MEDICARE FOR ALL:

A PUBLIC FINANCE ANALYSIS

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ABSTRACT

Medicare for seniors has been evolving for half a century and has performed very satisfactorily. Medicare for All would (1) provide automatic permanent coverage for everyone regardless of employment, health status, income, marital status, or residential location; (2) require everyone to pay some tax to finance it—there would be no free-riders; (3) use single-payer bargaining power to reduce medical cost as a percent of GDP; (4) eliminate the burden imposed by private health insurance premiums; (5) eliminate health insurance distraction for business managers, entrepreneurs, and job seekers, thereby improving the productivity of the U.S. economy; (6) remove the implicit tax on entrepreneurship and job mobility that is imposed by employer-provided private health insurance; (7) remove the implicit tax on having a high expected medical cost that is imposed by individually-purchased private insurance; (8) require an increase in taxes of 8 percent of GDP to replace the elimination of private insurance premiums; this tax increase would be sufficient to continue Medicare's record of paying prices to medical providers that are high enough to avoid waiting lists and maintain high quality.

Introduction

This paper applies a public finance perspective to "Medicare for All," the proposal to extend Medicare, which currently covers primarily seniors, to all Americans (Morone 2002; Woolhandler, Himmelstein, Angel, and Young 2003; Seidman 2013a). Here in brief are the main features of Medicare for All. Every American would be automatically permanently covered regardless of employment, health status, income, marital status, or residential location; everyone would receive a Medicare card for life to use any time or place that individual obtains medical care. Private health insurance premiums would be replaced with a set of taxes earmarked for Medicare. Everyone would pay at least some of the earmarked taxes so that there would be no free-riding—everyone would make a financial contribution to Medicare for All. Patient cost-sharing would either be small, income-related, and "value-based" ("value-based" means varied according to medical cost-effectiveness), or zero, so there would be no need for private "medi-gap" insurance policies to cover patient cost-sharing or for Medicaid to pay medical bills. Individuals would have free choice of doctors. Medicare would use its single-payer bargaining power to negotiate the prices of medical goods and services. Individuals would be free to obtain and pay for medical services outside of Medicare after paying Medicare taxes, just as they are free to send their children to private schools after paying taxes for public schools. To minimize dislocation, Medicare for All should contract with private health insurance companies to handle bill-processing, just as Medicare has always done; and Medicare for All should phase-in different age groups over several years until the entire population is covered, so

that Medicare for All taxes gradually phase in as private insurance premiums phase out.

Automatic Permanent Coverage and Portability

Under Medicare for All, changes in employment, health status, income, marital status, residential location, or anything else would have no effect on coverage. The welfare cost from worrying about getting or losing health insurance would be eliminated. What is the value to people of having automatic coverage and portability provided by Medicare for All? How much would people be willing to pay for it-- that is, what would be the sum of the marginal benefits over the population? It depends on whether automatic coverage and portability can be obtained through private insurance.

Consider three alternative systems for providing health insurance: employer-provided private insurance, or individually-purchased private insurance, or government insurance. Consider, in turn, the impact of each system of insurance on automatic coverage and portability.

There are two problems with a system of employer-provided private health insurance. First, many employers are unwilling or unable to provide insurance for their employees. Second, when employers do provide insurance, an employee's coverage is usually interrupted when there is a change in employment, a health problem that prevents employment, divorce from a spouse whose employment provides one's coverage, and residential relocation that requires a switch in employment. The COBRA law requires that a former employee be given the option of keeping the insurance for eighteen months, but the employee must pay out-of-pocket the full premium the employer previously paid—a burden hard to bear when the former employee may have no wage income and a health problem that prevents

employment.

A system of individually-purchased private health insurance would have automatic portability because insurance would stay with the individual regardless of a change in employment. But it would not provide automatic coverage, and it would vary the premium according to each individual's expected medical cost. In the absence of government regulation and subsidies, a free market of competing private individual insurance plans would not provide coverage to many individuals. A private insurance company has a financial incentive to refuse coverage to an individual unless it can charge a premium that covers that individual's expected medical cost. Each individual would therefore be given a health history questionnaire prior to enrollment, and then charged a premium that varies with the individual's expected medical cost. If a health history questionnaire reveals that the individual's expected medical cost is very high, the insurer may simply inform the individual that she is not eligible for coverage rather than offer coverage at a very high premium that the individual would be unable to pay. If the expected cost is merely high, the insurer will offer coverage at a high premium that the individual may be unable to afford.

Advocates of a system of individually-purchased private insurance have offered two alternative approaches to improve its coverage. Under the conservative approach, individuals would not be required to obtain health insurance, and no attempt would be made to force private insurance companies to do what they don't want to do. Companies would be free to reject individuals with pre-existing conditions, drop individuals who develop a high-cost medical problem, or charge each individual a premium that varies with that individual's expected medical cost. But the government would make last-

resort insurance available at a normal premium to every high-cost individual by providing subsidies to private insurance companies to enroll high-cost individuals at a normal premium and subsidies to moderate-income high-cost individuals so they could afford the normal premium.

Under this conservative approach, however, coverage would not be automatic and many individuals would choose not to obtain insurance. A high-cost individual might initially be rejected by a private insurance company or offered a very high premium. The individual would then have to apply to qualify for last-resort insurance. There would be a delay processing the application and the individual might ultimately be rejected. Even if the person is accepted, a person with moderate income would need an adequate subsidy from the government to enable her to afford the normal premium. By contrast, under Medicare for All no application process or subsidy is necessary; every person is automatically covered.

Under the liberal approach to improving coverage under a system of individually-purchased insurance, individuals would be required to obtain insurance or pay a penalty, and the government would try to compel insurance companies to enroll and charge a normal premium to everyone who applies regardless of pre-existing conditions or high expected medical cost. This is the approach of the Affordable Care Act which will try to make insurance companies do what don't want to do: enroll high-cost individuals at a normal premium. In an effort to reduce company resistance and maneuvering (described by former insurance company insider Potter 2009), the ACA will try to implement "risk-adjustment." Under risk-adjustment, the government gives subsidies to companies that enroll an unusually high number of high-cost individuals. Without these subsidies, companies

will seek subtle ways to discourage the enrollment, and encourage the disenrollment, of high-cost individuals. Risk adjustment, however, has already been attempted in the Medicare Advantage program and the Medicare Drug program, and several studies have found that it is hard to achieve successful risk-adjustment (for example, Brown, Duggan, Kuziemko, and Woolston 2011).

Although the Affordable Care Act will likely make a significant improvement in coverage, it will not achieve automatic permanent universal coverage or automatic portability. Because the ACA accepts the current system in which the majority relies on employer-provided private insurance, there will be no automatic portability for the majority because any separation from employment will interrupt their employer-provided coverage and compel them to seek new individual insurance unless they can afford expensive COBRA coverage or promptly obtain coverage from a new employer. The Affordable Care Act will try to help individuals obtain private individual insurance through new insurance exchanges, subsidies, and regulation of private insurers, but new coverage will not be automatic.

By contrast with a system of employer-provided private health insurance or a system of individually-purchased private health insurance, government insurance (Medicare for All) would achieve automatic permanent coverage and portability for everyone. It follows that many individuals would probably be willing to pay a significant amount for the *automatic permanent* coverage and portability feature of Medicare for All. I am not aware of any actual surveys or empirical studies that try to provide a dollar estimate of the sum of the marginal benefits over the population for having an insurance system with automatic coverage and portability, but I suspect that the dollar sum would be large.

Eliminating Implicit Taxes Imposed by a System of Private Health Insurance

Medicare for All would eliminate the implicit taxes imposed by a system of private health insurance. A system of employer-provided private health insurance imposes an implicit tax on entrepreneurship and job mobility. A system of individually-purchased private health insurance imposes an implicit tax on having a high expected medical cost.

Employer-Provided Insurance: An Implicit Tax on Entrepreneurship and Job Mobility

Under Medicare for All, business managers, entrepreneurs, and job seekers would no longer be distracted by health insurance. Managers and entrepreneurs would concentrate exclusively on their business, and job seekers would choose jobs without considering health insurance. Removing the distraction of private health insurance would increase the productivity and efficiency of the economy.

Under today's private health insurance market, most managers and entrepreneurs must devote substantial resources and time to handling their employees' health insurance. They must select private insurance plan options for their employees, continually monitor plan performance, employee satisfaction, and plan changes (in premiums, service coverage, and patient cost- sharing). Large firms must establish benefits departments to handle the health insurance of their employees.

The health insurance burden is especially severe on managers of small businesses. The premium charged by private insurers will usually vary with the average medical cost of the small group of employees. If one employee's family develops a chronic costly medical problem, the insurance company will usually raise the firm's premium to cover the higher medical cost for as long as the high-cost employee remains with the firm. This places the business manager in a difficult ethical situation. Instead of being able to concentrate exclusively on business, the manager must worry about the medical costs of employees and their dependents.

The potential private health insurance burden discourages entrepreneurship and small business creation. Consider someone who is deciding whether to work for an established large business firm or start up her own small business. If she works for the large firm, it will provide her health insurance and she won't have to take care of anyone else's health insurance. But if she becomes an entrepreneur, she must immediately confront the problem of whether to provide health insurance for her employees. If she doesn't, she may be unable to attract the best employees, and she must also obtain and maintain individual health insurance for herself. The alternative is to search the private group health insurance market even before she begins to operate her new business.

Now consider the burden on each job seeker. An immediate question is whether a potential employer provides health insurance and the specifics of the employer's health insurance policy. Once a job seeker is employed, leaving the job would entail losing the employer's health insurance. As a consequence, some employees experience "job lock": they decide not to switch jobs because of the health insurance loss such a switch would provoke (Madrian 1994). Workers who would be more productive and/or more satisfied if they switched jobs are deterred from switching because of concern

about health insurance. Switching from low to high productivity jobs is deterred by concerns about health insurance. Job seekers on Medicaid fear losing health insurance coverage if they get a job that pays more than the Medicaid ceiling but doesn't offer private health insurance.

Eliminating the health insurance distraction of business managers, entrepreneurs, and job seekers would improve the productivity of the economy. Instead of burdening managers and workers with responsibility for obtaining health insurance, Medicare for All would take care of health insurance so that managers and workers can concentrate on economic productivity.

In future research it might be possible to use empirical work on entrepreneurship and job mobility to make a rough estimate of the deadweight loss that results from the implicit tax imposed by a system of employer-provided private health insurance. Replacing private health insurance with Medicare for All would remove the deadweight loss from this implicit tax and thereby achieve a welfare gain equal to the magnitude of this deadweight loss.

Individually-Purchased Insurance: An Implicit Tax on Having a High Expected Medical Cost

Under a system of individually-purchased private health insurance, each individual would be given a health history questionnaire prior to enrollment, and charged a premium equal to the individual's expected medical cost. An individual's premium burden would vary directly with the individual's expected medical cost. By contrast, under Medicare for All, the individual's tax burden would not vary with the individual's expected medical cost.

If each individual were able to fully control his expected medical cost, and could achieve a

specific expected medical cost with the same effort as any other individual, then an implicit tax on having a high expected medical cost would promote both efficiency and equity because the implicit tax would give each person an incentive to try to avoid behavior that raises his expected medical cost, and would impose a burden on each individual that varies with his lack of effort. However, if each individual has little ability to control his expected medical cost, then an implicit tax on having a high expected medical cost would induce little change in an individual's behavior but would simply burden the individual in proportion to his bad luck. In actuality, the ability to control one's own expected medical cost varies greatly across individuals; for many, expected medical cost is a matter of luck, not effort.

It should be noted that Medicare for All could impose taxes that provide an incentive to avoid a particular behavior that is likely to raise expected medical cost-- for example, the purchase of tobacco products—or provide tax credits that provide an incentive to engage in a particular behavior that is likely to reduce expected medical cost—for example, a gym membership.

Replacing Premiums with Taxes

What is the effect of replacing premiums with taxes? To simplify, initially assume every business firm providing health insurance for its workers has been paying a premium of $5,000 per worker to a private health insurance company. Suppose the government levies a tax on each firm of $5,000 per worker and provides the same health insurance coverage. Each firm would cancel its private

health insurance policy and send its check ($5,000 times the number of workers) to the government instead of to a private insurance company. Switching from a premium of $5,000 per worker to a tax of $5,000 per worker would not introduce any incentives to change behavior and would therefore not impose any efficiency cost on the economy.

Of course, it is unlikely that Congress would prescribe a tax equal to a fixed dollar amount per worker. Congress would probably prescribe a payroll tax or income tax or value-added tax because these taxes take into account ability-to-pay. All of these taxes would introduce some incentives to change behavior and would therefore impose some efficiency cost while at the same time distributing the burden of health insurance according to ability-to-pay.

The key point is that it is not the switch from private to government insurance per se that introduces incentives to change behavior and imposes an efficiency cost. The efficiency cost would come from the decision by Congress to use a payroll, income, or value-added tax rather than a fixed dollar tax per worker in order to distribute the burden according to ability-to-pay.

Rather than funding Medicare for All with a single earmarked tax at a high rate, it would be better to use a set of earmarked taxes, each with a moderate rate (Seidman 2013b). A set of taxes with moderate rates is likely to impose less efficiency cost on the economy than a single tax with a high rate because public finance economists have shown that the efficiency cost from a tax generally rises with the square of the tax rate (Seidman 2009). Moreover, a set of taxes often spreads the burden more fairly across the population than a single tax that may especially burden one group while imposing little or no burden on other groups.

The set of taxes earmarked for Medicare for All might consist of the following: the Medicare payroll tax, a value-added tax (VAT), a Medicare for All income tax surcharge on the 1040 personal tax return, and a set of health taxes (on tobacco, alcohol, and pollution) that discourage activities harmful to health. With this set of taxes, there would be no free-riders: everyone would bear some tax burden from Medicare for All.

Several of these taxes are already in place in the U.S. and several would be new to the U.S. One tax currently in place in the U.S. is the Medicare payroll tax (currently 1.45 percent on the employer and 1.45 percent on the employee—a combined rate of 2.90 percent on all wage income). The tax that would be new to the U.S. is the value-added tax (VAT) which is used successfully by virtually every economically advanced country. Many U.S. economists have recommended a U.S. VAT (Seidman 2004, Hines 2007, Seidman 2013b) and several analysts have recommended that a VAT be enacted and earmarked for universal health insurance (Morone 2002, Burman 2009). The VAT burden on low-income households would be offset by giving these households a refundable tax credit on their 1040 income tax return to compensate roughly for most of the burden they bear from the VAT (Seidman 2013b).

Raising the payroll tax above its current 2.90 percent would be simple to administer and require no new legislation other than raising the number 2.90 to a higher value; it would require no new tax administration. By contrast, a VAT would require new legislation and new administration. But there has been so much practical experience administering a VAT in other countries that it would be relatively easy for the U.S. to get a VAT up and running. A VAT would increase the prices of most goods and services and economic analysis shows that most of the tax burden would fall on consumers.

Because of the effect on prices, a VAT should be phased in gradually over several years. Using both the Medicare payroll tax and a VAT would prevent free-riding under Medicare for All because everyone would bear some burden through either lower take-home pay or higher prices, and would therefore be making some financial contribution to Medicare for All.

The new Medicare for All income tax surcharge on the 1040 personal tax return would be easy to implement; the Medicare surcharge might be t percent (for example, 1 percent) of income. Some health taxes (on tobacco, alcohol, and pollution) are already in place and some would be new. The U.S. has long had excise taxes on tobacco and alcohol; their revenues would now be earmarked for Medicare for All. The U.S. has generally used regulation rather than taxes to deter pollution, but most economists advocate pollution taxes as a more desirable way to deter pollution; a set of pollution taxes would require new legislation.

Here is a rough estimate of how much the new earmarked taxes would need to be as a percent of GDP. Today U.S. medical costs are 18% of GDP while no other country exceeds 12%. Suppose Medicare for All aims to cut the huge 6 percentage point gap in half to 3%, so that U.S. medical costs are 15% of GDP. If Medicare for All succeeds in using its single-payer bargaining power (as explained below) to achieve its medical cost target of 15% of GDP, then Medicare for All taxes would need to be 15% of GDP. Government (federal and state) spending on Medicare, Medicaid, and other government health programs is currently about 7% of GDP (U.S. Congressional Budget Office 2012), so *new* earmarked taxes would need to be 8% of GDP.

To put this 8% of GDP number in perspective, in 2007 (before the Great Recession caused a plunge in tax revenue), U.S. taxes (federal, state, and local) were about 30% of GDP. Thus, taxes

would rise by 8% of GDP from 30% to 38% (federal taxes would rise by 9.5% of GDP while state taxes would fall by 1.5% of GDP due to the reduction in state Medicaid expenses), which would still leave U.S. taxes as a percent of GDP slightly lower than the average of the economically advanced OECD countries (roughly 40%) and far below the Scandinavian countries (roughly 50%).

At the same time, U.S. medical costs would be 3% of GDP lower every year (15% instead of 18% of GDP) so goods and services other than medical care would be 3% of GDP higher every year (85% instead of 82% of GDP). Each year Americans would enjoy 3% of GDP more goods and services other than medical care while still having the highest medical care spending in the world (15% of GDP when all other countries spend 12% of GDP or less).

Medicare for All would have to bargain over prices and budget caps with medical providers in order to keep Medicare for All spending from exceeding the earmarked revenues it collects. If a gap occurs, Congress would have to bridge the gap by either raising earmarked taxes or reducing medical prices and budget caps. Once Medicare for All taxes are in place, political resistance to raising the rates of these earmarked taxes would help contain the rise in medical costs under Medicare for All.

Would the efficiency cost imposed by increasing the tax burden from 30 to 38 percent of GDP be large or small? A huge literature by economists addresses this question, and I make no attempt to review that literature here. I will cite just one economist's empirical work here that has influenced my own thinking, while acknowledging that not all economists agree with his empirical results. In his monograph on social spending and economic growth in economically advanced countries over the past three centuries, Peter Lindert (2004, p16-17) wrote:

"Knowing that higher tax rates and higher subsidies to people who don't produce could discourage productivity, many of us naturally suspect that taxes and transfers should reduce the productivity of the whole economy…Yet the history of economic growth is unkind to this natural suspicion…Nine decades of historical experience fail to show that transferring a larger share of GDP from taxpayers to transfer recipients has a negative correlation with either the level or rate of growth of GDP per person. The average correlation is essentially zero."

Lindert then gave his explanation (p31):

"In general, high-budget welfare states have a more pro-growth and regressive mix of taxes…They rely more heavily on labor income taxes and flat consumption (or value-added) taxes…Granted, the rates of overall taxation are still higher in the high-budget countries, yet their attention to the side-effects on economic growth seems to have led them to choose types of taxes that minimize or eliminate any damage to growth."

The mix of earmarked taxes recommended earlier in this paper and in Seidman (2013a) to fund Medicare for All is consistent with Lindert's study-- the main sources of revenue would be the payroll tax and the value-added tax.

The Impact of Single-Payer Bargaining Power on Medical Cost as a Percent of GDP

For several decades the U.S. has been an extreme outlier among high-income countries with respect to medical cost as a percent of GDP. Today the U.S. medical cost is 18% of GDP but no other country exceeds 12%. For several decades, virtually all high-income countries have used *single-payer bargaining power* to limit the rise in prices of medical goods and services. Payer bargaining power has been used to limit prices set by hospitals and drug companies and fees set by doctors, and to set budgets—total spending caps—for hospitals, drugs, and doctors. Some countries have exercised payer bargaining power through a government national health service—for example, Britain; others, by having government be the single-payer of private medical providers—for example, Canada; and others, by having the government coordinate private insurers into a united bargaining unit, sometimes called an "all-payer" system--for example, Germany.

But will this method lead to waiting lists and low quality? It depends on whether payer bargaining power is applied severely or moderately. Figure 1 shows that with 100% insurance, the patients' demand curve would be a vertical line—no matter how high a price is charged by the medical provider (doctor, hospital, or drug company), patients' demand is the same as it would be if the price charged were zero. With a normal supply curve S, at first glance it might seem that the market would move to point G and stay there. But once the market reaches point G, price continues to climb up D *without limit* unless insurers or government regulators stop it because with 100% insurance, patients no longer care about the price their own medical provider charges when they seek medical care and choose among medical providers, and providers know this. The unlimited price

rise would occur even if patients must pay a fixed dollar copayment or modest deductible before the 100% insurance kicks in. As long as the dollar copayment or deductible doesn't vary with the price the provider charges, a patient is not deterred from going to a medical provider no matter how much the provider raises the price charged to the patient's insurer.

Of course, the insurers paying the bills will try to resist the unlimited price rise under 100% insurance. When insurers receive bills from medical providers, they usually refuse to pay the providers' prices. When the provider charges $500 for a particular service to an enrolled patient, the insurer announces that its "allowable" charge for that service is $200 and that's all it will pay. The provider usually accepts the "allowable" charge of a large insurer with many enrollees. But the ability of an insurer to stop rising medical provider prices depends on its share of the market.

Suppose one private insurer tries to set its allowable charge well below the provider's price. The provider will tell that insurer that unless its allowable charge is substantially raised, the provider will not treat its enrollees. Enrollees will complain to their employers that they can't use the providers they want unless the employer switches insurance companies. With other insurance companies available, employers will switch. To prevent the loss of enrollees, the insurer will have to raise its allowable charge substantially. Thus, with many competing private insurers, no single insurer will have sufficient bargaining power to significantly hold down allowable charges.

High price, not high quantity, is the main reason that U.S. medical expenditure—which equals price times quantity—is so high. That is the conclusion of an empirical study of OECD countries by health economists Anderson, Reinhardt, Hussey, and Petrosyan (2003) in their article entitled, "It's the

Prices, Stupid: Why the United States Is So Different from Other Countries." They analyze the split between price and quantity in 2000, presenting comparisons of different quantity measures including doctors, nurses, hospital beds, hospital admissions, and hospital days. In most of these, the quantity per capita in the U.S. was below the OECD median. They conclude that prices, not quantities, are the drivers of cross-national differences in health spending, and that a major cause of the difference in prices is the difference in the bargaining power of the payers of medical providers. They emphasize the difference between the U.S. and other OECD countries in the degree of bargaining power on the buyers' side of markets for medical care, writing (p102):

"Although the huge federal Medicare program and the federal-state Medicaid programs do possess some monopsony power, and large private insurers may enjoy some degree of bargaining power as well in some localities, the highly fragmented buy side of the U.S. health system is relatively weak by international standards. It is one factor, among others, that could explain the relatively high prices paid for health care and for health professionals in the United States. In comparison, the government-controlled health systems of Canada, Europe, and Japan allocate considerably more market power to the buy side."

Their findings can be interpreted using Figure 1. The U.S. is currently at a price well above point G because of widespread 100% patient insurance and the relatively weak bargaining power of multiple insurers. Replacing multiple private insurers with a single payer— Medicare for All—would

enable the price to be brought down to G. If Medicare for All reduces price to G, but no further, there would be no waiting lists. Only if Medicare for All reduces the price below G would waiting lists be generated. As shown in the diagram, some countries—for example, Britain and to some extent Canada—have used payer bargaining power to reduce the price too far—below G—and generated waiting lists. But other countries--for example, Germany and France—have used payer bargaining power to reduce the price to G but not lower than G and have therefore avoided waiting lists.

The U.S. is an affluent country with a preference for high spending on medical care. Medicare has always paid doctor and hospital prices that are high enough--point G in Figure 1-- to avoid waiting lists and to enable Medicare patients to obtain high quality medical care, technology, and pharmaceuticals. Medicare for All should have the same objective. The aim should be to keep prices from rising above G or falling below G; Medicare for All should aim for G. Any signs of waiting lists or low quality should be a signal that prices have been set below G and should therefore be raised in order to eliminate waiting lists and restore higher quality.

Medicare for All is the simplest way to achieve payer bargaining power over medical providers while at the same time eliminating the other shortcomings of a private insurance system. Based on the experience of other countries, it should be able to cut several percentage points off U.S. medical cost as a percent of GDP, thereby reducing the medical cost gap between the U.S. and other economically advanced countries.

Patient Cost-Sharing: Small, Income-Related, and Value-Based; or Zero

Current Medicare has substantial patient cost-sharing. As a consequence, many high and middle income households have bought private Medi-gap insurance policies to cover Medicare's patient cost-sharing, and Medicaid has had to cover cost-sharing for many low-income households. Medicare for All would make patient cost-sharing either small, income-related, and value-based (varied with medical cost effectiveness), or zero, so there would no longer be a need for households to buy private Medi-gap policies for patient cost-sharing or for Medicaid to pay medical bills.

Many economists are reluctant to support zero patient cost-sharing. As shown in the standard textbook diagram Figure 2, zero patient cost-sharing appears to impose a large efficiency cost equal to the area of the triangle BAD between the demand curve (which has a vertical height equal to marginal benefit) and the supply curve (which has a vertical height equal to marginal cost) from Q to Q_0 (the quantity consumed when patient cost-sharing is 0).

One problem with this standard picture implying a large efficiency cost from zero patient cost-sharing is that it ignores the likelihood that medical care has a large positive externality (Seidman 2009). Suppose other people feel much better when patients who need medical care get it. If so, other people would be willing to pay a significant amount (if necessary) to help them get it. Then the marginal social benefit curve would lie above the patients' marginal benefit curve (the demand curve) by an amount equal to the sum of what other people would be willing to pay to assure that the patient received that unit of medical care, and the socially optimal quantity of medical care would be at the intersection of the marginal social benefit (MSB) curve and the marginal cost curve (the supply curve).

For example, as shown in Figure 2, suppose that the MSB curve, MSB_0, just happened to intersect the supply curve at Q_0. This would be the case if the sum of what other people would be willing to pay to assure that the patient received the last unit of medical care at Q_0 just happened to equal the MC of producing that unit. In this case, the socially optimal quantity of medical care would be Q_0 and patients should be charged a zero price—there should be zero patient cost-sharing-- to induce consumption of the socially optimal quantity Q_0.

Of course, other people might be willing to pay less than the magnitude DA to assure that the patient received the last unit of medical care at Q_0—for example, other people might only be willing to pay Dd instead of DA. In this case, the MSB curve would lie below the MSB—for example, MSB'-- as drawn in Figure 2 and would intersect the S curve at a quantity Q' less than Q_0 (but greater than Q in Figure 2); to induce patients to consume the socially optimal quantity Q' cost-sharing should be set between 0 percent and 100 percent so that the price charged to patients would be P'. Note that because Q' in this case is socially optimal, zero patient cost-sharing, which charges patients a price of 0 instead of the socially optimal price P', would cause only a small welfare cost equal to the area bAd which is much smaller than the area BAD emphasized in the standard textbook treatment of the harm from zero patient cost-sharing.

But even patient cost-sharing P' may be larger than socially optimal for three reasons: (1) cost-sharing that doesn't vary with patient income may over-deter low-income people when they consider seeking care or using prescribed medication, and over-burden them when they obtain care; (2) cost-sharing that isn't "value-based" may deter beneficial cost-effective care as well as unnecessary care; (3) cost-sharing may be judged to be unfair to patients whose need for substantial medical care is due to

bad luck rather than bad behavioral choices. Let's consider each problem.

First, when cost-sharing is uniform for patients of all income, it is too deterring and burdensome for households with low income. This problem could be solved by income-related patient cost-sharing. Patients would use a Medicare card at the doctor's office or hospital and at the end of the month would be billed by Medicare for a low percent of their medical cost that varies with the income reported on last year's income tax return (for example, 5 percent for a low-income household, 15 percent for middle income, 25 percent for high income) with an annual ceiling that varies with income (for example, 2 percent of income for a low-income household, 6 percent for middle income, and 10 percent for high income).

The second problem is that patient cost-sharing often deters patients from taking early medical action that would avoid much greater costs and hardships later (Baicker and Goldman 2011; Baicker, Mullainathan, and Schwartzstein 2012). For example, seeking tests early or adhering to prescribed medications has been deterred by patient cost- sharing. To treat this problem, "value-based insurance design" has been proposed (Chernew, Rosen, and Fendrick 2007) under which patient cost-sharing would be set to zero for beneficial cost-effective medical care and set larger than normal for non-beneficial cost-ineffective medical care. Value-based insurance design would try to encourage patients to use beneficial cost-effective medical care and discourage patients from using non-beneficial cost-ineffective care. Implementing value-based insurance design would be challenging. It would involve establishing panels that would prescribe varying cost-sharing rates for a list of medical services. Developing such a list, keeping it up to date, and basing it on medical merit rather than lobbying strength, would be a formidable task.

Third, it can be argued that cost-sharing is unfair to patients whose need for substantial medical care is due to bad luck rather than bad behavioral choices. One function of health insurance is to implement a transfer of income from the lucky who are healthy to the unlucky who are sick. Of course, sometimes people are healthy because they made healthful behavioral choices and sometimes people are sick because they made unhealthful behavioral choices. One option here would be tax or regulate the purchase of unhealthful products like tobacco. But often being sick is a matter of bad luck. The larger is the role of luck, the stronger is the equity case against patient cost-sharing.

All of these considerations lead to the conclusion that patient cost-sharing should either be small, income-related, and value-based, or zero under Medicare for All.

Conclusions

Medicare for seniors has been operating and evolving for half a century and has performed very satisfactorily. It is reasonable to ask whether extending Medicare to cover everyone regardless of age would be sensible public policy.

Medicare for All would have several important advantages. It would provide automatic permanent coverage and portability for everyone regardless of employment, health status, income, marital status, or residential location. It would use single-payer bargaining power to reduce medical cost as a percent of GDP. It would eliminate the burden imposed by private health insurance premiums. It would eliminate health insurance distraction for business managers, entrepreneurs, and job seekers, thereby improving the productivity of the U.S. economy. It would remove that implicit

tax on entrepreneurship and job mobility that is imposed by a system of employer-provided private health insurance, and thereby achieve a welfare gain equal to the magnitude of this deadweight loss. It would also remove the implicit tax on having a high expected medical cost that is imposed on individuals by a system of individually-purchased private insurance, and thereby achieve what many citizens would judge to be an improvement in the equity.

Medicare for All would require an increase in taxes of 8 percent GDP (from 30 percent to 38 percent) to replace the elimination of private insurance premiums, and this tax increase would impose some efficiency cost on the economy. Medicare for All might have harmful effects on medical care if the government uses its payer bargaining power to force down medical prices severely rather than moderately or if public tax resistance reduces earmarked revenue for medical care (as a percent of GDP) severely rather than moderately. Thus, if Medicare for All is adopted, it would be important to finance it with taxes that have moderate rather than severe efficiency costs, and to raise sufficient taxes (an additional 8 percent of GDP) so Medicare continues its record of paying prices that are high enough to avoid waiting lists and maintain high quality.

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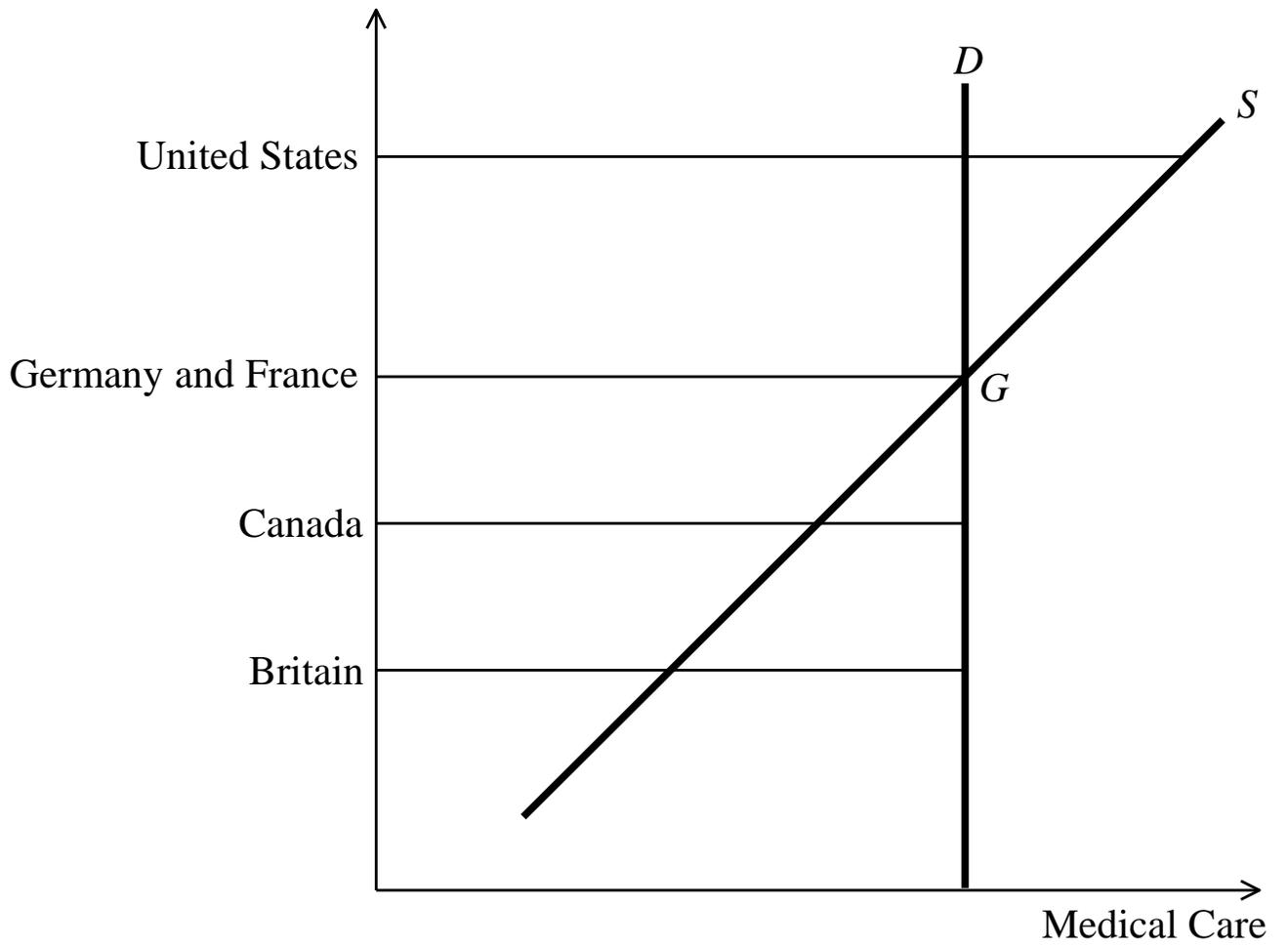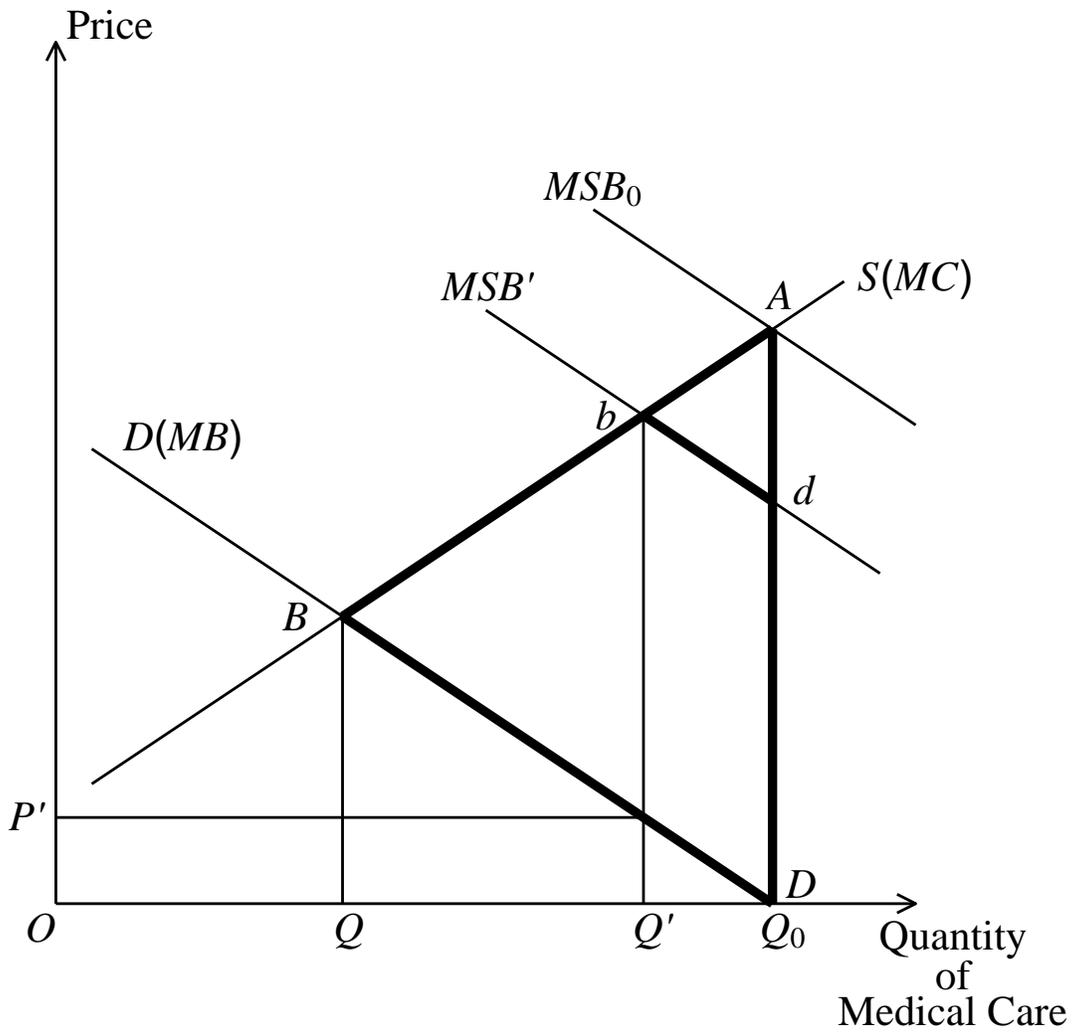Medical Association*, August 13, 290 (6): 798-805.

Figure 1

Price

MSB_0

MSB'

A $S(MC)$

$D(MB)$

b

d

B

P'

D

O Q Q' Q_0 Quantity
of
Medical Care

Figure 2