serious illnesses or a wider choice of providers tend to attract an increasingly high-risk group of enrollees. Eventually, the comprehensive, expensive health insurance plans may cease to exist because their costs, and premiums, become prohibitive as they attract an increasingly high-risk group of subscribers. This form of adverse selection is most likely when high expenditures are predictable. The distribution of health expenditures, both for Medicare and for the general population, suggests that individuals differ greatly in their health care consumption, so adverse selection is likely to be a major problem.

It is well known, for example, that a small proportion of all Medicare recipients account for a greatly disproportionate share of program expenditures. Much of what is known, however, is based on single years or single episodes of care. Is it possible to identify a population of patients who can be expected to have very high costs of health care year after year? One factor that would mitigate any such effects is the high mortality rate associated with high expenditures. Medicare recipients in the last year of life, for example, consume much more health care than the average Medicare recipient, adjusted for age and sex. If many or most of the very high-cost Medicare recipients die, high expenditures should not persist from one year to the next. The paper by my colleagues Thomas MaCurdy, Mark McClellan, and me investigates skewness in expenditures both within a year and across many

years to gain insights into the predictability of high expenditures and the likelihood that adverse selection would be a problem over a long time period. We find that, from 1987 to 1995, high-cost users were responsible for much of the growth of Medicare's hospital payments. However, payments for physician services grew mainly because more beneficiaries used the services. Very few Medicare beneficiaries remain in the highest cost categories for multiple years, limiting the magnitude of expenditure persistence, but we find that high expenditures are sufficiently persistent to pose major adverse-selection problems. Any policy reform will need to recognize this characteristic of Medicare expenditures.

Like other ongoing work of NBER's Program in Health Care, the studies reported here are intended to offer new information and perspectives on key health policy issues to inform discussions about possible solutions to existing and future problems in health care financing and delivery. We hope that these contributions will stimulate further dialogue and ultimately advance the development of innovative solutions to health policy problems.



