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Program Report

Health Care

Alan M. Garber

Notwithstanding the recent cessation of efforts toward comprehensive health care reform in Washington, improving the financing and delivery of health care remains a major issue for the public sector. Health care markets are undergoing dramatic change, as consolidation of health care organizations, the expansion of managed care, and increased price competition among health care providers have transformed the landscape of health care delivery. Members of the NBER's Program on Health Care have studied the phenomena now occurring in health care markets, worked to understand the factors leading to changes in health care markets, and analyzed the consequences of alternative policy options. This research program also has included efforts to forecast Medicare expenditures and to evaluate health care technologies. Members of the program include both young and well-established academic economists, as well as four physician-economists.

Growth in Health Expenditures

In a recent paper,¹ David M. Cutler has compared the growth of health costs in the United States to that in the rest of the OECD. He finds that higher income is responsible for much of the higher cost of health care in the United States. Even after accounting for income effects, however, the growth of health costs in the United States in the 1980s outpaced the growth of health costs in other countries. This relative increase in spending was not associated with corresponding increases in longevity, though. Further, it is uncertain whether the lower cost growth in other countries, which was achieved largely by mandated reduction in prices for care, will continue in the future.

Medicare represents the largest public component of health care spending, and is responsible for a large fraction of the growth in the federal budget deficit. Thus, understanding why Medicare expenditures have grown is

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important for the development of health care cost containment strategies. For example, is expenditure growth concentrated among the groups of elderly Americans who have large claims? Or, has the expenditure growth been distributed equally across low- and high-cost users of services covered by Medicare, and across racial and gender categories?

To address such issues, Thomas E. MaCurdy and I² performed an analysis using data from a 5 percent file of Medicare hospital claims for 1986–90. We find that expenditure growth was not restricted to the highest-cost users, but rather occurred across the board. Expenditure growth for men, women, blacks, and whites, each viewed separately, also took place across the board. These findings suggest that cohort-targeted cost containment procedures are unlikely to curb overall Medicare expenditure growth. Identification of specific sources of growth, such as the procedures and diagnoses associated with rising expenditures, will be an important additional step in formulating cost containment policies.

Health Care Technology: Costs, Use, and Effectiveness

The adoption and diffusion of new health care technologies is widely considered to be the most important controllable source of growth in health expenditures. Several NBER economists have explored how health care technology can explain cross-sectional variation in health expenditures. They also have developed and applied methods of evaluating health technologies.

Cutler and Mark McClellan³ have investigated the causes of growth in hospital spending on heart attacks for the Medicare population. Between 1984 and 1991, that spend-

ing grew by 4 percent annually. Over the same time period, Medicare determined prices for heart attack care on an administered basis. The prices paid were essentially unchanged in real terms during that period. An increased use of intensive surgical procedures—cardiac catheterization, coronary artery bypass surgery, and angioplasty—accounted for the entire increase in spending on heart attacks.

The share of patients receiving one of these procedures rose from about 10 percent in 1984 to more than 40 percent in 1991. The procedures result in higher reimbursement levels than heart attacks treated with medication alone. McClellan⁴ has found that virtually all growth in hospital expenditures under Medicare since implementation of the prospective payment system for inpatient care can be explained by favorable reimbursement for specific procedures. In particular, expenditure growth can be traced to the more frequent use of intensive technologies that receive supplemental Medicare payments. In contrast, expenditures for such traditional technologies as hospital and intensive-care stays for patients not receiving the intensive procedures have declined substantially.

Charles E. Phelps has examined causes of the significant variation (often five- to tenfold differences) in the per capita rates of use of various medical interventions across regions. He finds that incomplete diffusion of knowledge is the most plausible explanation for the range of treatment.⁵ There is little market incentive for acquiring knowledge about the “right way to produce health.”⁶

McClellan also has found that observable patient characteristics account for only a small part of the variation across individuals in utilization.⁷ Less than one-fourth of the va-

riation in Medicare hospital reimbursement is related to such factors as patient diagnoses and complicating conditions present on admission, and to characteristics of the admitting hospital. All of the remaining variation in expenditures is attributable to retrospective case-specific factors, such as whether or not the patient received a particular intensive procedure, and whether the admission involved unusually high costs.

Several NBER researchers have studied the application of cost-effectiveness analysis to medical interventions. Phelps and I have shown⁹ how a cost-effectiveness criterion can be derived. We further show that while cost-effectiveness analysis can be a useful and powerful tool, in the presence of varied preferences and personal characteristics, it is unlikely to yield the optimal allocation of resources at the population level.⁹

McClellan has addressed the effectiveness of various health interventions in the treatment of heart attacks in the elderly.¹⁰ Using data on all elderly Americans hospitalized for new heart attacks between 1984 and 1991, he and his colleagues found that patients who received intensive cardiac procedures appeared to have substantially better outcomes than those who did not. McClellan then developed an instrumental-variables approach, using measures of patients' differential access to hospitals capable of performing intensive cardiac procedures. Through detailed medical records, he confirms that the characteristics of patients “near” and “far” to hospitals performing intensive procedures are very similar; thus, this method of analysis appears to eliminate substantial problems of selection bias.¹¹ One of these studies¹² was named an outstanding contribution to health pol-

icy research in 1994 by the Association for Health Services Research. The instrumental-variables method appears to be generally applicable to the analysis of other medical technologies, and McClellan and I now use it to analyze the cost effectiveness of care for other severe illnesses.

In more recent work,¹³ McClellan has extended this methodology to broader questions of the benefits of technological change in health care over the past decade. He finds in general that the returns to technological change are not declining, but they vary substantially across different kinds of medical treatments and hospitals.

Provider Behavior and the Organization of Health Care

Laurence C. Baker has analyzed the effects of health maintenance organizations (HMOs) on health care markets, including how HMOs affect fee-for-service physicians and other non-HMO providers. He finds that fees for normal office visits do fall in response to increases in HMO market share, but that physicians' incomes are not affected.¹⁴ In addition, there is no evidence that quantities of service fall in response to increases in HMO market share. Another paper¹⁵ considers the relationship between HMO market share and premiums for traditional indemnity health insurance, finding that increases in HMO market share are associated with declines in premiums.

In the face of negative shocks to income, physicians may exploit their relationship with patients by providing excessive care. Jonathan Gruber and Maria Owings consider the financial environment facing obstetrician/gynecologists because

of declining fertility in the United States.¹⁶ They claim that the 13.5 percent fall in fertility from 1970 to 1982 led ob/gyns to substitute for normal childbirth the more highly reimbursed alternative, cesarean delivery. Using national data for the period, they show that within-state declines in fertility are highly correlated with within-state increases in cesarean utilization.

Martin Gaynor and Paul J. Gertler have a long-standing interest in incentive effects of the organizational form of physician groups. In a recent study,¹⁷ they show that physician attitudes toward risk have dramatic effects on the incentives chosen by medical group practices, and have important consequences for productivity. They estimate that the most risk-averse physicians sacrifice over 10 percent of their annual gross income by choosing incentive schemes that induce less productivity.

This work has strong implications for public policy toward physician payment and optimal contracting of private physicians. First, optimal payment schemes will allow for risk aversion among physicians and thus not base compensation solely on performance. Second, since physicians differ in their attitudes toward risk, there will be no single payment contract that is optimal, both in terms of physicians' welfare and in terms of eliciting the desired responses from them.

Gaynor and Gertler¹⁸ examine how contracts with health plans affect physician practice. The majority of U.S. physicians now have some contractual relationship with a health plan. Using the Socioeconomic Monitoring Survey of the American Medical Association, Gaynor and Gertler find that physicians who derive a greater proportion of their revenues from HMO

or IPA contracts spend fewer hours in patient care, work fewer total hours, and have lower incomes. They also see fewer patients in the office, and make fewer referrals.

Issues in Health Insurance

Economic theory generally has argued that rising insurance costs should not affect employment. Since the provision of health insurance is voluntary, firms will offer it only if employees are willing to "buy it" in the form of lower wages. Cutler and Brigitte C. Madrian claim that this argument is not complete.¹⁹ Because health insurance is a fixed cost but wages are a marginal cost, increases in health insurance costs that are offset by wage reductions will raise the ratio of fixed to marginal costs in employment. As a result, employers will have incentives to reduce the number of workers but to increase the hours worked. Using data on hours of work and health insurance costs from 1980 through 1992, they find that the rising cost of health insurance has led to an increase of between one and two hours of work per week over the past decade.

Cutler also has investigated reasons for the low rate of employment-based health insurance. In one paper,²⁰ he finds that firms with low-wage employees or high turnover have much more variable health insurance premiums than firms with high wages and low turnover.

Low rates of health insurance coverage among the nonemployed have motivated consideration of policies to subsidize the purchase of insurance for those who are without a job. Gruber and Madrian analyze data on men aged 25 to 54 between 1983 and 1989.²¹ They

find first that, even after taking into account differences in tastes for insurance, the likelihood of coverage drops by roughly 20 percentage points separation after separation from a job. Second, limited subsidization of the cost of insurance through state laws mandating continued access to employer-provided health insurance for the nonemployed increases by 6.7 percent the likelihood of having insurance although without a job. Third, these mandates increase the number of individuals with spells of nonemployment, and the total amount of time spent jobless. Still, at least some of this increased nonemployment appears to be spent in productive job search, since the availability of continuation coverage is related to significant wage gains among those who separate from their jobs.

A key question for health care reform in the United States is whether expanded eligibility for health insurance will lead to improvements in health outcomes. Gruber and Janet Currie address this question in the context of dramatic changes during 1979-92 in Medicaid eligibility for pregnant women.²² They find first that while the changes dramatically increased the Medicaid eligibility of pregnant women, they did so at quite different rates across the states. Second, the changes lowered the incidence of infant mortality and low birthweight: the 30 percentage point increase in eligibility among 15-44-year-old women was associated with a decrease in infant mortality of 8.5 percent. Third, earlier targeted changes in Medicaid eligibility, which were restricted to specific low-income groups, had much larger effects on birth outcomes than broader expansions of eligibility to women with higher income levels. These targeted changes,

which raised Medicaid expenditures by \$840,000 per infant life saved, were fairly cost effective compared to conventional estimates of the value of a life. Gruber and Currie conclude that public policy on insurance can improve health, but that translating eligibility to coverage may be the key link in making public insurance effective.

Finally, Martin Feldstein and Gruber use data from the National Medical Expenditure Survey to study the effects of substituting a "major risk insurance" (MRI) policy for traditional health insurance.²³ MRI policies would reduce the distortion in the demand for care but would increase the net risk that households bear. On balance, the reduced distortion would have greater value to households than the increased risk bearing. In the aggregate, an MRI policy with a 50 percent coinsurance rate but a maximum out-of-pocket payment of 10 percent of income would create a positive gain of \$34 billion a year among households with members below age 65.

Current Research Initiatives and Future Reports

Several members of the health care program (David A. Wise, McClellan, MaCurdy, Cutler, and I, among others) are analyzing large health insurance claims files to address a number of critical issues in health expenditure growth and the evaluation of medical technologies. Other areas of current focus include general strategies toward cost containment, and developing analyses to support projections of Medicare expenditures and to estimate the impact of alternative Medicare policies.

Since this program is so active, another report on its activities (many of which could not be de-

scribed here) will appear in the *NBER Reporter* within the next year.

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