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A Better Way to Generate and Use Comparative-Effectiveness Research

by Michael F. Cannon

Executive Summary

President Barack Obama, former U.S. Senate majority leader Tom Daschle, and others propose a new government agency that would evaluate the relative effectiveness of medical treatments. The need for "comparative-effectiveness research" is great. Evidence suggests Americans spend $700 billion annually on medical care that provides no value. Yet patients, providers, and purchasers typically lack the necessary information to distinguish between high- and low-value services.

Advocates of such an agency argue that comparative-effectiveness information has characteristics of a "public good," therefore markets will not generate the efficiency-maximizing quantity. While that is correct, economic theory does not conclude that government should provide comparative-effectiveness research, nor that government provision would increase social welfare.

Conservatives warn that a federal comparative-effectiveness agency would lead to government rationing of medical care—indeed, that's the whole idea. If history is any guide, the more likely outcome is that the agency would be completely ineffective: political pressure from the industry will prevent the agency from conducting useful research and prevent purchasers from using such research to eliminate low-value care.

The current lack of comparative-effectiveness research is due more to government failure than to market failure. Federal tax and entitlement policies reduce consumer demand for such research. Those policies, as well as state licensing of health insurance and medical professionals, inhibit the types of health plans best equipped to generate comparative-effectiveness information.

A better way to generate comparative-effectiveness information would be for Congress to eliminate government activities that suppress private production. Congress should let workers and Medicare enrollees control the money that purchases their health insurance. Further, Congress should require states to recognize other states' licenses for medical professionals and insurance products. That laissez-faire approach would both increase comparative-effectiveness research and increase the likelihood that patients and providers would use it.

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Introduction

Economists describe medicine as a "credence good" because patients have difficulty judging its value even after consuming it, and therefore must rely on the advice of doctors, who know more about such things.[1] Yet doctors themselves frequently have difficulty making accurate judgments about the quality of their services, both before and after they have provided them. Doctors (and nurses, pharmaceutical manufacturers, etc.) may *think* they were responsible for a good outcome, or not responsible for a bad outcome, but it is often impossible to know for sure. That uncertainty guarantees that patients will receive some services that provide little or no value, and even some services that prove harmful.

A growing body of evidence suggests that the problem of low-value medical care is much larger than it need be—that Americans spend hundreds of billions of dollars each year on medical care that delivers no value—and that many of those expenditures could be identified and eliminated without harming health or reducing patient satisfaction.

Much of that evidence comes from Medicare, the federal health insurance program for the elderly and disabled, which is the single largest purchaser of medical care in the nation. Examining Medicare records, researchers have found that per-beneficiary spending varies widely from one area of the country to the next. In some areas, Medicare spends twice as much per senior as it does in other areas. Researchers have also found that beneficiaries in high-spending areas do not start out sicker, do not end up healthier, and are no happier with the care they receive, than beneficiaries in low-spending areas.[2] That suggests that a significant amount of Medicare spending provides no discernible benefit to the program's intended beneficiaries. Those researchers estimate that as much as 30 percent of total U.S. medical spending provides no discernible value.[3] If so, then Americans spend more than $700 billion each year, or 5 percent of gross domestic product, on medical services of no discernible value.[4]

Data on the relative effectiveness of different modes of care can reduce uncertainty and help purchasers, providers, and patients avoid unnecessary expenditures.[5] Research shows there is much less variation in medical spending when there is a consensus about the best course of treatment.[6]

Unfortunately, current institutions appear to underprovide such data. In terms of medical interventions, estimates of the share of existing interventions that have a solid evidence base vary, though many researchers believe the share is "well below half."[7] David Eddy, a leading advocate of evidence-based medicine, estimates the share to be as low as 15 percent.[8] In terms of overall medical spending, the Institute of Medicine estimates that "less than 0.1 percent is invested in assessing the comparative effectiveness of available interventions."[9] That seems small relative to the estimated 30 percent of expenditures lost to services of no discernible value. As discussed below, a number of government activities reduce incentives for private entities to generate comparative-effectiveness research, providing further reason to believe that the current level of spending on such research is suboptimal.

In theory, additional spending on comparative-effectiveness research could pay for itself by reducing spending on low-value services. To that end, many policymakers seek to boost the production of comparative-effectiveness research.

Comparative-effectiveness information has characteristics of a "public good." Economists argue that markets often do not generate the efficiency-maximizing quantity of such goods. Many observers therefore propose creating a new federal agency devoted to generating comparative-effectiveness research, on the assumption that doing so would improve economic efficiency.[10] For example, the Medicare Modernization Act of 2003 provides funding for the Agency for Healthcare Research and Quality to conduct comparative-effectiveness research relevant to Medicare, Medicaid, and the State

Types of Medical-Effectiveness Research

1. Clinical effectiveness	"Does Treatment A work?"
2. Comparative effectiveness	"Does Treatment A work better than Treatment B?"
3. Cost-effectiveness	"Treatment A works better and costs more than Treatment B. Is the added benefit worth the added cost?"

Children's Health Insurance Program. Recent proposals to expand SCHIP would create such an agency.[11] President Barack Obama proposed a comparative-effectiveness agency during his campaign.[12] Former U.S. Senate majority leader Tom Daschle proposes a "Federal Health Board" that would conduct such research and use it to make coverage decisions.[13]

The case for government provision of public goods in general, and comparative-effectiveness research in particular, is not so clear-cut. This paper examines the factors that determine whether government provision of comparative-effectiveness research would increase economic efficiency. It also examines state and federal policies that discourage the private generation of such information, and that block its use. Finally, it suggests reforms that would encourage the private sector to produce more comparative-effectiveness research and develop innovative ways of overcoming the public-goods problem.

The Public-Goods Problem

Economists define public goods as those that are nonexcludable and nonrivalrous in consumption. A good is nonexcludable if producers cannot exclude nonpaying consumers from enjoying it, and nonrivalrous in consumption if one consumer can enjoy it without diminishing others' ability to enjoy it. Classic examples of public goods include national defense and fireworks displays.

Unlike most goods, markets have difficulty producing the efficiency-maximizing quantity of public goods due to the free-rider problem. For example, fireworks displays are nonexcludable, since anyone who can look skyward can enjoy them without paying. As a result, many will effectively free ride on the fireworks displays purchased by others. If pyrotechnicians could exclude nonpayers, those free riders would have to pay in order to watch. With that additional revenue, the pyrotechnicians could then produce more (and more impressive) fireworks displays.

Economic theory does *not* suggest that markets will provide no public goods. Some people are willing to pay for fireworks displays. Markets also devise innovative strategies for boosting production of nonexcludable goods, such as bundling them with excludable goods. Examples include the following:

- Lobbying groups face a free-rider problem because legislative victories that benefit members also may benefit nonmembers. Lobbying groups get around that problem by bundling additional (excludable) services, such as insurance and information, with (nonexcludable) lobbying services.[14]
- Broadcast television and radio signals are often nonexcludable. Broadcasters get around the free-rider problem by bundling their nonexcludable programming with advertisements, which offer an excludable benefit to advertisers.
- Though charitable contributions and medical research have public-good characteristics, corporations and philanthropists can "purchase" an excludable reputation for compassion and civic-mindedness by donating to such causes. "No doubt," writes Pulitzer Prize-winning sociologist Paul Starr, "the Rockefellers

Data on the relative effectiveness of different modes of care can reduce uncertainty and help avoid unnecessary expenditures.

sought to gain public credit and good will by supporting research approved by medical authorities."[15]

- Countless runners participate in road races (e.g., the Susan G. Komen Race for the Cure) for amusement and exercise, only to see their entrance fees donated to charities they otherwise might not have supported. The firms sponsoring those races probably would not have given as generously to those charities had their donations not also purchased them advertising and goodwill.

Markets increase the quantity of nonexcludable goods (lobbying, research, charity), beyond the amount that people are willing to purchase directly, by bundling them with excludable goods (insurance, advertising, reputation, recreation).

Insofar as producers can exclude nonpaying consumers, markets can further increase production of public goods toward the efficiency-maximizing level. *Consumer Reports* generates information on the quality of consumer goods. The organization excludes nonpayers, albeit imperfectly, by making that information available only to subscribers who pay a fee. The better *Consumer Reports* can exclude nonpayers—that is, the better they can collect money from the people who use their research—the more research they can produce.

Lobbying groups also try to get around the free-rider problem by excluding nonmembers from enjoying the benefits of legislative victories. Nobel Prize-winning economist George Stigler argues that if free riders "are not represented in the coalition, they may find that their cheap ride is to a destination they do not favor. The proposed tariff structure may neglect *their* products; the research program may neglect *their* processes; the labor negotiation may ignore *their* special labor mix."[16]

Markets create incentives for private actors to overcome the challenges posed by public goods. Innovators who develop ways to solve the free-rider problem can capture the money that others leave on the table.

Economic theory no more argues that government should provide public goods than nuclear physics argues that government should build atomic bombs.

Is Government the Solution?

Health economist and former Medicare administrator Gail Wilensky writes, "Economic theory argues that goods or services that meet this [public-good] definition will be underproduced by the private sector and should therefore be financed by government."[17] Wilensky's first claim is correct; the second is not. A descriptive science, economics makes no value judgments or normative statements about what government should do. Economic theory no more argues that government should provide public goods than nuclear physics argues that government should build atomic bombs. Economic theory can tell us whether government provision of public goods would increase efficiency. It goes no further.

And it may not even go that far. Despite many confident assertions that government provision of public goods increases efficiency, economic theory is equivocal on that question. Government provision suffers from the same free-rider problem that markets do, and creates additional problems associated with the excess burden of taxation, politicization, and crowd-out of private provision. (The appendix offers a graphic explanation of the economics of public goods under both market and government provision.) Moreover, even if government provision would improve economic efficiency, there may be other competing values at stake.

The object of government provision of public goods is to increase efficiency by boosting quantity from the market-supplied level toward the efficiency-maximizing level. Like the market, government faces a challenge in determining that optimal quantity. Government could try to approximate that quantity by asking people how much they value a public good, taxing people according to their preferences, and using the revenue to fund production. However, government also encounters a free-rider problem: individuals could try to reduce their own tax burden by pretending not to value such research, hoping instead to free ride on the

research "purchased" by those who honestly reveal their preferences. Nobel Prize–winning economist Paul Samuelson explains:

> One could imagine every person in the community being indoctrinated to behave like a "parametric decentralized bureaucrat" who *reveals* his preferences by signaling in response to price parameters . . . to questionnaires, or to other devices. But . . . by departing from his indoctrinated rules, any one person can hope to snatch some selfish benefit.[18]

In other words, government is no better equipped than the market to determine the "right" amount of a public good. The efficiency-maximizing quantity is *unknown* and *unknowable*.[19] The market may produce less than the efficiency-maximizing quantity, but government might produce less or more than that amount—either of which would involve economic losses.

At the same time, government faces unique challenges. Government spending on public goods incurs what economists call the "excess burden" of taxation, or the reduction in economic output that results from increasing taxes. The excess burden imposes real costs on society. Some economists estimate that due to the excess burden, it may cost society more than two dollars to raise just one additional dollar of government revenue.[20] The excess burden therefore could make the actual cost of government-provided public goods as much as twice the apparent cost, and (all else being equal) twice as much as the cost of market provision. By increasing the marginal cost of producing public goods, the excess burden also reduces the optimal quantity. That shift reduces the potential gains from government provision and makes it more likely that government would boost production beyond that quantity (see Appendix).

Unlike markets, government decisions about providing public goods must pass through the political process, where small groups with an intense interest in the outcome can override the will of a disinterested majority. Mancur Olson observes:

> The small oligopolistic industry seeking a tariff or a tax loophole will sometimes attain its objective even if the vast majority of the population loses as a result. The smaller groups . . . can often defeat the large groups . . . which are normally supposed to prevail in a democracy . . . because the former are generally organized and active while the latter are normally unorganized and inactive.[21]

Particularly well-organized and effective interest groups could conceivably boost the quantity of a government-provided public good beyond the (new, lower) efficiency-maximizing level, which would create economic losses.

More likely, however, such groups could obtain government funding for public goods that they otherwise would have funded themselves. Insofar as government provision "crowds out" market provision, that too imposes losses on society. Society must pay not just the cost of those public goods, but also the excess burden of the taxes required to have *government* provide them.

For government provision of a public good to increase efficiency, (a) the gains from any net increase in supply must outweigh (b) the losses stemming from the excess burden of the taxes needed to fund any crowded out public goods (which the market would have supplied anyway), *plus* (c) the losses stemming from any quantity supplied in excess of the new efficiency-maximizing level. Since it is unknown whether the gains from (a) would outweigh the losses from (b) and (c), it is theoretically ambiguous whether government provision of public goods will increase or reduce economic efficiency.

Finally, economic efficiency is only one among many values, such as liberty and the rule of law. For government provision to be desirable, economic efficiency must trump any conflicting values. For example, federal provision of many public goods conflicts with the

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rule of law because the U.S. Constitution grants Congress the power to provide or promote only specific public goods. Those include "the common Defence" and "the Progress of Science and useful Arts." Moreover, the Constitution specifically enumerates the powers granted to provide or promote those public goods—such as the power "To raise and support Armies" and the power of "securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[22] The Constitution's silence with regard to other public goods indicates that the people have not granted Congress the power to provide them.[23] That conclusion is reinforced by the Tenth Amendment: "The powers not delegated to the United States by the Constitution . . . are reserved to the States respectively, or to the people."[24] To argue that Congress should provide such public goods anyway is to argue that economic efficiency is more important than the rule of law.

Government provision of comparative-effectiveness information may do little or nothing to increase efficiency compared to a policy of laissez faire.

What about Comparative-Effectiveness Information?

Government provision of comparative-effectiveness information may do little or nothing to increase efficiency compared to a policy of laissez faire. As suggested above, markets already create incentives for private actors to produce comparative-effectiveness information. Producers frequently can exclude nonpayers from using that information. Even when producers do not exclude nonpayers, markets boost production by bundling comparative-effectiveness information with excludable goods. Finally, government provision would be particularly susceptible to political manipulation and would crowd out much private research.

Market Provision

Markets do provide some comparative-effectiveness information despite its public-good characteristics. Private firms such as the Blue Cross Blue Shield Association's Technology Evaluation Center, Hayes, Inc.; the ECRI Institute; the Tufts–New England Medical Center; the HMO Research Network; and InfoPOEMs gather and compile such information for those willing to purchase it.[25] More important, the Congressional Budget Office notes that "private health plans—most commonly larger or more integrated ones—conduct their own reviews of evidence *and sometimes undertake new analyses of comparative effectiveness* using claims data for their enrollees."[26]

To some extent, producers of comparative-effectiveness information can exclude nonpaying consumers. In its discussion of private health plans that generate and compile such research, the CBO writes:

> Health plans may choose to publicize the results, or they may decide to keep their findings confidential and use them to shape their policies regarding coverage of and payment for the treatments in question. For example, health plans usually have an entity known as a pharmacy and therapeutic committee that considers the evidence regarding the relative effectiveness of different prescription drugs and makes recommendations about which ones should be covered (that is, included on formularies) or given preferred status.[27]

The better that health plans become at excluding (and the more they choose to exclude) nonpayers, the closer the market-supplied quantity of comparative-effectiveness research will come to the efficiency-maximizing quantity, and the less likely it is that government provision would improve efficiency.

Markets also bundle comparative-effectiveness information with excludable goods. Wealthy individuals and charitable foundations may fund such research not only because they value the expected health gains but also to purchase a reputation for altruism or civic-mindedness. Universities and budding scholars likewise perform such research to enhance their academic reputations.[28]

Most important, private health plans may gain an advantage over competitors by gaining a reputation for generating comparative-effectiveness research. For example, Kaiser Permanente is a leader in the field of comparative-effectiveness research (see below). In effect, Kaiser purchases an excludable reputation for quality by investing in less-excludable comparative-effectiveness research. Such bundling strategies resemble the "private clubs" approach to public-goods provision expounded by Nobel Prize–winning economist James Buchanan,[29] and further push the market-supplied quantity toward the efficiency-maximizing quantity.

Government Provision: Politicization

Unlike market-generated research, a federal comparative-effectiveness agency would be subject to political manipulation, which could block the generation of any useful research.

The purpose of comparative-effectiveness research is to demonstrate which modes of care provide value to patients and which do not. If it is to be at all useful, such research *necessarily* poses a direct threat to the incomes of pharmaceutical manufacturers, medical device manufacturers, and millions of providers. If a government agency produces unwelcome research, those groups will spend vast sums on lobbying campaigns and political contributions to discredit or defund the agency.

Industry groups have done so repeatedly.[30] Congress created the congressional Office of Technology Assessment in 1972 and the executive-branch National Center for Health Care Technology in 1978, charging both agencies with assessing the effectiveness of medical technologies. In due course, both agencies produced research that offended the health care industry. According to John Eisenberg and Deborah Zarin of the former Agency for Health Care Policy and Research, industry opposition led to the elimination of the National Center for Health Care Technology in 1981, and the Office of Technology Assessment in 1995. Eisenberg and Zarin continue:

> In 1984 Congress created the Council on Health Care Technology [which] conducted assessments of only two technologies—the artificial heart and end-stage renal dialysis—before it expired in 1989. Again, the voices of organized medicine and the drug and device industries were influential in achieving CHCT's demise.[31]

In 1995, AHCPR produced an unflattering assessment of the efficacy of many back surgeries. Back surgeons and the medical-device manufacturer Sofamor Danek stood to suffer financially, and nearly succeeded in defunding the agency. Instead, Congress cut AHCPR's budget by a mere 21 percent.[32] According to author Shannon Brownlee, the retributions did not end there: "The AHCPR was given a new name, the Agency for Health Care Research and Quality, and stripped of its authority to recommend payment decisions to Medicare and Medicaid."[33] The agency got the message. After 1995, it abandoned controversial research activities that were likely very useful.[34] AHRQ nevertheless fell under political attack again. In 2002, the House of Representatives voted to eliminate AHRQ's funding, though the agency ultimately survived.[35]

Princeton economist Uwe Reinhardt argues that "AHRQ's disturbing history and continued precarious existence has shown [that a similar] approach would make [a comparative-effectiveness agency] vulnerable to lobbying by interest groups, because one or a few members of Congress could easily imperil the [agency's] existence through the appropriations process."[36] The United Kingdom's National Institute for Clinical Evaluation and Excellence is likewise under constant assault from the industry and individual patients.[37] Even if a federal comparative-effectiveness agency temporarily survives the inevitable industry-led assaults, its continued existence, its ability to produce useful research, and its influence on medical practice will be highly uncertain.

Supporters acknowledge the problem that political pressure creates for the agenda, credibility, and survival of a federal comparative-effectiveness agency.[38] They therefore propose various approaches to insulate the

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agency from political influence, none of which is likely to be effective. Daschle would model the agency on the Federal Reserve Board, which many believe to be insulated from political influence.[39] Yet according to economist Allan H. Meltzer, the author of a two-volume history of the Fed, the Federal Reserve Board's mythic reputation for independence is undeserved:

> We talk about an independent Federal Reserve, but in reading and writing the history of the Federal Reserve, there are very few occasions since the 1930s when the Fed actually practiced independence. . . . [current chairman Ben] Bernanke is anything but an independent central bank governor. He is being leaned on by the Congress, and he accedes to them. . . . In reading the minutes of the Fed and watching what they do, the Fed has always been very much afraid of Congress. . . . The idea of having a really independent agency in Washington, that's just not going to happen. . . . The Federal Reserve derives its power from Congress. . . . The Fed's power is delegated, and they are very much aware that Congress could always change that.[40]

Other presumably independent federal agencies, such as the Securities and Exchange Commission, face similar pressures.[41] Politicization appears not to imperil the existence of the Fed or the SEC, perhaps because those agencies have "customers" whose support is broad and deep enough to protect the agencies from political attacks by disaffected groups. In contrast, experience suggests that government agencies conducting comparative-effectiveness research do not have an adequate counterbalance to attacks by the industry.

Some supporters argue that a dedicated, mandatory funding source would provide more stable funding than annual appropriations. Proposals would variously tax pharmaceutical expenditures,[42] private health plans and employers,[43] or all medical expenditures.[44] But as MedPAC writes, "an agency that relies on such a mandatory funding source would be accountable to policymakers because Congress always has the option to alter or end its funding."[45]

Whatever structure Congress gives to a federal comparative-effectiveness agency, the industry will ultimately convince Congress of what the late Sen. William Proxmire enjoyed reminding his colleagues about the Fed: the agency is a creature of Congress, and Congress may direct it at will.[46] If Congress funds comparative-effectiveness research, politics will govern that research, imperil its existence, and limit its usefulness.

Conservatives warn that a federal comparative-effectiveness agency would lead to government rationing of medical care.[47] Indeed, that's the whole idea. Ironically, the more likely outcome is that the agency will be completely ineffective. Compounding that irony, government provision of comparative-effectiveness research enables opponents, such as the back surgeons and their Republican allies, to cast their opposition as an effort to *limit* government—even as they guarantee greater government spending on low-value medical care.

Government Provision: Crowd-Out

Moreover, it is likely that much of the comparative-effectiveness research actually funded by a government agency would merely crowd out research that the private sector would have funded anyway.[48]

To survive, a federal comparative-effectiveness agency must necessarily cater to the needs of its core political constituents. When Clifton Gaus took the helm of AHCPR in 1994, he explained to agency staff (according to Bradford Gray and colleagues) "that the agency had to consider its customers to be those who would make use of the products of its work and . . . on whose goodwill the agency's support would depend."[49] Gray and colleagues argue that after the industry-led assault on AHCPR in 1995, the agency focused even more intently on its "customers": "Recognizing the impor-

tance of engaging in activities that are valued by those who directly or indirectly might affect the agency's resources, the agency undertook energetic efforts to establish ongoing contacts and liaisons to learn what activities and types of information might be important, to whom, in setting priorities."[50]

The primary constituency for any federal comparative-effectiveness agency will be private health plans and employers. Private purchasers are most likely to fund comparative-effectiveness research on their own, and will have the most intense interest in the funding levels and research agenda of the agency. For example, enthusiastic proponents of federally funded comparative-effectiveness research include the Blue Cross Blue Shield Association,[51] whose Technology Evaluation Center collects and disseminates such research, and Kaiser Permanente, a leader in generating such research (see below).[52]

If a federal comparative-effectiveness agency is to survive the inevitable political attacks from providers, it must maintain a positive relationship with private health plans. As a result, those plans would likely obtain government funding for research they otherwise would have funded themselves. As discussed above (and in the Appendix), such crowd-out represents a net loss for society.[53]

Market Failure or Government Failure?

The current lack of comparative-effectiveness research is due more to government failure than to market failure. For 100 years, federal and state governments have suppressed the generation and use of comparative-effectiveness research. Interventions on both the supply and demand sides push private provision below what markets would produce in a laissez-faire environment. Moreover, the politicization of coverage and reimbursement decisions prevents purchasers from using comparative-effectiveness research, and will limit the utility of even government-provided research.

PGPs: An Engine of Comparative-Effectiveness Research

In a laissez-faire environment, health plans and providers would profit from delivering health improvements at a lower cost than their competitors. Competition would push plans and providers to invest in comparative-effectiveness research, because that research would enable them to abandon unnecessary services and find less costly ways of improving health. Plans and providers would compete on the basis of who generates comparative-effectiveness information, how well they incorporate new information into their practice styles, and who has the best approach to deviating from clinical guidelines when doing so is in the patient's interest.

As noted above, a number of private entities currently provide comparative-effectiveness research. Among private health plans, however, integrated prepaid group plans (PGPs), such as Kaiser Permanente and Group Health Cooperative, appear to be uniquely suited to generate and deploy comparative-effectiveness research. Those plans are integrated in the sense that all the doctors and other clinicians generally work for the same corporate entity. They are "prepaid" in the sense that the insurance carrier is also part of the same corporate entity, thus the enrollees' premiums more or less comprise the providers' entire budget for the year. In contrast, most Americans receive medical care from a fragmented collection of providers whose incomes rise with the volume of services they provide.

The combination of integration and prepayment uniquely gives PGPs the incentive and the means to generate and use comparative-effectiveness information. Prepayment ensures that if a health plan delivers low- or zero-value services, the cost comes directly out of the health plan's bottom line. PGPs therefore face enormous financial incentives to conduct research that will enable them to distinguish high-value from low-value services.

Integration gives PGPs the means to measure effectiveness by tracking all services received by their enrollees and those patients' health outcomes. Since the mid-20th century,

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PGPs have collected and used data from enrollees' medical records to improve patient care.[54] PGPs were the first to develop and deploy electronic medical records, and they continue to lead the industry.[55] For example, one Kaiser Permanente publication boasts of "a research program with millions of subjects":

> Our integrated care delivery model and 45-year history of electronic records give us the ability to analyze and leverage decades of data. In 2005, Kaiser Permanente had under way or completed approximately 2,250 different research projects in a number of vital areas, including cancer, heart disease, diabetes, women's health, obesity, depression, genetics, and disparities in health care. . . . Our physicians and researchers also conduct clinical trials of new drugs, medical devices, behavioral interventions, and other therapies.[56]

When federal Food and Drug Administration reviewer David J. Graham sought to establish whether the anti-inflammatory drug Vioxx (generic name: rofecoxib) increases the risk of serious coronary heart disease, he turned to Kaiser Permanente. Their study of 1.4 million Kaiser enrollees' medical records established that Vioxx does increase the risk and led to the drug's withdrawal.[57]

The ability to track and measure patient outcomes even enables PGPs to conduct randomized, controlled trials of medical treatments. According to researchers Raymond Fink and Mitch Greenlick:

> PGP integrated information systems also permit the generation of study and control groups, using member files for randomization based on personal characteristics. In addition, these systems can create matched control groups for members identified with a target illness in order to observe differences between the groups over time or to study the effect of medical interventions.[58]

The combination of integration and prepayment uniquely gives PGPs the incentive and the means to generate and use comparative-effectiveness information.

Randomized, controlled trials are the gold standard of medical-effectiveness research.

PGPs are also well-equipped to overcome the public-good challenges inherent to comparative-effectiveness information. Investing in comparative-effectiveness research does more than enable a PGP to avoid low-value services; it can earn the plan a reputation for quality. As discussed above, PGPs therefore boost the production of a nonexcludable good (comparative-effectiveness information) by bundling it with an excludable good (reputation). Staff-model PGPs are also well-equipped to keep the findings of their research confidential, because clinicians generally work solely for the plan. As discussed above, the ability to exclude nonpayers will further encourage PGPs to boost comparative-effectiveness research toward the efficiency-maximizing level.

Finally, any health plan that generates comparative-effectiveness research has an advantage in implementing it. PGPs may have the greatest advantage. Providers are more likely to resist efforts to change their practice style if those efforts are imposed upon them by multiple and distant purchasers. When PGPs translate comparative-effectiveness information into practice guidelines, however, they do so in collaboration with the physicians who will use those guidelines. At a minimum, that dynamic has the potential to reduce friction between purchasers and providers, and increase the likelihood that providers will use comparative-effectiveness research.[59] Moreover, unlike providers who bill multiple payers, staff-model PGPs need comply with only one set of clinical practice guidelines, which increases the likelihood that comparative-effectiveness research will influence medical practice.

Yet PGPs command a tiny share of the private health insurance market—an estimated 11 million Americans in 2004, or 4 percent of the insured population.[60] That is due largely to a century's worth of state and federal government interventions—often enacted at the behest of the medical profession—which have blocked the growth of PGPs, and with them, the market's ability to generate comparative-effectiveness research.

Suppressing Supply

Supply-side obstacles to PGPs date as far back as the medical profession's efforts to eliminate prepaid practice in the early part of the 20th century. The profession used the powers it gained under physician licensing, corporate-practice-of-medicine laws, and other measures to drive integrated, prepaid plans from the market.[61] Researchers Jon Christianson and George Avery write, "organized medicine also accused PGPs of being under communist influence and later used control of local health planning bodies to deny PGPs permits to construct facilities."[62] Whether the medical profession noticed the irony, Christianson and Avery do not say.

Licensing of medical professionals continues to hamper PGPs. PGPs face unique incentives to employ mid-level clinicians, such as nurse practitioners and physician assistants, when doing so will reduce costs without sacrificing quality.[63] According to professor of health policy Jonathan Weiner, nonphysician clinicians comprise 14 percent of primary care providers nationally, but 17 percent at Kaiser Permanente and 25 percent at Group Health.[64] The scope-of-practice rules that are part of every state's licensing regime prevent PGPs from employing mid-level clinicians to their full potential.[65] Licensing laws therefore further undercut PGPs' ability to compete on the basis of price. Scope-of-practice rules also vary from state to state. That variation forces PGPs to devise new, state-specific workflows if they seek to expand into new markets.

State insurance regulations likewise place disproportionate burdens on PGPs. States typically regulate PGPs and other managed care organizations more heavily than other insurance carriers.[66] The fact that insurance regulations vary from state to state also poses an obstacle to PGPs. Though every insurance carrier must contend with a new set of regulations when expanding into a new state, the marginal cost of compliance is greater for PGPs because it comes on top of PGPs' uniquely high start-up costs (e.g., acquiring facilities, hiring a large clinician workforce, etc.).

Finally, Medicare and other government interventions favor fee-for-service payment over prepayment. Fee-for-service discourages providers from adopting the electronic medical records that facilitate comparative-effectiveness research.[67] Medicare puts PGPs at a market-wide disadvantage by giving providers a highly remunerative alternative. Meanwhile, Medicare beneficiaries' access to PGPs has been "highly variable,"[68] rising and falling with the perceived adequacy of Medicare's payments to private Medicare Advantage plans. In January 2009, president Barack Obama proposed eliminating the Medicare Advantage program.[69] That step would eliminate seniors' access to PGPs, diminish PGPs' ability to conduct comparative-effectiveness research, and further distort the market toward fee-for-service payment.

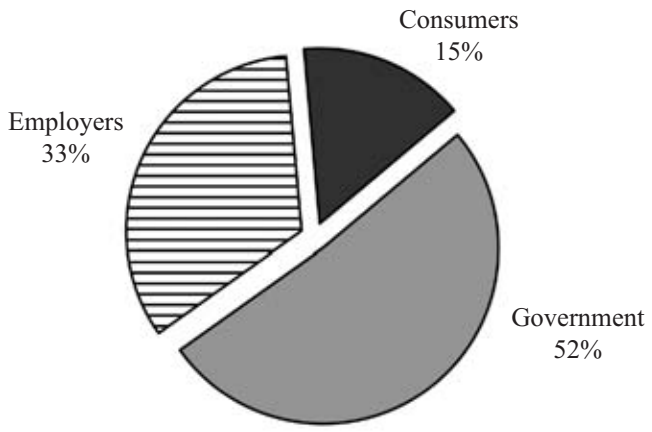
Suppressing Demand

Government intervention has taken away almost any financial incentive for consumers to demand comparative-effectiveness information. Americans pay for only a small fraction of medical services directly (13 percent). More importantly, consumers control a similarly small fraction of the money that purchases their health insurance (15 percent). Due to a large federal tax break for employer-sponsored health insurance and government health-insurance programs, employers and government control the vast majority of the $1.6 trillion spent on insurance schemes in the United States (see Figure 1).[70] Consumers have little reason to demand comparative-effectiveness information, because on average they would see only 15 percent of the savings that result from avoiding unnecessary medical spending.[71]

According to Stanford health economist Alain Enthoven, "less than 5 percent of the insured workforce can both choose a health plan and reap the full savings from choosing economically."[72] Consumers' indifference to the cost of their health insurance inhibits PGPs, whose primary advantage is that they offer more affordable coverage,[73] with apparently no adverse effects on health outcomes.[74]

PGPs command a tiny share of the private health insurance market due largely to a century's worth of state and federal government interventions—often enacted at the behest of the medical profession.

Figure 1
Health Insurance: Who Controls the Money (2006)?



Source: U.S. Centers for Medicare and Medicaid Services and author's calculations.

First and foremost, Congress should allow workers to capture 100 percent of the savings from eliminating low- and zero-value medical care.

If consumers do not enjoy the premium savings, they will see PGPs as offering nothing but reduced access to services. Consumers' lack of cost-consciousness helped kill Kaiser Permanente's attempt to enter the North Carolina market.[75]

In their role as health care purchasers, employers and government express what little demand remains for comparative-effectiveness information. As discussed below, however, those purchasers are ill-equipped to make use of that information.

Suppressing Deployment

Government interventions also ensure that whatever comparative-effectiveness information exists will scarcely be put to use. By giving employers control over the portion of workers' earnings that purchases the workers' health insurance,[76] government all but guarantees that workers will rebel when employers attempt to use comparative-effectiveness information to reduce unnecessary services. The managed care backlash of the 1990s is a case in point.

Government is even less likely to employ comparative-effectiveness information itself. Since the formation of Medicare, providers have used their political influence to prevent Medicare from doing so. At the same time the Medicare Modernization Act authorized new spending for AHRQ to conduct comparative-effectiveness research, it limited the federal government's ability to use that information. The act prohibits Medicare from using that research to deny coverage of relatively ineffective prescription drugs. The act also prohibits Medicare from limiting payments for certain services to that of the lowest-cost alternative that is equally effective.[77] The extent of the industry's ability to block the use of effectiveness research can be seen further in the fact that Congress forbids Medicare to use cost-effectiveness in coverage decisions.

Reforms that Would Promote Comparative-Effectiveness Research

Rather than create yet another ineffective government agency, a better way to generate comparative-effectiveness information would be to undo the series of government missteps that suppresses the market's ability to create and use this important research.

First and foremost, Congress should roll back government activities that insulate consumers from the cost of their health insurance, as those activities reduce consumer demand for comparative-effectiveness infor-

mation. In the Medicare program, that would mean giving enrollees a fixed, risk-adjusted voucher that enables them to purchase a basic level of coverage, and letting enrollees face the full cost of any additional benefits.[78] For those under age 65, Congress should level the playing field between employer-sponsored coverage and other sources of health insurance, which would make the cost of their health insurance more apparent to workers. With a level playing field, markets would return to workers the portion of their earnings that employers currently control—but only over the long term. Congress should therefore endeavor to give workers more immediate control over those dollars.[79]

Those reforms would allow workers to capture 100 percent of the savings from eliminating low- and zero-value medical care. They would therefore give an enormous boost to the demand for comparative-effectiveness information, and to the health plans that generate and use it. Those reforms would also reduce the health care industry's ability to block the generation and use of such information.

Second, Congress should eliminate the regulatory obstacles that inhibit comparative-effectiveness research. State licensing of insurance and medical professionals creates barriers to entry for new, more economical forms of health care delivery. These regulations particularly burden the types of health plans most likely to generate comparative-effectiveness research. Congress should recognize these regulations for what they are—barriers to trade among the several states—and use its power under the Constitution to sweep those trade barriers away.[80]

The most promising approach would have Congress require each state to recognize the insurance and provider licenses issued by other states. That approach, known as regulatory federalism, would have a number of salutary effects.[81] It would make basic medical care more affordable by allowing mid-level clinicians to practice to their full competence. It would generate much greater competition among insurers, which would drive premiums downward. It would force *insurance regulators* and *boards of medicine* to compete with their counterparts in other states to provide the best balance between quality assurance and access. It would allow consumers to shop nationwide for insurance- and provider-licensing protections, yet it would retain a strong role for local regulators to enforce those protections and for local courts to provide quality assurance through contract and medical-malpractice law. Finally, regulatory federalism would reduce barriers to competition for those health plans (i.e., PGPs) that are most likely to generate comparative-effectiveness research.

To guarantee competition among regulators, Congress must itself relinquish any role in regulating medical professionals or health insurance. Otherwise, the health care industry will use federal regulation to block research-generating health plans, just as the industry used state regulations for that purpose. Once those protectionist regulations creep into federal law, they will be much harder to dislodge. Unless Congress relinquishes that role, reform may not be worth the effort.

Conclusion

To economists, the term "public good" is not a trump card that ends debate over the merits of a government activity. Advocates of government-funded comparative-effectiveness research make the facile assumption that because such research has public-good characteristics, government provision would increase social welfare. In reality, they have no idea whether the benefits of government provision would outweigh the costs.

The case for government provision has many hurdles it must clear. Supporters must demonstrate (1) that the pursuit of economic efficiency should trump any competing values; (2) that existing government obstacles to private provision must be preserved; and (3) that after taking into account the additional costs of government provision—the excess burden of taxation, the losses due to crowd-out, the politicization and uncertainty, and the diminished incentives for the private sector to "solve"

Congress should eliminate the regulatory obstacles that inhibit comparative-effectiveness research.

To economists, the term "public good" is not a trump card that ends debate over the merits of a government activity.

the public-good problem—that the benefits of government provision would exceed the costs. Supporters have yet to acknowledge these issues, much less build that case.

Comparative-effectiveness research is unlikely to have a serious impact on dubious medical expenditures, or the growth in medical expenditures, until Congress removes the perverse financial incentives it has created for providers. Since replacing those distorted incentives with market incentives would also enable markets to boost production of comparative-effectiveness information, those reforms must take center stage.

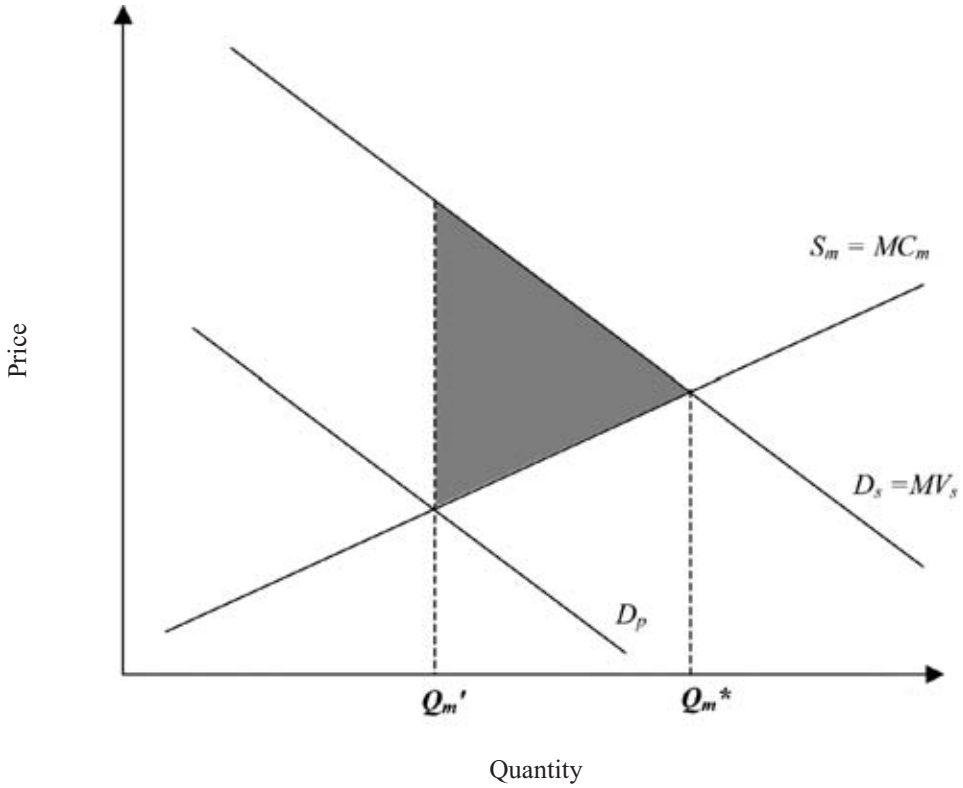
Appendix

Figure A-1 illustrates how the market provides a public good in the absence of government intervention. The upward-sloping supply curve, $S_m = MC_m$, shows the marginal cost to society of each additional unit of a public good. The downward-sloping demand curve, $D_S = MV_S$, shows the marginal value to society of each additional unit. Because people can consume public goods without paying for them, however, we need a second demand curve, D_p, to represent the amount that consumers are willing to pay for each additional unit.

To maximize efficiency, producers should increase production whenever the next unit's value to society exceeds that unit's cost. Producers should stop only when the value of the last unit equals its cost. In Figure A-1, the market-supplied quantity that maximizes efficiency is represented by Q_m*, the point where marginal cost (S_m) equals marginal value (D_s).

Figure A-1 shows that although markets will produce some quantity of a public good, they likely will produce less than the efficiency-maximizing amount. The reason is that

Figure A-1
The Public-Good Problem



some people will free ride on public goods purchased by others, because producers cannot exclude nonpayers. Markets will therefore only provide a public good up to the point where the *payers*—whose willingness to pay is represented by D_p—are no longer willing to pay the cost of producing the next unit. In Figure A-1, that point is represented by Q_m'.

Figure A-1 also illustrates the economic losses caused by the free-rider problem. The shaded triangle represents the potential benefits were markets to increase production from the actual, market-supplied quantity (Q_m') to the optimal, efficiency-maximizing quantity (Qm^*). Equivalently, the shaded triangle shows the "deadweight economic loss" society suffers when the market supplies only Q_m'.

The size of the gap between actual and optimal market production (Q_m^* minus Q_m') depends on how well producers can exclude nonpayers. The better producers are at excluding nonpayers, the closer the market-supplied quantity will come to the efficiency-maximizing quantity. Importantly, the greater the potential gains from increasing production, the greater the incentive for producers to find mechanisms to exclude nonpayers.

The sole justification for government provision of public goods is to improve economic efficiency. Equivalently, it is to increase production such that the benefits outweigh the costs.

Figure A-2 illustrates the dynamics of government provision. It reproduces the supply curve for market production of public goods (S_m) and the demand curve showing the total value to society of each additional unit of a public good (D_s). It also reproduces the efficiency-maximizing quantity *when supplied by the market* (Q_m^*). Figure A-2 omits the demand curve representing the amount that consumers are willing to pay for each additional unit (D_p), though it retains the actual, suboptimal market-supplied quantity (Q_m').

When government supplies a public good, the relevant supply curve is no longer S_m but S_g, which represents the total cost of having *government* provide each additional unit. The S_g curve lies above S_m because government provision incurs the excess burden of taxation, which may increase the cost of each additional unit by as much as 100 percent.

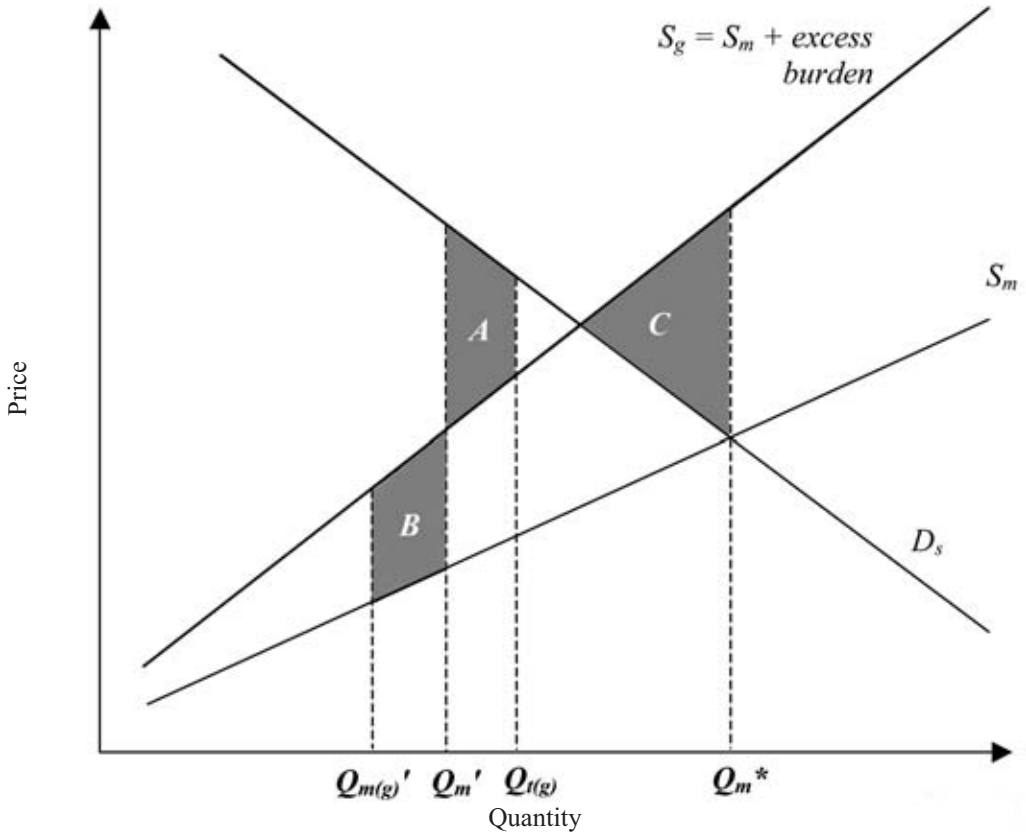
It is likely, though not certain, that government provision will increase the overall supply of a public good. If so, there will be efficiency gains. Due to the excess burden, however, the gains would not be as great as they would be if markets supplied that increase. In Figure A-2, $Q_{t(g)}$ represents the total quantity supplied in the presence of government provision. The gap between $Q_{t(g)}$ and Q_m' represents the net increase in the quantity supplied. For those additional units, the efficiency gains are represented not by the gap between D_s and S_m, but the gap between D_s and S_g, shown as the shaded area A.

When government provision crowds out private provision, it imposes new losses on society. In Figure A-2, $Q_{m(g)}'$ represents the market-supplied quantity in the presence of government provision. Again, Q_m' represents the quantity the market would have supplied in the absence of government provision. The difference between those quantities (Q_m' minus $Q_{m(g)}'$) represents the amount of crowd-out. The shaded area *B* between S_g and S_m represents the excess burden associated with having government provide those crowded-out units.

An important implication of the excess burden of taxation is that when government supplies a public good, the efficiency-maximizing quantity is less than under a laissez-faire policy. In Figure A-2, the efficiency-maximizing quantity is not Q_m^*, but the (unmarked) intersection of the D_s and S_g curves. Up until that point, government can increase efficiency by adding to the market-supplied quantity. If government increases the quantity supplied beyond that point—for example, if it increases production to the optimal laissez-faire quantity Q_m^*—those additional units would reduce efficiency, because their cost would exceed their expected value. The shaded area *C* represents those potential losses. By reducing the efficiency-maximizing quantity of a public good, the excess burden of taxation makes it

The sole justification for government provision of public goods is to improve economic efficiency.

Figure A-2
The Government "Solution"



more likely that government would boost production beyond that quantity. (Markets are less likely to commit that error; private entities tend not to invest their own resources where costs exceed expected benefits.)

Figure A-2 shows that the necessary condition for government provision of a public good to increase efficiency is:

$$A > B + C$$

That is, the efficiency gains from increasing the total supply of a public good *A* must outweigh the combined losses due to crowd-out of private effort *B* and any government overprovision *C*.

Figure A-2 also shows how various parameters affect the likelihood that government provision will increase efficiency. A large excess burden reduces the gains from *A* and increases the losses from *B* and *C*. A large initial gap between the laissez-faire quantity (Q_m') and the efficiency-maximizing market-supplied quantity (Q_m^*) implies smaller losses from *B* and larger gains from *A*. A large degree of crowd-out implies greater losses from *B* and smaller gains from *A*. A large government investment increases the likelihood of losses from *C*. If producers can partially exclude nonpayers, such as by bundling nonexcludable goods with excludable goods, that will increase *B* and reduce *A*. If the groups interested in a public good are organized and influential, that will likely increase *B*.

The economic case for government provision of public goods in general, and comparative-effectiveness information in particular, is neither obvious nor simple. Analysts who present it as such do the public a disservice.

The economic case for government provision of public goods in general, and comparative-effectiveness information in particular, is neither obvious nor simple.

Notes

The author thanks Shannon Brownlee, Tyler Cowen, Trapier Michael, and Peter Van Doren for their helpful comments.

1. See Winand Emons, "Credence Goods and Fraudulent Experts," *RAND Journal of Economics* 28, no. 1 (Spring 1997): 107–19; and "Sawbones, Cowboys, and Cheats: Is Your Doctor, Mechanic, or Taxi-Driver Cheating You? Economics Can Help," *The Economist*, April 12, 2006, http://www.economist.com/finance/displaystory.cfm?story_id=6800750.

2. Elliott S. Fisher et al., "The Implications of Regional Variations in Medicare Spending. Part 1: The Content, Quality, and Accessibility of Care," *Annals of Internal Medicine* 138, no. 4 (February 18, 2003): 273–87; and Elliott S. Fisher et al., "The Implications of Regional Variations in Medicare Spending. Part 2: Health Outcomes and Satisfaction with Care," *Annals of Internal Medicine* 138, no. 4 (February 18, 2003): 288–98. Regional variations in medical spending or large expenditures on low- or zero-value care, by themselves, would not be a public policy concern. Such expenditures are a public policy concern, however, when purchased with tax dollars (as in Medicare) or when government encourages their prevalence in the private sector. On government encouraging the consumption of low-value medical care in the private sector, see Michael F. Cannon, "Large Health Savings Accounts: A Step toward Tax Neutrality for Health Care," *Forum for Health Economics and Policy* 11, no. 2 (Health Care Reform), Article 3 (2008).

3. Elliott S. Fisher, "Expert Voices: More Care Is Not Better Care," National Institute for Health Care Management, no. 7, January 2005, http://www.nihcm.org/~nihcmor/pdf/ExpertV7.pdf.

4. U.S. Centers for Medicare and Medicaid Services, "National Health Expenditure Projections 2007–2017," p. 3, http://www.cms.hhs.gov/NationalHealthExpendData/Downloads/proj2007.pdf; and author's calculations.

5. On the difficulties in applying evidence-based clinical practice guidelines to large groups of patients, see Michael F. Cannon, "Pay-for-Performance: Is Medicare a Good Candidate?" *Yale Journal of Health Policy, Law, and Ethics* 7, no. 1 (Winter 2007): 10–14, 37, http://www.cato.org/pubs/papers/cannon_p4p.pdf.

6. U.S. Congressional Budget Office, "Research on the Comparative Effectiveness of Medical Treatments," December 2007, p. 12–14, http://www.cbo.gov/ftpdocs/88xx/doc8891/12-18-ComparativeEffectiveness.pdf.

7. Institute of Medicine, *Learning What Works Best: The Nation's Need for Evidence on Comparative Effectiveness in Health Care*, p. 2, http://www.iom.edu/CMS/28312/RT-EBM/41137.aspx.

8. Shannon Brownlee, *Overtreated: Why Too Much Medicine Is Making Us Sicker and Poorer* (New York: Bloomsbury, 2007), p. 237.

9. Institute of Medicine.

10. Arnold Kling, *Crisis of Abundance* (Washington: Cato Institute, 2006), pp. 87–90. For a list of organizations and individuals who "have reached a similar conclusion," see U.S. Medicare Payment Advisory Commission, *Report to the Congress: Reforming the Delivery System*, June 2008, p. 112, http://www.medpac.gov/documents/Jun08_EntireReport.pdf.

11. See, for example, H.R. 3162, the Children's Health and Medicare Protection Act of 2007. See also U.S. Congressional Budget Office, "Research on the Comparative Effectiveness of Medical Treatments."

12. Obama '08, "Barack Obama's Plan for a Healthy America: Lowering Health Care Costs and Ensuring Affordable, High-Quality Health Care for All," p. 7, http://www.barackobama.com/pdf/HealthPlanFull.pdf.

13. Tom Daschle, Scott S. Greenberger, and Jeanne M. Lambrew, *Critical: What We Can Do about the Health-Care Crisis* (New York: Thomas Dunne Books, 2008). Senate Finance Committee Chair-man Max Baucus (D-MT) and Budget Committee Chairman Kent Conrad (D-ND) have introduced legislation that would create a nonprofit "Health Care Comparative Effectiveness Research Institute" funded by federal taxes. John Reichard, "Baucus, Conrad Offer Bill Creating Comparative Effectiveness Institute," *CQ HealthBeat*, August 1, 2008, http://www.commonwealthfund.org/healthpolicyweek/healthpolicyweek_show.htm?doc_id=698085&. See also S. 3408.

14. Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge, MA: Harvard University Press, 1977), pp. 132–67.

15. Paul Starr, *The Social Transformation of American Medicine* (Basic Books, 1982), p. 228.

16. George J. Stigler, "Free Riders and Collective Action: An Appendix to Theories of Economic Regulation," *The Bell Journal of Economics and Management Science* 5, no. 2 (Autumn 1974): 362. Emphasis in original. "Whatever the theory says,

there is no doubt of the existence of thousands of trade associations in the United States," 359–65.

17. Gail R. Wilensky, "Developing a Center for Comparative Effectiveness Information," *Health Affairs Web Exclusive* (November 7, 2006): w583, http://content.healthaffairs.org/cgi/reprint/hlthaff.25.w572v1.pdf. See also similar statements in U.S. Medicare Payment Advisory Commission, p. 111; and (more tentatively) U.S. Congressional Budget Office.

18. Paul A. Samuelson, "The Pure Theory of Public Expenditure," *Review of Economics and Statistics* 36, no. 4 (November 1954): 389. Emphasis in original.

19. Ibid. Since Samuelson's article was published, economists have devised innovative, complex, yet still-imperfect strategies for solving the demand-revelation problem. See Dennis C. Mueller, *Public Choice III* (Cambridge, UK: Cambridge University Press, 2003), pp. 160–68. Whatever advantages those strategies may offer, governments rarely (if ever) use them, relying instead on truly hopeless strategies such as majority rule.

20. Martin Feldstein, "How Big Should Government Be?" *National Tax Journal* 50, no. 2 (June 1997): 197, http://ntj.tax.org/wwtax%5Cntjrec.nsf/36CFE3E5BCCB188C85256863004A5939/$FILE/v50n2197.pdf.

21. Mancur Olson, p. 127–28. See also pp. 165–67.

22. U.S. Constitution, Article I, Section 8.

23. One can argue that the "general welfare" clause of Article I, Section 8, grants Congress the power to provide other public goods, since nonexcludable goods may be enjoyed by all and would improve the general welfare. However, if that were the meaning of the general-welfare clause, there would be no need for explicit grants of power pertaining to other public goods. Such an expansive interpretation of the general-welfare clause would render redundant and meaningless the grants of power relating to national defense, patents, and copyrights. See generally Robert A. Levy and William Mellor, *The Dirty Dozen: How Twelve Supreme Court Cases Radically Expanded Government and Eroded Freedom* (New York: Sentinel, 2008), pp. 19–36, which quotes James Madison describing that interpretation of the general-welfare clause as "an absurdity" (pp. 21–22).

24. U.S. Constitution, Amendment X.

25. U.S. Congressional Budget Office, "Research on the Comparative Effectiveness of Medical Treatments," and Shannon Brownlee, *Overtreated*.

26. U.S. Congressional Budget Office, "Research on the Comparative Effectiveness of Medical Treatments." Emphasis added.

27. Ibid.

28. On scholars producing comparative-effectiveness information to enhance their reputations, see Uwe Reinhardt, "An Information Infrastructure for the Pharmaceutical Market," *Health Affairs* 23, no. 1 (January/February 2004): 111, http://content.healthaffairs.org/cgi/reprint/23/1/107.pdf. ("Doctoral candidates might seek to make a name for themselves by critically examining the [agency's] research. Alternatively, they might wish to make their career by working for the [agency], which could easily attain the academic status of a first-rate university. One could imagine, for example, that distinguished academicians might wish to spend a few sabbatical years with equally accomplished colleagues at [an agency].")

29. James M. Buchanan, "An Economic Theory of Clubs," *Economica* 32, no. 125 (February 1965): 1–14.

30. Indeed, political manipulation dogs federal activities of far lesser consequence. According to the Medicare Payment Advisory Commission (MedPAC): "In 2007, three former Surgeons General testified before the House Committee on Oversight and Government Reform about their lack of independence from executive branch officials. . . . from administrations of both political parties. . . . These individuals reported that administration officials discouraged them from speaking about certain public health topics. They also noted the declining role of the office in dealing with key issues. . . ." U.S. Medicare Payment Advisory Commission, p. 119.

31. John M. Eisenberg and Deborah Zarin, "Health Technology Assessment in the United States," *International Journal of Technology Assessment in Health Care* 18, no. 2 (2002): 195.

32. Bradford H. Gray, Michael K. Gusmano, and Sara R. Collins, "AHCPR and the Changing Politics of Health Services Research," *Health Affairs Web Exclusive* w3–w283, June 25, 2003.

33. Brownlee, p. 294.

34. Bradford H. Gray, Michael K. Gusmano, and Sara R. Collins, W3-301–W3-303.

35. U.S. Congressional Budget Office, "Research on the Comparative Effectiveness of Medical Treatments."

36. Uwe Reinhardt, "An Information Infrastructure for the Pharmaceutical Market," *Health Affairs* 23, no. 1 (January/February 2004): 111, http://con

tent.healthaffairs.org/cgi/reprint/23/1/107.pdf.

37. Robert Steinbrook, "Saying No Isn't NICE—The Travails of Britain's National Institute for Health and Clinical Excellence," *New England Journal of Medicine* 359, no. 19 (November 6, 2008): 1977–1981, http://content.nejm.org/cgi/content/short/359/19/1977.

38. See, for example, Gail R. Wilensky, w583; U.S. Medicare Payment Advisory Commission, p. 119.

39. Ibid.

40. Allan H. Meltzer, "Meltzer on the Fed, Money, and Gold," EconTalk podcast, May 19, 2008, http://www.econtalk.org/archives/2008/05/meltzer_on_the.html. Author's transcription.

41. Uwe Reinhardt, "An Information Infrastructure for the Pharmaceutical Market," *Health Affairs* 23, no. 1 (January/February 2004): 111, http://content.healthaffairs.org/cgi/reprint/23/1/107.pdf.

42. Ibid., p. 110.

43. U.S. Medicare Payment Advisory Commission, p. 128.

44. Alan M. Garber and Victor Fuchs, "Medical Innovation: Promises and Pitfalls," *Brookings Review* (Winter 2003), http://www.brookings.edu/articles/2003/winter_technology_fuchs.aspx.

45. U.S. Medicare Payment Advisory Commission, p. 110.

46. George F. Will, "What the Fed's Job Isn't," *Washington Post*, April 20, 2008, p. B07.

47. See, for example, David Gratzer, "Not So NICE," *National Review Online*, October 27, 2008, http://article.nationalreview.com/?q=ZGExMjFhMDBkZmE0MWQ4M2RhZGY3NWJkZDgyN2U5MmQ.

48. Different economic models make divergent predictions about the propensity of government provision of public goods to crowd out private provision. See, for example, Karine Nyborg and Mari Rege, "Does Public Policy Crowd Out Private Contributions to Public Goods?" *Public Choice* 115, no. 3–4 (June 2003): 397–418. For empirical evidence of crowd-out, see James Andreoni, "An Experimental Test of the Public-Goods Crowding-Out Hypothesis," *The American Economic Review* 83, no. 5 (December 1993): 1317–27; Kenneth S. Chan et al., "Crowding-Out Voluntary Contributions to Public Goods," *Journal of Economic Behavior and Organization* 48 (2002): 305–17; Daniel M. Hungerman, "Are Church and State Substitutes? Evidence from the 1996 Welfare Reform," October 2004, published in the *Journal of Public Economics*; and Jonathan Gruber Daniel M. Hungerman, "Faith-Based Charity and Crowd-Out During the Great Depression," *Journal of Public Economics* 91, no. 5–6 (June 2007): 1043–69.

49. Bradford H. Gray, Michael K. Gusmano, and Sara R. Collins, "AHCPR and the Changing Politics of Health Services Research," *Health Affairs Web Exclusive* w3–w293, June 25, 2003.

50. Ibid., w3–w302.

51. "BCBSA: Time Is Right for Comparative Effectiveness Research Institute; Blues' Support New Legislation That Builds on Healthcare Reform Proposal," Blue Cross Blue Shield Association news release, August 1, 2008, http://www.bcbs.com/news/bcbsa/time-is-right-for-comparative-effectiveness-research-institute.html.

52. See, for example, "Letter from the Coalition for Health Services Research to Sens. Arlen Specter and Tom Harkin," June 6, 2006, http://www.chsr.org/060606.htm; "Coalition Letter to Regula and Obey on Comparative Drug Effectiveness," September 22, 2005, http://www.aafp.org/online/en/home/policy/federal/legislation-endorsements-and-letters-to-congress/regulaobeyletter.html; and "Letter to Chairman and Ranking Members of Senate HELP and Budget Committees in Support of Providing Funding for Clinical Comparative Effectiveness Research," April 30, 2004, http://www.aafp.org/online/en/home/policy/federal/legislation-endorsements-and-letters-to-congress/2004-archives/clinicalletter.html.

53. If an agency fails to conduct valued research, whether due to industry pressure or poor cost-benefit projections, then private purchasers might fund such research on their own, mitigating crowd-out. Nevertheless, the uncertainty created by political wrangling over the agency's agenda would delay private development of such research.

54. Raymond Fink and Merwyn R. Greenlick, "Prepaid Group Practice and Health Care Research," in *Toward a 21st Century Health System: The Contributions and Promise of Prepaid Group Practice*, ed. Alain C. Enthoven and Laura A. Tollen (San Francisco: Jossey-Bass, 2004), p. 160.

55. U.S. Congressional Budget Office, "Evidence on the Costs and Benefits of Health Information Technology," May 2008, p. 3, http://www.cbo.gov/ftpdocs/91xx/doc9168/05-20-HealthIT.pdf. George C Halvorson, "Epilogue: Prepaid Group Practice and Computerized Caregiver Support Tools," in *Toward a 21st Century Health System*, pp. 249–63.

56. Kaiser Permanente, "We Believe in the Power of Change," 2005 Annual Report, p. 18, http://

xnet.kp.org/newscenter/aboutkp/annual-reports/kpreport_2005.pdf.

57. Rita Rubin, "Scientist Says FDA Called Journal to Block Vioxx Article," *USA Today*, November 28, 2004, http://www.usatoday.com/news/health/2004-11-28-fda-vioxx_x.htm; David J. Graham et al., "Risk of Acute Myocardial Infarction and Sudden Cardiac Death in Patients Treated with Cyclo-Oxygenase 2 Selective and Non-Selective Non-Steroidal Anti-Inflammatory Drugs: Nested Case-Control Study," *The Lancet* 365, no. 9458 (February 5, 2005): 475–81, http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(05)17864-7/abstract; and David J. Graham to Paul Seligman memorandum, "Risk of Acute Myocardial Infarction and Sudden Cardiac Death in Patients Treated with COX-2 Selective and Non-Selective NSAIDs," September 30, 2004, http://www.fda.gov/CDER/DRUG/infopage/vioxx/vioxxgraham.pdf.

58. Raymond Fink and Merwyn R. Greenlick, "Prepaid Group Practice and Health Care Research," in *Toward a 21st Century Health System*, p. 163. For example, "Group Health Cooperative and Kaiser Permanente–Northern California used their diabetes registries for selection and randomization. . . . Study subjects received additional training from nurses, health educators, behaviorists, or pharmacists in improving self-care and in seeking appropriate medical care. . . . [B]oth found among study subjects higher levels of patient satisfaction and physical functioning. . . . Changes in laboratory findings were in a favorable direction, as were changes in utilization in the six months following the study period" (p. 166). "Randomized controlled trials aimed at reducing smoking and alcohol use have demonstrated reductions in the use of both substances as a result of brief physician interventions during the primary care visit" (p. 167). "PGPs also continue to play a critically important role as valuable research platforms for population-based health care, generating the kinds of clinical data on defined populations that are difficult or impossible to obtain anywhere else." See also, "Preface," p. xxxii.

59. See generally Kenneth H. Chuang, Harold S. Luft, and R. Adams Dudley, "The Clinical and Economic Performance of Prepaid Group Practice," in *Toward a 21st Century Health System*, pp. 48–50. Collaboration can reduce friction between purchasers and providers, but is unlikely to eliminate it. Such "tension" persists between the Permanente Medical Groups and the Kaiser Foundation Health Plan. Donald M. Berwick and Sachin H. Jain, "The Basis for Quality of Care in Prepaid Group Practice," in *Toward a 21st Century Health System*, p. 38.

60. *Toward a 21st Century Health System*, p. xxix; Carmen DeNavas-Walt, Bernadette D. Proctor, and Jessica C. Smith, "Income, Poverty, and Health Insurance Coverage in the United States: 2007," U.S. Census Bureau, August 2008, p. 61, http://www.census.gov/prod/2008pubs/p60-235.pdf; and author's calculations.

61. See, for example, Mancur Olson, pp. 137–41; Paul Starr, pp. 198–232; and H. E. Frech, *Competition and Monopoly in Medical Care* (Washington: American Enterprise Institute, 1996), pp. 69–71. Regarding corporate-practice-of-medicine laws, see Michael E. Porter and Elizabeth Olmstead Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results* (Boston: Harvard Business School Press, 2006), p. 358; and Mary H. Michal, Meg S. L. Pekarske, and Matthew K. McManus, "Corporate Practice of Medicine Doctrine: 50 State Survey Summary," National Hospice and Palliative Care Organization/Center to Advance Palliative Care, September 2006, http://www.nhpco.org/files/public/palliativecare/corporate-practice-of-medicine-50-state-summary.pdf.

62. Jon B. Christianson and George Avery, "Prepaid Group Practice and Health Care Policy," in *Toward a 21st Century Health System*, p. 66.

63. Kenneth H. Chuang, Harold S. Luft, and R. Adams Dudley, "The Clinical and Economic Performance of Prepaid Group Practice," in *Toward a 21st Century Health System*, p. 47. See generally Paul Starr, p. 225.

64. Jonathan P. Weiner, "Prepaid Group Practice and Medical Workforce Policy," in *Toward a 21st Century Health System*, pp. 128–55.

65. On scope-of-practice rules generally, see Shirley Svorny, "Medical Licensing: An Obstacle to Affordable, Quality Care," Cato Institute Policy Analysis no. 621, September 17, 2008, http://www.cato.org/pubs/pas/pa-621.pdf.

66. Alain C. Enthoven, "Open the Markets and Level the Playing Field," in *Toward a 21st Century Health System*, p. 238; Daniel P. Gitterman et al., "The Rise and Fall of a Kaiser Permanente Expansion Region," *The Milbank Quarterly* 81, no. 4 (2003): 574–80.

67. U.S. Congressional Budget Office, "Evidence on the Costs and Benefits of Health Information Technology," p. 8.

68. Jon B. Christianson and George Avery, "Prepaid Group Practice and Health Care Policy," in *Toward a 21st Century Health System*, p. 72.

69. ABC News, *This Week with George Stephanopoulos*, Monday, January 12, 2009, http://media.bulletinnews.com/playclip.aspx?clipid=8cb4275f6a44ad3.

70. Data are for 2006. U.S. Centers for Medicare and Medicaid Services, "Sponsors of Health Care Costs: Businesses, Households, and Governments, 1987–2006," Tables 1, 2, and 4, pp. 6, 7, 9, http://www.cms.hhs.gov/NationalHealthExpendData/downloads/bhg08.pdf; and author's calculations.

71. Eliminating unnecessary spending would reduce the cost of employer-sponsored and government health insurance. While those savings should pass to consumers in the form of higher wages and lower taxes, they may not. Even if they do, the benefits are not salient to consumers. See Peter R. Orszag, "Health Care and Behavioral Economics: A Presentation to the National Academy of Social Insurance," May 29, 2008, pp. 6–7, http://www.cbo.gov/ftpdocs/93xx/doc9317/05-29-NASI_Speech.pdf; and David M. Cutler, *Your Money or Your Life: Strong Medicine for America's Health Care System* (Oxford: Oxford University Press, 2004), pp. 93–95.

72. Alain C. Enthoven, in *Toward a 21st Century Health System*, p. 232.

73. See generally Alain C. Enthoven and Laura A. Tollen, "Preface," in *Toward a 21st Century Health System*, p. xxxv. Kaiser Permanente claims its premiums are "some 10 percent or more below those of competitors." Francis J. Crosson, "The Changing Shape of the Physician Workforce in Prepaid Group Practice," *Health Affairs Web Exclusive*, (February 4, 2004): w4–w61, http://content.healthaffairs.org/cgi/reprint/hlthaff.w4.60v1.pdf.

74. See Joseph P. Newhouse et al., *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, MA: Harvard University Press, 1993), pp. 261–306; and David M. Cutler, p. 91.

75. Daniel P. Gitterman et al., p. 577.

76. In a recent survey, 91 percent of health economists agreed with the statement, "Workers pay for employer-sponsored health insurance in the form of lower wages or reduced benefits." Michael A. Morrissey and John Cawley, "Health Economists' Views of Health Policy," *Journal of Health, Politics, Policy, and Law* 33, no. 4 (August 2008): 712. That implies that rather than encourage employers or shareholders to spend their own money on workers' health benefits, the federal tax exclusion for employer-sponsored insurance instead gave employers control over a significant portion of workers' earnings.

77. The limitation on "functional equivalence" pricing pertains to Medicare payments to hospital outpatient departments. U.S. Congressional Budget Office, "Research on the Comparative Effectiveness of Medical Treatments."

78. See David A. Hyman, *Medicare Meets Mephistopheles* (Washington: Cato Institute, 2006).

79. See Michael F. Cannon, "Large Health Savings Accounts."

80. U.S. Constitution, Article I, Section 8.

81. For an overview of regulatory federalism as applied to health insurance, see David A. Hyman, "Health Insurance: Market Failure or Government Failure?" Illinois Law and Economics Research Papers Series, Research Paper No. LE08-003, pp. 11–12; and David A. Hyman, "The Massachusetts Health Plan: The Good, the Bad, and the Ugly," Cato Institute Policy Analysis no. 595, pp. 8–9, http://www.cato.org/pubs/pas/pa-595.pdf. With regard to medical professionals, see Michael E. Porter and Elizabeth Olmstead Teisberg, p. 362; and Shirley Svorny, http://www.cato.org/pubs/pas/pa-621.pdf.

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