Medicare Reform: Who Pays And Who Benefits?

Medicare reform will have major financial consequences for every U.S. taxpayer. How can we better understand these effects?

by Mark McClellan and Jonathan Skinner

ABSTRACT: As Medicare's share of federal spending and gross domestic product (GDP) rises, the program may have increasingly important consequences not only for the health of Americans but also for their net income and financial well-being. We use incidence analysis to study payments and benefits in Medicare to various generations and income groups. We find that Medicare actually provides larger net dollar transfers to wealthier beneficiaries, although the "insurance value" of these dollars is greater for low-income households. We then evaluate a range of proposed Medicare reforms with regard to their impact on the distribution of both health care and disposable income.

In the mid-1960s private health insurance for the elderly seemed increasingly inadequate to handle the then-shocking hospital charges of $39 per day.[1] Roughly half of the elderly had no coverage at all, and those with policies often had caps of only $10 per hospital day. These problems were a principal motivation for Medicare, an insurance program intended to provide nearly universal and more comprehensive coverage to the elderly population.

The policy debate leading up to Medicare's adoption focused on whether the federal government should be in the health insurance business at all or whether other approaches might better provide health insurance for the elderly.[2] But there was little debate about how to pay for Medicare, given that the program that emerged was so strongly linked to Social Security. Financing for hospital insurance came from a beefed-up Social Security payroll tax, and premiums paid by the recipient and general tax revenues each accounted for half of the cost of physician and ambulatory coverage.

Perhaps little attention was devoted to Medicare financing be-

Mark McClellan is assistant professor of economics and of medicine at Stanford University and a faculty research fellow at the National Bureau of Economic Research in Stanford, California. He is a practicing internist, and much of his research has focused on medical technology, health care costs, and health outcomes. Jonathan Skinner is the John French Professor of Economics, Dartmouth College, and adjunct professor at Dartmouth Medical School. He has written extensively on the economic implications of social insurance programs.

cause the required taxes were relatively modest. Total Medicare spending was only $2.7 billion in fiscal year 1967 ($13.4 billion in current 1998 dollars). Spending per beneficiary was $710 in current dollars, and the supplemental Part B premium was $3 per month (around $15 in current dollars).[3]

Over the next three decades, because the Medicare program has exploded in size, the financial implications of its promise to provide health insurance for older Americans loom much larger. Medicare now accounts for more than $220 billion annually in tax revenue, which is transferred to the elderly and disabled—close to $6,000 per beneficiary. Without significant reform, these transfers could exceed Social Security payments within a few decades. Victor Fuchs projects that Medicare spending per beneficiary in 2020, $14,000 per capita, will roughly equal total spending by each elderly beneficiary on all other nonmedical goods and services.[4]

As a result, Medicare reform will have major financial consequences for every U.S. taxpayer—most of whom will someday become Medicare beneficiaries themselves. Who pays for Medicare now, and who would pay under various alternative reform proposals? Similarly, although Medicare covers a broad range of acute medical services, it covers others poorly or not at all. Who receives the benefits of Medicare insurance, broadly defined, and how do these benefits compare with payments?[5] And how can financial assessments be used to provide an adequate summary of who really benefits from Medicare?

In this paper we review some of the principles of economic analysis that can be used to assess the equity implications of Medicare and of Medicare reform. We focus on incidence analysis, an economic method for analyzing who pays and who benefits from a government policy or program, with particular emphasis on differences across income groups and generations. As we argue below, a careful accounting of the enormous financial transfers in Medicare provides a starting point for assessing whether groups are better or worse off under reform. Thus, reforms should be judged not only on whether they balance the Medicare trust funds or improve efficiency or access, but also on their equity implications—how they influence the well-being of various groups of Americans.

What Is Incidence Analysis?

Incidence analysis traces out the overall impact of a given program or policy on the financial or more general well-being of various groups of people, with a full accounting of the dollar values of costs and benefits for each group. Some parts of this assessment are obvious; others are less so. Typically, it is relatively easy to add up taxes

contributed and benefits paid out in a program, but it may be less clear how to value benefits that go beyond simple dollar payments.

For example, suppose we were to ask who benefited and who paid for Medicare during its first year of operation in 1966. People who previously did not have health insurance were now covered, so they were clear winners, especially if they were heavy users of health care services. Medicare benefited them in two ways: through better medical care and more disposable income to use on nonmedical goods and services. Healthy people enjoyed a greater sense of security about the future: Knowing that insurance coverage will be available in the event of major illness makes financial planning easier, even if the insurance is not actually used in a particular year. Such benefits of Medicare were most pronounced among the lowest-income groups, with the least coverage prior to Medicare.[6] But the higher-income elderly also benefited, because they were able to obtain more generous health insurance in return for a small increase in general tax liability and a $3 monthly premium. Their premiums were largely financed by nonelderly workers through payroll and other federal taxes. Moreover, the value of lifetime health insurance (after age sixty-five) can be greater for wealthier households, because they tend to have better access to health care and live longer. Both of these effects, which we quantify below, serve to increase Medicare benefits for high-income households relative to low-income households.

On the other hand, because Medicare insures most health care services received by the elderly, beneficiaries may use more services than they would if they were paying the full price. This is the "moral hazard" problem, although the term is a misnomer: The idea is simply that when the price of a service falls, people tend to consume more of it. As a result, some of the Medicare dollars spent on health care may be worth less to beneficiaries than an equivalent amount of money that they could spend on something else.

Other groups also have been affected significantly by Medicare. Physicians and other health professionals have enjoyed a more robust demand for their services, with a large reduction in charity and nonpaying cases among the elderly. Similarly, increased payments for health care institutions, plus some supplemental Medicare payments for certain types of hospitals, have benefited the employees, owners, and other stakeholders of such organizations. Although the health sector of the economy has some low-wage workers, the sector overall has a relatively large share of high-wage workers. Thus, the benefits of Medicare have extended to a much wider and relatively affluent group.

What about the costs of Medicare? The initial payroll taxes faced

by employers and workers were small. The combined Medicare payroll tax rate was 0.7 percent, and because the tax was capped at earnings of $6,500, the maximum annual worker payment to finance Part A was $46.20, or $239 annually in current dollars. Thus, the cost of the program, in terms of reduced income available for other purchases, was relatively small in 1966 and largely spread among the more plentiful working generation. Since then much research on Medicare has analyzed the expenditure side of the program—how it has influenced access to care, investment, innovation, and many other aspects of health care use. But little research has addressed the financing and expenditure sides of the program in an integrated way, even though spending has grown enormously and the overall net incidence of the program is unclear.[7]

A historical illustration of why the tax and expenditure sides of Medicare reform are both important is the Medicare Catastrophic Coverage Act of 1988. This was to be a major expansion of benefits to the Medicare population, and at first it garnered broad-based support, including an endorsement from the American Association of Retired Persons (AARP).[8] Shortly after its passage, however, protests from irate seniors led to repeal of the bill. Because the expansion was funded entirely by additional beneficiary taxes that increased with income, many elderly people viewed the new benefits as just not worth the additional tax costs.

The questions raised by this unfortunate political debacle go beyond "interest-group politics" and relate closely to incidence issues. For a program as large as Medicare, and which requires tax payments and provides health insurance over decades of each beneficiary's life, incidence may have major policy and political implications.

Medicare Financing From An Incidence Perspective

Medicare Part A (hospital, hospice, and some home health care) is financed by payroll taxes. Since the inception of the program, the payroll tax has been increased several times. Today workers pay a tax of 1.45 percent on all earnings, an amount matched by employers. From the standpoint of the incidence of the tax, however, whether the employer or the employee pays is immaterial: Workers receive 2.9 percent less in total compensation than what employers pay for their services.[9] This is a proportional tax on earnings, because the fraction of taxes paid to earnings is constant for all levels of earnings.

Medicare Part B (physician and outpatient care) is financed mostly through general federal revenues. This component of Part B financing is progressive, in that the federal income tax—the principal source of federal revenues—assesses a higher average percentage

of taxes on income as income rises. The other major source of Part B spending is the monthly premium paid by enrollees, approximately $44 per month. These contributions now fund about one-quarter of Part B costs. This component of the "tax" (or user fee) may be regarded as regressive, because the payment as a fraction of total income falls as income rises.

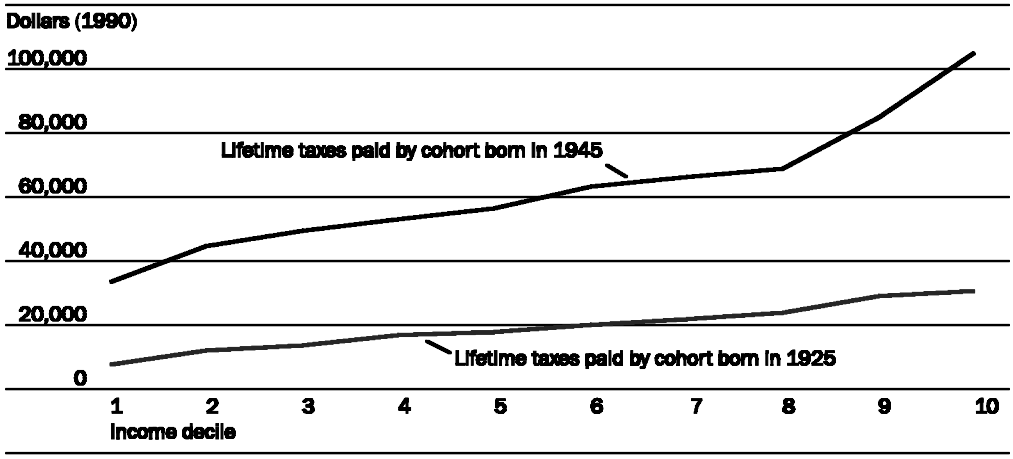
To see why the source of Medicare financing matters, consider one of the Medicare financing reforms included in the 1997 Balanced Budget Act (BBA): movement of a large part of the home health care benefit from Part A to Part B. In one sense, this was a convenient accounting change. Because Part B uses general tax revenues, whereas Part A draws from a trust fund of payroll tax contributions, the change deferred the impending "insolvency" of the Medicare trust fund and perhaps reduced the apparent urgency of Medicare reform. But it also mattered for the incidence of Medicare. Shifting from a proportional payroll tax on earnings to a progressive tax on general income tends to shift the burden of taxation from lower- to higher-income groups among the working population. Among current recipients of Medicare, on the other hand, the overall effect is regressive, because the (regressively financed) Part B premium accounts for a larger share of program costs than the elderly's (progressive) contribution to general tax revenue.[10]

Who Pays for Medicare?

What are the implications of Medicare's financing mechanism for the relationship between lifetime income and payments into Medicare? To answer this question, we estimated lifetime Medicare tax and premium payments for ten equal-size groups (or deciles), ranked by a three-year average of their income prior to Medicare eligibility. We considered two cohorts: persons born in 1925 who turned age sixty-five in 1990, and persons born in 1945 who turn age sixty-five in 2010. For this analysis we used the Panel Survey of Income Dynamics (PSID), which has followed earnings and tax payments for about 5,000 families since 1967; we also projected income and thus payments for the younger cohort extending out to 2010, based on their earnings trajectories up to now.[11] After adding in anticipated Part B premiums, we then calculated overall lifetime tax and premium payments for each decile in each cohort.

Clearly, tax payments rise with income. But overall tax payments are regressive, because the ratio of taxes paid to income at the highest income decile (10) is below the ratio for the lowest income decile (1) (Exhibit 1).[12] There are a number of reasons for the regressivity, including the presence of payroll tax "caps" mentioned earlier and shifts in earnings over the years so that some people who retire with

EXHIBIT 1
Estimated And Projected Lifetime Taxes Paid Into Medicare, For Cohorts Born In 1925 And In 1945



SOURCE: Authors' calculations based on data in M. McClellan and J. Skinner, "The Incidence of Medicare," National Bureau of Economic Research Working Paper no. 6013 (Cambridge, Mass.: NBER, April 1997).

high levels of income might have paid in little because of low earnings during their younger years.

Exhibit 1 illustrates that the issue of who pays also depends on the year of the taxpayer's birth. The lifetime tax contributions for the cohort born in 1945 are much higher than for the 1925 cohort, and they are less regressive, for several reasons.[13] First, real earnings have increased, and more women in the 1945 cohort than in the 1925 cohort are in the workforce (earning income). Second, the 1945 cohort has been paying into Medicare for almost their entire working lives. In contrast, workers in the 1925 cohort only started paying Medicare taxes in 1966, about halfway through their working lives. Finally, as Medicare spending has risen, so have the taxes required to finance it. Younger workers' earnings have faced higher tax rates and higher (or no) earnings caps for more years, as well as an increasing share of general federal revenues devoted to Part B payments. Clearly, Medicare financing has important implications for the program's intra- and intergenerational incidence.[14]

Who Benefits From Medicare?

We now turn from Medicare financing to Medicare benefits. Much of the past and current debate about the Medicare program has taken for granted that its benefits are progressive. Although many changes in financing and in the details of benefits have occurred, the core features of the program—entitlement to health insurance for "necessary" acute hospital care, physician care, and associated services, whatever those may be—apply to all beneficiaries. Indeed,

since lower-income households tend to be in worse health, Medicare might be expected to provide higher benefits per capita to lower-income households.[15] Yet previous studies suggest that even in an apparently equitable health insurance system, lifetime benefits may nonetheless increase with income.[16] Moreover, better health means longer life expectancy and hence a longer period of Medicare eligibility for higher-income beneficiaries. Finally, as medical progress has increased the cost of health care, real Medicare payments per enrollee have increased steadily from cohort to cohort throughout Medicare's history. Our analysis of the incidence of Medicare benefits considers all of these factors.

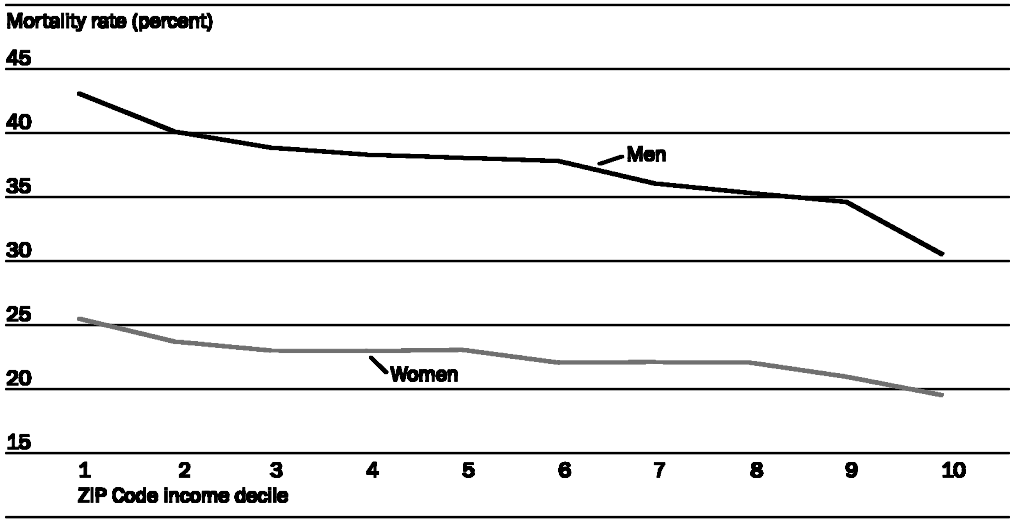
We begin with the most easily quantified measure of Medicare benefits: average dollar payments for services received by various income groups and birth cohorts. For this analysis we computed Medicare expenditures by income deciles based on a person's ZIP code of residence. Thus, the analysis is not based on the current income of the enrollee, but rather on the average affluence of the ZIP code of residence. This approach allows us to use the very large Medicare claims database, which provides sample sizes of the millions of beneficiaries, instead of thousands as in survey data.

Very large sample sizes are crucial for studying Medicare spending and health outcomes, because a large fraction of overall spending is accounted for by a relatively small number of "outlier" persons and because deaths are relatively rare in many groups. The literature suggests that ZIP code income provides a good indicator of lifetime income, in part because it avoids the noise and biases resulting from variation in current income and from the availability of financial wealth in many older households to supplement low current incomes.[17] The overall variation in Medicare spending across ZIP code–based income deciles is not as large as in Exhibit 1, because even the top decile contains a mix of high- and low-income residents.

Exhibit 2 illustrates the importance of income-based differences in mortality.[18] For each income group (and by sex) we present the cumulative mortality rate over a nine-year period, 1987–1995, of a cohort of Medicare enrollees ages sixty-five to sixty-nine in 1987. There is a twelve-percentage-point difference among men and a six-percentage-point difference among women in survival rates between the highest and lowest income deciles. The cumulative effect of the differences in mortality risk implies that beneficiaries in higher income deciles can expect to live longer and therefore collect more from Medicare.

Our earlier study of 1990 Medicare spending also showed that higher-income groups tend to incur greater payments per year in Medicare, especially later in life.[19] The correspondence between in-

EXHIBIT 2
1987–1995 Cumulative Mortality Rates, By ZIP Code Income Decile, For Men And Women Ages Sixty-Five To Sixty-Nine In 1987

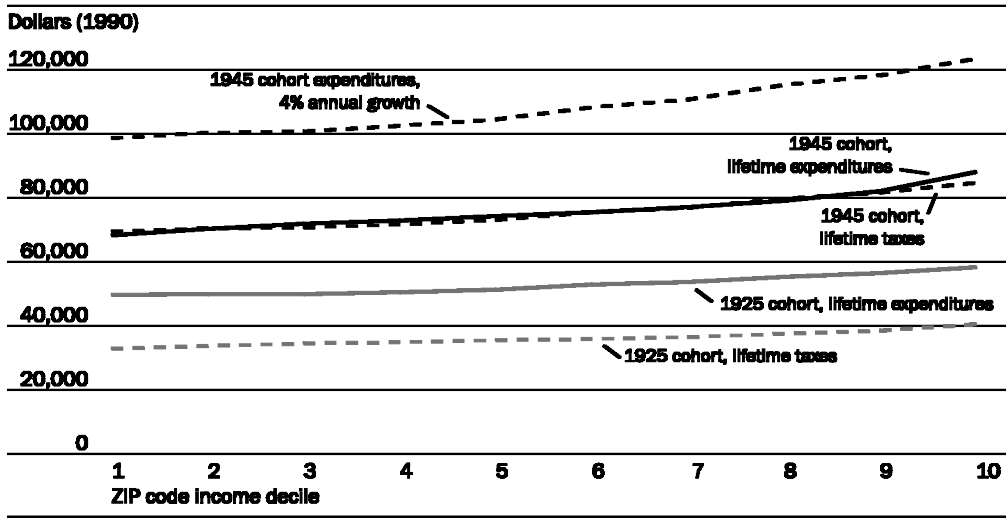


SOURCE: Based on 1987–1995 Medicare enrollment data, summarized from J. Lee, M. McClellan, and J. Skinner, "The Distribution of Medicare Benefits," in *Tax Policy and the Economy*, ed. J. Poterba (Cambridge, Mass.: MIT Press, forthcoming).

come and spending is more pronounced for men than for women and for Part B physician spending. Exhibit 3 shows the present value of lifetime Medicare expenditures.[20] The next-to-lowest line in Exhibit 3 shows these lifetime expenditures for the 1925 cohort, based on the assumptions that per capita Medicare spending will increase at a 2.5 percent annual rate and that future expenditures are discounted using a real annual interest rate of 3 percent. In addition, we show predicted Medicare expenditures for the cohort born in 1945, who will receive higher real lifetime benefits if real spending in Medicare continues to rise. The assumption of 2.5 percent real growth is modest, compared with recent historical evidence and the forecasts of many Medicare analysts.[21] To illustrate the importance of Medicare spending growth for net payments to future cohorts, Exhibit 3 also shows expected expenditures for the 1945 cohort under the assumption of a future real growth rate of 4 percent per year, closer to the program's historical experience.

To compare tax payments to benefits received, we converted the lifetime tax revenues shown in Exhibit 1 to equivalent ZIP code–based deciles; these lifetime tax payments are plotted as dotted lines corresponding to the solid benefit lines.[23] Accounting for both payments and spending, our calculations suggest that the cohort of beneficiaries who turned sixty-five in 1990 will receive much more in Medicare spending than what they paid in—an average gain of $16,700 per person, even under a conservative assumption of 2.5

EXHIBIT 3
Lifetime Per Capita Medicare Expenditures And Taxes For The 1925 And 1945 Birth Cohorts, By ZIP Code Income Decile, 1998



SOURCE: Based on 1990 Medicare claims data presented in M. McClellan and J. Skinner, "The Incidence of Medicare," National Bureau of Economic Research Working Paper no. 6013 (Cambridge, Mass.: NBER, April 1997).

percent annual expenditure growth in the future. Thus, the 1925 birth cohort is a substantial net winner from the standpoint of Medicare incidence.[22] Within the 1925 cohort the net transfer (the difference between lifetime benefits and taxes) for decile 10 of $17,800 is greater than the net transfers to the lower-income groups. The net transfers are as small as $15,500 in income decile 3, so that Medicare has redistributed as much as $2,300 more to high-income beneficiaries in this cohort.

For the 1945 cohort, the greater progressivity of the Medicare financing system in recent years leads to less redistribution from middle low-income groups to upper middle-income groups. The lines based on a 2.5 percent future growth rate show that if Medicare expenditure growth does slow, the intergenerational transfers will largely evaporate; the taxation line sits almost on top of the expenditure line, largely because of the substantial increase in Medicare taxes paid by this younger cohort. However, if Medicare benefits grow at 4 percent, real benefits will be larger (top line in Exhibit 3), meaning that intergenerational transfers will remain.

The relationship between income and net benefits may change as a result of changes in Medicare policies, medical technology, or population health. For example, we have shown in a recent paper that use of Medicare home health benefits in low-income neighborhoods has increased dramatically since 1900 relative to use by high-income beneficiaries.[23] For women, per capita home health care

"Americans preparing for retirement today have some expectation that Medicare will provide appropriate medical benefits."

spending (among all Medicare enrollees, not just home health care recipients) increased by $634 in the lowest-income group (decile 1) between 1990 and 1995, compared with only $207 in the highest-income group (decile 10). This change has important implications for incidence analysis but may be at least partially offset by new restrictions on home health spending in the BBA.

An important limitation of an incidence analysis based on dollars transferred is that the value of benefits may diverge greatly from the dollar amount of the transfers. As noted above, additional considerations related to the "insurance value" of Medicare might significantly alter our incidence conclusions. Previous research suggested that for lower-income groups, the insurance value of Medicare was roughly 20 percent higher than the dollar transfers suggested; for higher-income groups, benefits were worth about 10 percent less.[24]

Our discussion about the uncertainty of future growth in medical spending illustrates another type of insurance provided by Medicare: insurance against the uncertainty of future spending growth. Americans preparing for retirement today have some expectation that Medicare will provide appropriate medical benefits, whatever those benefits ultimately turn out to be, making it easier to plan future expenses. Just as they are now picking up much of the cost for the actual expenses of the current elderly, which were difficult to predict several decades ago, so also may future generations assist current workers in meeting their medical expenses in old age.

Implications for Medicare Reform

We have argued that an explicit analysis of lifetime payments and benefits in Medicare can assist in evaluating Medicare reforms. Before turning to specific reforms, however, we pose one further question: How much should Medicare redistribute between income groups and generations? Answering this question is crucial in evaluating whether the incidence consequences of Medicare reforms are desirable or not. Some guidance is provided by what is probably the most popular notion of fairness underlying the program: Higher-income persons pay more into Medicare, but everyone receives "similar" insurance coverage. As we have seen, there is less redistribution from highest- to lowest-income Americans through the program than this popular notion implies.

The BBA legislates an increase in Part B monthly premiums to

$105 in 2007; its impact on the incidence of Medicare is to shift funding toward current beneficiaries, albeit in a regressive way, since all elderly beneficiaries face the same premium increase.[25] Some observers have suggested tying Part B premiums to annual income so that higher-income elderly pay more, although there are administrative problems in implementing this approach.[26] Obviously, such a financing change would have incidence effects favoring lower-income beneficiaries.

Other reform proposals have focused on "rationalizing" Medicare benefits. Whatever their consequences for the efficiency of the program, they also may have important consequences for its incidence. For example, the current Medicare program provides more coverage for acute illnesses treated on an inpatient basis than for chronic illnesses, which depend primarily on outpatient treatment with prescription drugs or on long-term nursing care. Some proposed reforms include the addition of an ambulatory prescription drug benefit and possibly new long-term care benefits, perhaps at the expense of less generous coverage of acute hospital services. These changes are likely to be particularly valuable for beneficiaries with chronic illnesses and relatively high out-of-pocket spending on prescription drugs, which are more prevalent in the younger lower-income elderly. Reforms that affect coverage or generosity for specific diseases such as renal failure, special services for patients with complicated diabetes, and treatment for substance abuse disproportionately benefit people in lower-income groups, given their greater likelihood of having such illnesses.[27]

More fundamental reforms would partially decouple Medicare spending from the growth in medical spending. For example, some proposals advocate changing the Medicare benefit from a fee-for-service entitlement to a defined contribution toward the premium of one of a set of approved insurance plan choices.[28] In principle, changing to such a premium-support system not only would effectively cap Medicare spending per beneficiary but also could lead to more efficient health plan choices, since beneficiaries would be responsible for the additional costs of a relatively expensive plan.

How this premium support is allocated and financed and how it grows over time are the key questions for determining the implications for Medicare incidence. The premium support could be financed in the same way as current benefits are financed. If so, it would have no implications for intergenerational incidence unless it led to a slower rate of Medicare growth over time—which would reduce transfers from younger workers to current beneficiaries. Under the current system, we have seen that actual spending may vary positively with income. With premiums risk-adjusted for health

status, a premium-support system could ensure a more equal dollar amount flowing to lower-income persons.[29]

A premium-support or defined-contribution reform also might change the "insurance-value" incidence of Medicare. The use of relatively fixed contributions might be expected to reduce moral hazard because beneficiaries would bear more of the cost of a more expensive plan, possibly leading to health plan choices that increase the value of health care dollars for all beneficiaries. However, because lower-income beneficiaries probably would purchase less medical care, this effect would probably be manifested as increasing differences in health care use between lower- and higher-income groups. On the other hand, without adequate risk adjustment or other methods to limit the problem of adverse selection, fixed contributions may make it more difficult for beneficiaries to obtain desired insurance coverage at an actuarially fair price—especially for lower-income beneficiaries who are likely to receive the subsidies and insurance "pooling" of supplemental retiree health benefits.

Medicare's "risk" health maintenance organization (HMO) option and the new Medicare+Choice program have incidence implications similar to those of a premium-support program. They too provide a dollar payment toward the costs of a managed care or other approved alternative to traditional Medicare. From an incidence standpoint, it is perhaps not surprising that these programs have been relatively popular with lower-income beneficiaries who are not eligible for Medicaid—the income group that fares least well in terms of net benefits in traditional Medicare.

Reforms instituting individual "prefunding" also could have important incidence effects. For example, some reforms envision having persons pay for their own health insurance in old age, through individual Medicare accounts funded by their own payroll taxes during their working lives.[30] Because each birth cohort would prefund its own Medicare spending entirely, the current Medicare transfers from younger to older generations would be eliminated.[31]

Just about any kind of dollar-based redistribution between generations and income groups could be achieved through a prefunding approach, perhaps by partially matching contributions by low-income persons and taxing contributions by high-income persons. But complete prefunding provides no insurance against unpredictable variations in the future growth of medical spending or an individual fund's accumulation. The individual fund also provides relatively limited insurance against the risk of chronic, lasting illnesses. Although empirical evidence is sparse, our previous analyses suggest that these reductions in insurance value would be largest for low-income households.[32]

MEDICARE REFORM MAY HAVE major implications for the incidence or equity of the program—who pays and who benefits—both across income groups and across various cohorts or generations of beneficiaries. We have not answered the more difficult normative question: Who should pay, and who should benefit? But we have tried to provide a framework for judging the fairness of particular reform proposals, compared with the status quo incidence of Medicare. Because of the program's magnitude, incidence analysis is an important complement to considerations of efficiency, ethics, and other issues in the reform debate.

From the perspective of intergenerational incidence, programs that transfer income from current workers to finance benefits for current elderly have been popular. However, Medicare transfers are rapidly surpassing even Social Security transfers in magnitude. To maintain the net transfers from younger to older generations so that every cohort continues to "win" from a lifetime perspective in Medicare, medical spending must continue to grow much faster than the rest of the economy, and taxes on younger workers to finance Medicare must continue to rise. This approach may become increasingly difficult to sustain, but the alternatives—reducing the growth of Medicare spending, or switching a greater part of program costs to the current elderly—hardly seem more politically appealing. Careful consideration of the incidence of Medicare reforms may not make the choices among difficult alternatives any easier. But incidence analysis can help to ensure that the complex but basic questions of who gains and who loses are included in the debate.

All opinions expressed in this paper are those of the authors and should not be construed to represent those of the National Bureau of Economic Research (NBER). The authors are grateful to the editors and two anonymous referees for very helpful and constructive comments, to Julie Lee for extraordinary research assistance, and to the National Institute on Aging for financial support.

NOTES

1. Or about $200 in 1998 dollars. Testimony by Paul E. Hanchett, "Private Health Insurance for the Elderly," Senate Special Committee on Aging, vol. 4 (88th Congress, 1964), 1631.
2. T.R. Marmor, *The Politics of Medicare* (Chicago: Aldine, 1973).
3. U.S. House Ways and Means Committee, *Green Book* (Washington: U.S. Government Printing Office, 1998); and Congressional Budget Office, *Economic and Fiscal Outlook: Update* (Washington: CBO, August 1998).
4. V. Fuchs, "Provide, Provide: The Economics of Aging," in *Medicare Reform: Issues and Answers*, ed. T.R. Saving and A. Rattenmaier (Chicago: University of Chicago Press, forthcoming); and CBO, *Long-Term Budgetary Pressures and Policy Options* (Washington: CBO, May 1998).
5. Other key government health insurance programs include the Medicare enti-

tlement through disability insurance or the end-stage renal disease program and Medicaid insurance. Although we do not do so here, our methods could readily be extended to analyzing these programs. For the reasons discussed above, we suspect that the benefits of these programs are likely to extend beyond the low-income population.

6. Only 15 percent of single elderly men in the bottom third of the income distribution had health insurance in 1962, compared with 80 percent of elderly couples in the highest third of the income distribution. See National Center for Health Statistics, *Health Insurance Coverage*, Series 10, no. 11 (Hyattsville, Md.: NCHS, August 1964); and L. Epstein and J. Murray, *The Aged Population of the United States: The 1963 Social Security Survey of the Aged* (Washington: Department of Health, Education, and Welfare, 1967).
7. For an exception, see R.J. Vogel, "An Analysis of the Welfare Components and Intergenerational Transfers under the Medicare Program," in *Lessons from the First Twenty Years of Medicare*, ed. M.V. Pauly and W.L. Kissick (Philadelphia: University of Pennsylvania Press, 1988).
8. L.J. Haas, "Fiscal Catastrophe," *National Journal* (7 October 1989): 2453–2456.
9. This is not to say that were Medicare payroll taxes erased, workers would experience a full 2.9 percent "raise" in after-tax earnings. The magnitude of their increased net earnings would depend on the ratio of the elasticity of demand for workers and the elasticity of supply by workers. See H. Rosen, *Public Finance*, 5th ed. (New York: Irwin McGraw Hill, 1998).
10. In 1986, the most recent published figures, the elderly paid 14 percent of total federal income taxes. Internal Revenue Service, *Individual Income Tax Returns* (Washington: U.S. Government Printing Office, 1986). With Part B premiums financing 25 percent of Part B program costs, as a rough approximation the elderly pay just over one-third of a $1 increase in Part B spending (.25 + .75 × .14), of which 70 percent (25/35) is a lump-sum assessment.
11. Consistent with trends over the past two decades, we assume that earnings grow in real terms at the rate of 1 percent for high school dropouts, 1.5 percent for high school graduates, and 2 percent for college graduates.
12. Lifetime tax payments, expressed as a fraction of annual income, are 32 percent for the lowest-income decile and 19 percent for the highest.
13. Part B premiums are assumed to grow in real terms at 2.5 percent per year. A higher growth rate (consistent with projected rates legislated in the BBA) would reduce the degree of progressivity.
14. A. Auerbach, J. Gokhale, and L.J. Kotlikoff, "Social Security and Medicare Policy from the Perspective of Generational Accounting," in *Tax Policy and the Economy*, vol. 6 (Cambridge, Mass.: NBER and MIT Press, 1992).
15. J.S. House et al., "Age, Socioeconomic Status, and Health," *Milbank Quarterly* 68, no. 3 (1990): 383–411.
16. K. Davis and R. Reynolds, "Medicare and the Utilization of Health Care Services by the Elderly," *Journal of Human Resources* 10, no. 3 (1975): 361–377; C.R. Link, S.H. Long, and R.F. Settle, "Equity and the Utilization of Health Care Services by the Medicare Elderly," *Journal of Human Resources* 17, no. 2 (1982): 195–212; and J. LeGrand, *The Strategy of Equality* (London: George Allen and Unwin, 1982).
17. A. Geronimus, J. Bound, and L. Neidert, "On the Validity of Using Census Geocode Characteristics to Proxy Individual Socioeconomic Characteristics," *Journal of the American Statistical Association* 91, no. 434 (1996): 529–537. For a study comparing Medicare use by ZIP code and survey income, see M.E. Gornick et al., "Effects of Race and Income on Mortality and Use of Services among Medicare Beneficiaries," *New England Journal of Medicine* 335, no. 11 (1996): 791–799.

18. The link between income and mortality is well established. H.O. Duleep, "Mortality and Income Inequality among Economically Developed Countries," *Social Security Bulletin* (Summer 1995): 34–53; P. Menchik, "Economic Status as a Determinant of Mortality among Nonwhite and White Older Males: Or, Does Poverty Kill?" *Population Studies* 47, no. 3 (1993): 427–436; and G. Pappas et al., "The Increasing Disparity in Mortality between Socioeconomic Groups in the United States," *New England Journal of Medicine* 329, no. 2 (1993): 103–109.
19. McClellan and Skinner, "The Incidence of Medicare."
20. The present value of Medicare is the expected total amount of lifetime program payments per beneficiary, discounted back to the present time.
21. Congressional Budget Office, *Long-Term Budgetary Pressures and Policy Options* (Washington: U.S. Government Printing Office, May 1998).
22. Auerbach et al., "Social Security and Medicare Policy."
23. J. Lee, M. McClellan, and J. Skinner, "The Distribution of Medicare Benefits," in *Tax Policy and the Economy*, ed. J. Poterba (Cambridge, Mass.: MIT Press, forthcoming). The possible redistributive effects of higher Medicare spending among the low-income population will also be offset by increasing divergences in income-based mortality. Finally, the permanence of the qualified Medicare beneficiary (QMB) and specified low-income Medicare beneficiary (SLMB) programs are in question past 2002. M. Moon, B. Gage, and A. Evans, *An Examination of Key Medicare Provisions in the Balanced Budget Act of 1997* (Washington: Urban Institute, September 1997).
24. McClellan and Skinner, "The Incidence of Medicare." The principal reasons for the difference in insurance value across income groups include the relatively greater value of reduced variability in medical spending and the relatively lower availability of risk pooling (for example, through retiree health insurance plans) for the low-income elderly.
25. Moon et al., *An Examination of Key Medicare Provisions*. This assumes (as they do) that QMB and SLMB programs do not cover the future Part B premiums among lower-income households.
26. M. Moon and C. Kuntz, *Increasing Medicare's Part B Premium* (Washington: Urban Institute and Commonwealth Fund, November 1996).
27. M.J. Klag et al., "End-Stage Renal Disease in African-American and White Men: 16-Year MRFIT Findings," *Journal of the American Medical Association* (23–30 April 1997): 1293–1298.
28. H.J. Aaron and R.D. Reischauer, "The Medicare Reform Debate: What Is the Next Step?" *Health Affairs* (Winter 1995): 8–30.
29. Of course, high-income persons might still receive more in dollar terms over their lifetime because of a longer life expectancy.
30. P. Ferrara, *The Next Steps for Medicare Reforms* (Washington: Cato Institute, April 1998).
31. Transition is difficult and may require a gradual phase-in, because working-age cohorts must both save for their own Medicare benefits as well as finance Medicare benefits for the current elderly. Supporters of prefunding argue that investing account funds in equities allows a rate of return sufficiently high to mitigate the transition problem.
32. McClellan and Skinner, "The Incidence of Medicare."